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Si Fan, Thao Lê, Quynh Lê, Yun Yue, Editors.
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All work contributed to this book is new, previously-un published material. The views expressed in this book are those of the authors, but not necessarily of the publisher.

Preface

On behalf of the Conference Committee and the editorial team, we would like to express our warmest greetings and profound appreciation of the contribution of the conference delegates to the *International Conference: Innovative Research in a Changing and Challenging World* in Phuket, Thailand on 16-18 May 2012. The conference was well attended by over 150 international delegates from over 30 universities. It has received enthusiastic participation from many parts of the world: USA, UK, Belgium, Hungary, Turkey, South Africa, Singapore, Vietnam, China, Cambodia, Indonesia, Philippines, Australia, Malaysia, Middle East countries, and friendly Thailand where the conference was held.

The Conference delegates brought to the conference not only their research expertise and achievements but also their linguistic and cultural backgrounds which have greatly enhanced the interdisciplinary and multicultural discourse of an international conference. They have also brought back to their universities and home countries the fondest memories of the conference atmosphere and the tremendous hospitality of the friendly people of Thailand. This is not just another research conference. Its aim goes beyond the academic research discourse. It is an opportunity to humbly contribute to the enhancement of global co-existence.

While traditionally research has been rigidly confined to a single academic discipline, this book promotes diversity and unity in research on an interdisciplinary basis. It is a collection of conference proceeding peer-reviewed papers which present the key issues in interdisciplinary research around the world.

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Cognitive Skills of Mathematical Problem Solving of Grade 6 Children

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ABSTRACT

As This study investigated the metacognitive dimensions on the cognitive skills of mathematical problem solving. It involved 275 grade six pupils of District 1, Quezon, Bukidnon during the academic year 2010-2011. This study used the descriptive method of research. The instruments used were the cognitive tasks, prediction and evaluation tasks, and interviews conducted by the researcher. Percentages, means and t–test paired were computed. Findings revealed that the pupils cognitive skills was below average in terms of numerical comprehension, simple linguistic sentences, contextual information, mental visualization, number system knowledge, relevant information, number sense estimation, procedural calculation and average in terms of symbol comprehension. The grade six pupils of District 1, Quezon, Bukidnon had low metacognitive prediction and evaluation dimensions. There was a significant difference on the prediction and evaluation of the grade six pupils on their cognitive skills. Thus, they should be provided with both knowledge of cognitive processes and strategies, and experience or practice in using both cognitive and metacognitive strategies and evaluating the outcomes of their efforts to enhance their cognitive skills and metacognitive dimensions.

Keywords: Cognitive skills, evaluation, prediction, metacognitive evaluation, metacognitive prediction.

INTRODUCTION

Problem solving is an important component of mathematics education because of its practical role to the individual and society. “By learning problem solving in Mathematics, students should acquire the ways of thinking, habits of persistence and curiosity, and confidence in unfamiliar situations that will serve them well outside the mathematics classroom” (NCTM, 2000).

Although problem solving is an integral part of all Mathematics, many students struggle with solving problems. Research shows that students’ “ability to solve word problems falls far below their ability to compute because children do not know how to choose the correct operation to apply to the problem” (Burns, as cited in Goldberg, 2003).

Teachers in the Philippines struggle with helping children learn Mathematics. The Philippine Daily Inquirer reported on May 23, 2010 that in the 2003 Trends in International Mathematics and Science Study, the Philippines ranked near the bottom, third from the bottom among 25 countries in the fourth grade and fifth from the bottom among 45 countries in the eighth grade.

These speak of the need to identify specific determinants of students' poor performance in mathematical problem solving. One solution is to measure the specific cognitive skills and metacognitive dimensions of the pupils. Thus, the purpose of this study is to determine how the grade six pupils used metacognition and cognition to make sense of mathematical problems.

Specifically, this study aimed to a) describe the level of the cognitive skills in mathematical problem solving among the grade six pupils in terms of numerical comprehension, symbol comprehension, simple linguistic sentences, contextual information, mental visualization, number system knowledge, relevant information, number sense estimation, procedural calculation; b) determine the level of the metacognitive dimensions in terms of prediction, evaluation; and c) compare if there is a significant difference between their prediction and evaluation on the cognitive tasks.

CONCEPTUAL FRAMEWORK

Psychologist Lev Vygotsky proposed that children learn through interactions with their surrounding culture. Vygotsky's theory states that the cognitive development of children and adolescents is enhanced when they work in their Zone of Proximal Development (ZPD for short). To reach the ZPD, children need the help of adults or more competent individuals to support or scaffold them as they are learning new things.

Bruner, a psychologist, posited a cognitive theory of learning. He suggests that mathematical structures can be build up in the mind of learners by providing experiences that allow them to develop inactive iconic and symbolic representation of concepts of Mathematics.

Flavell (as cited in Hines and Kritsonis, 2008) defined cognition as "one's ability to organize and execute processes in a sequential manner". With problem solving, students translate numerical comprehension (NR), symbol comprehension (S), simple linguistic sentences (L), and contextual information (C) into a mental visualization (V) of the word problem. Next, they organize number system knowledge (K), relevant information (R) and number sense estimation (N) into a procedural calculation (P). The calculations are translated into computing the solution (Desoete, Roeyers, & Buysse, 2001).

The capacity to examine and control one's own thoughts or self-monitoring is known as metacognition. Metacognition is essential for any extended activity, especially problem solving, because the problem solver needs to be aware of the current activity, of the overall goal, the strategies used to attain the goal and the effectiveness of those strategies.

Metacognitive processes can operate consciously or unconsciously and they can be accurate or inaccurate. They can also fail to be activated when needed, and can fail to have adaptive or beneficial effect. Metacognition can lead to selection, evaluation, revision or deletion of cognitive tasks, goals, and strategies. They can also help the individual make meaning and discover behavioral implications of metacognitive experiences (Flavell, 1987).

Wong (as cited in Livingston 1997) stated that metacognition has to do with knowledge and awareness of one's cognitive strengths and weaknesses as well as self-regulation, which guides an individual in the coordination of that awareness while engaged in cognitive abilities.

According to Flavell (as cited in Hines & Kritsonis, 2008), metacognition consists of both metacognitive knowledge and metacognitive experiences or regulation. Metacognitive knowledge refers to acquired knowledge about cognitive processes, knowledge that can be used to control cognitive processes. With Mathematics, metacognition measures students' predictions, monitoring, and evaluation of word problems. Prediction impacts students' speed for working on word

METHODOLOGY

The participants of the study were the 275 grade six pupils from the five elementary schools in Quezon 1 district. The schools were classified into big-sized, medium-sized, and small-sized school according to its population. From a group of 275 pupils included in the study, 9 pupils were randomly selected for the oral interview. The researcher, with the help of their mathematics teacher randomly selected 3 pupils in every school classification which gave a total of 9. Three of them performed well in their mathematics class, another three were not so good, and the other three performed low in their mathematics class.

The instruments used in collecting the data were the Cognitive Tasks, the Prediction and Evaluation Tasks, and Semi-structured Interview Protocol. The cognitive tasks, and prediction and evaluation tasks were adapted from the EPA 2000 (Desoete, De Clerq, & Roeyers, 2000; Desoete, Roeyers, & Bussye, 2001). However, some revisions were made by the researcher particularly the questions in the cognitive tasks in order to fit to the level of the participants in this study. The questions in the Cognitive Tasks were on whole numbers and its operations. To determine their cognitive levels, this scale was used: very poor 0.00-0.50, poor 0.51-1.50, below average 1.51-2.50, average 2.51-3.50, above average 3.51-4.50, and excellent 4.51-5.00.

The Prediction and Evaluation Tasks is a 5 point rating scale. To determine the levels of the respondents' prediction and evaluation, the same scale in determining the cognitive levels was used. To determine the pupils' level of metacognitive prediction and evaluation dimensions their mean scores in cognitive skills and prediction and evaluation were compared. They have high metacognitive level if their cognitive skills are consistent with the prediction and evaluation; otherwise, they have low metacognitive level.

The Semi-Structured Interview Protocol was also adapted from Tan (2009). Though, the researcher revised some of the questions. Information gained from the interview was used for descriptive purposes to support or to refute findings from the other data sources especially in metacognitive dimensions.

The participants of the study were given two hours to answer the questionnaires. First, the pupils were asked to fill in the prediction tasks by reviewing first the cognitive tasks then predicted their success on a 5-point rating scale. Afterwards, they performed the cognitive tasks then, filled in the evaluation tasks to evaluate their performance. The interview was done orally and individually for approximately 10 to 15 minutes right after the pupils finished answering the prediction and evaluation tasks and cognitive tasks.

RESULTS

It was found out that the participants were at below average level on the eight of the nine cognitive skills. Their skills in numerical comprehension, simple linguistic sentences, contextual information, mental visualization, number system knowledge, relevant information, number sense estimation and procedural calculation yielded the mean scores of 2.28, 2.41, 1.81, 1.80, 2.44, 2.09, 1.84 and 1.96, respectively; while their symbol comprehension skill was at the average level with the mean score of 2.52. The total mean score was 2.12 which mean that in general, the participants' level of cognitive skills was below average.

The metacognitive prediction and evaluation dimensions of the participants were low. Their prediction and evaluation mean scores in all the 9 cognitive skills were above average which was inconsistent with their cognitive mean scores which were at below average level in numerical comprehension, simple linguistic sentences, contextual information, mental visualization, number system knowledge, relevant information, number sense estimation, procedural calculation and at the average level in symbol comprehension skill.

There was a significant difference on the prediction and evaluation of the grade six pupils. The prediction mean scores on the nine cognitive skills which were 3.64, 3.82, 3.91, 3.66, 4.01, 3.78, 3.97, 3.81, and 3.77, respectively were increased in the evaluation mean scores. These were 3.76, 3.99, 4.04, 3.78, 4.15, 3.90, 4.06, 3.95, and 3.88, respectively. The computed t-values were -4.142, -5.047, -3.687, -4.328, -2.899, -3.485, -3.256, -4.648, and -3.646, respectively which were all significant at 0.01 level.

DISCUSSION

As stated above, in general, the pupils' level of cognitive skills was below average. This result supports the statement of Mayer and Hegarty (as cited in Marcia, 2007) that pupils need to know how to understand and represent problems in mathematical terms. This implies that the participants in this study lack guidance of a more experienced and competent mathematics teacher. According to Vygotsky's theory, children can do more with the help and guidance of an adult or other person more experienced person than they can do by themselves.

The pupils' inconsistency of prediction and evaluation on their actual cognitive tasks results implies that the metacognitive prediction and evaluation dimensions of the participants were still untapped and underdeveloped. They do not know what they know and do not know. The pupils were only instructing, directing, and questioning their selves. They failed to monitor, evaluate, and regulate their selves. Their prediction and evaluation were only gut feelings. This explained why their cognitive skills were below average in spite of their above average prediction and evaluation. As stressed by Tan (2009), without self-directing or self-instruction, self-questioning that is directed by a self dialogue or self talk, self-monitoring, and self-evaluating, solving the mathematical problems at hand would take a long time and without direction. They may be able to self-instruct or self direct and self-question but self-monitoring, self-evaluating, and self regulating are indeed hard for the poor problem solvers with untapped and underdeveloped metacognitive skills.

The evaluation mean scores on the nine cognitive skills were all greater than the prediction mean scores. This means that the pupils had higher evaluation than their prediction. This implies that the pupils had greater confidence with their answers after reviewing it. Thus, pupils give much importance on evaluating their answers. This supports the statement of Flavell (1979, 1987) that evaluation measures the quality of students' reflections on strategies for achieving desired solutions. The attitude shown by the pupils was good and must be continued by them. However, they must learn to involved metacognition whenever they are predicting and evaluating their cognitive skills to ensure that they will be able to solve the problems correctly.

FUTURE RESEARCH DIRECTIONS OR RECOMMENDATIONS

You Elementary mathematics teachers should be advised to improve their teaching skills on numerical comprehension, simple linguistic sentences, contextual information, mental visualization,

number system knowledge, relevant information, number sense estimation, and procedural calculation.

Pupils/children must be exposed to more experienced and competent teachers for them to acquire more activities and experiences that would stimulate creative thinking of the pupils to increase their level of cognitive skills. Assessment of the cognitive skills of the teachers must also be conducted to find out the corresponding trainings to be conducted needed by the teachers and that appropriate teaching materials be written. Cognitive Strategy Instruction (CSI), an instructional approach which emphasizes the development of thinking skills and processes as a means to enhance learning must also be introduced to the teachers through seminars. Its objective is to enable all students to become more strategic, self-reliant, flexible, and productive in their learning endeavors.

Metacognitive dimensions must be taught explicitly as an integral component of problem solving to help pupils understand, learn, develop, and practice the metacognitive processes. The learner should be provided with both knowledge of cognitive processes and strategies, and experience or practice in using both cognitive and metacognitive strategies and evaluating the outcomes of their efforts. Simply providing knowledge without experience or vice versa does not seem to be sufficient for the development of metacognitive control.

Administrators must send teachers to various in-service trainings, workshops and seminars on how to train pupils to improve their cognitive skills of mathematical problem solving as well as how to develop their metacognitive dimensions. Administrators should hire mathematics teachers who are majors in mathematics education to guarantee content mastery and lesson presentation proficiency. Not anybody should be hired to teach mathematics.

CONCLUSION

Based on the findings of the study, the following conclusions were drawn:

In this study, the cognitive skills of the grade six pupils of District 1, Quezon, Bukidnon were at below average level in terms of numerical comprehension, simple linguistic sentences, contextual information, mental visualization, number system knowledge, relevant information, number sense estimation, and procedural calculation but their symbol comprehension skill was at the average level. It revealed the respondents difficulty in processing information, applying knowledge, and changing preferences in order to solve a problem.

The pupils had low metacognitive prediction and evaluation dimensions on their cognitive skills. Their metacognitive dimensions were still untapped and not yet developed.

There was a significant difference on the prediction and evaluation of the Grade Six pupils on their cognitive skills. The pupils had higher evaluation than their prediction. Hence, the null hypothesis that there was no significant difference on the prediction and evaluation of the grade six pupils was rejected.

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Advancing Literacy within an Interdisciplinary Curriculum at the ASMS

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ABSTRACT

Our Action Research investigates how the Australian Science and Mathematics School tackles the challenge of improving the Literacy of its student cohort that would develop Scientific Literacy.

Areas of concern were defined through examining work from ASMS students in Years 10, 11 and 12, through undertaking interviews with science staff from local high schools and through a series of organised group discussions with ASMS staff.

Our observations provide affirmation that interdisciplinary curriculum, integration of staff from different disciplines, and an emphasis on research within our practice supports the developing awareness of scientific literacy. However, in traditional schools which segregate specialised disciplines into distinct faculty areas, there appears to be limited perceptions of literacy and this appears to be amplified at Senior Schooling level.

An interdisciplinary approach fosters student engagement. The richness of the Literacy within the ASMS Year 10/11 curriculum is integral to the engagement of students which enables them to make use of the opportunities to develop scientific literacy.

Teachers in this setting were observed to work cooperatively across subjects, to improve their understanding of literacy and literacy education, to incorporate innovations in their teaching and to promote and disseminate these new understandings to a wider audience of both primary and secondary teachers.

Keywords: Literacy, scientific literacy, pedagogy, interdisciplinary curriculum.

INTRODUCTION

People are often surprised that a specialist Maths and Science school should concern itself with Literacy?

Literacy is defined in the *National Inquiry into the teaching of literacy: report and recommendations* (Department of Education, Science & Training, (DEST), 2005) as:

involving the integration of speaking, listening, viewing and critical thinking with reading and writing. Being literate involves the capacity to deal with a wide range of written texts in

numerous formats and many different contextsLiteracy is developmental in nature and continues to develop throughout an individual's lifetime" (DEST 2005, p.7).

Recent Australian Curriculum documents, specifically the General Capabilities: Literacy (ACARA, 2011), discuss the concept of multiple literacies and define literacy in these terms:

students become literate as they develop the knowledge, skills and dispositions to interpret and use language confidently for learning and communicating in and out of school and for participating effectively in society. Literacy involves students in listening to, reading, viewing, speaking writing and creating oral, print, visual and digital texts, and using and modifying language for different purposes in a range of contexts.

The concept of Literacy is the subject of much debate and seemed to be the province of language Arts teaching. From the old "3 R's" to modern ideas of Critical Literacy, Informational Literacy, Mathematical Literacy and Scientific Literacy among many of the new literacies some basic ideas remain central.

Various commentators e.g. (Monteith 2005, Pahl & Rowsell 2005) contend that there are a range of New Literacies that schools should address. Technology has brought with it visual imagery and multimedia authoring skills as well as critical skills to navigate cyberspace, which Geoff Barton (2005) claims are "re-defining the 'basics' of English". Add to this the growing obsession with mobile phone SMS text, web-forums, social networking sites such as "YouTube" and "Facebook" and the continuous emergence of new technology and there is little doubt that students require different skills (including Literacy skills) to negotiate the new millennium.

The nature of our educational research is based in Grounded Theory Design (in particular Constructivist design) (Cresswell, 2005). We are interested in the meanings ascribed to Literacy by the participants in our study (and the work of their students) especially their views, beliefs and assumptions. We do not minimise our own roles in the research; we make decisions about process and bring particular questions to the data. Our values, experiences and priorities are to the forefront of the study and our conclusions are suggestive and at present incomplete.

We are attempting to generate understandings that assist teachers in developing Literacy in Senior Secondary contexts in the Sciences and Mathematics.

Our key question is: How do students and staff at the ASMS view Literacy in a science and mathematical context?

We were interested in:

- Where is the Literacy in Science and Mathematics at the ASMS?
- How can we improve the Scientific and Mathematical literacy of our students?
- How can we improve understanding of the relationship between writings in science for distinct purposes and student literacy?
- What are the specific literacy requirements of the Science subjects?
- What concerns are expressed about the literacy of students by Science teachers?
- Sharing our findings with other schools in South Australia?

BACKGROUND

The Australian Science and Mathematics School (ASMS) is a specialist public school that caters for the three final years of schooling (year 10-12) before entry into higher education. Established in 2002, the purpose-built facility on the grounds of Flinders University in Adelaide, South Australia, is designed to promote and support highly collaborative, interactive, student-directed learning within an innovative curriculum. The two-year teaching cycle using vertical groupings (Years 10 and 11) challenges traditional structures. The interdisciplinary approach focuses on deep learning and metacognition through the use of “fertile” questions and a deliberate emphasis on literacy incorporated across the curriculum.

Much of the initial framework behind this curriculum is based on the work of the Interdisciplinary Studies Project, Project Zero at the Harvard Graduate School of Education. This strong philosophical base has contributed significantly to the ease with which groups can be set up to design interdisciplinary curriculum. Teachers work in integrated teams from different disciplines to develop Interdisciplinary Curriculum Units called “Central Studies”. There was a stark contrast with other schools observed – in the isolation of teachers within narrow faculty groups.

The Inquiry process is embedded in the Central Studies program and guided by the use of a Fertile Question that purposely intertwines disciplines to enhance understanding. For example the “Sustainable Futures” Study is established upon the open, challenging question of “How can we achieve a Sustainable Future?” In “Earth and Cosmos” it is “What is the Significance of our Place in Space?” The Interdisciplinary approach brings together different disciplinary lenses to solve problems, create products and explain phenomena leading to deep learning. Students demonstrate Interdisciplinary learning when they are able to use what they have learnt to apply their learning to new situations..

The value of this approach is reiterated by Boix Mansiila and Jackson (2010):

“Rigorous disciplinary understanding requires that students come to view the disciplines as the knowledge and thinking tools that our societies construct and revise to make sense of the world, explain phenomena, solve problems, create products and ask novel questions in informed ways.” (Mansiila & Jackson, p. 13)

There are eight Central Studies taught over a two-year period that all integrate subjects that go beyond curriculum content learning. For example, the Interdisciplinary approach in Sustainable Futures leads to tasks such as: creating a Virtual Sustainable Garden; practical activities based on acid rain, water quality and the carbon cycle; fusing science with poetry; discerning how culture is suffused from generation to generation; and how humans impact on their environment. It leads ultimately to an “Earth Summit” where students role-play in order to discuss global economic and political problems associated with food production and the perceived necessity for scientific innovation.

Similarly, in the Central Study “Towards Nanotechnology”, students engage in the ethical considerations of building a Nanofactory in a fictitious town through the process of role-playing a Town Meeting. They also consider the Scientific and technological implications in setting up a business through a Nano Expo. Such concepts require deep understanding of the Micro world as well as the implications of Nanotechnology in the future, which are studied through the Fertile Question that considers “What are Nanoworld realities?”

Our focus was on Literacy and its relationship to Scientific Literacy building on the work of Norris and Phillips (2001), Freebody (2007) and Wyatt-Smith and Cummings (2003). Our belief is that

improving student literacy requires explicit literacy instruction. This requires significant change in the traditional pedagogy in most schools where responsibility for literacy is firmly constrained within the “language arts” category. Our experience over the past 18 months supports the contention that Literacy needs to be taught in all aspects of the curriculum. We have galvanised teachers to work cooperatively across curricula to improve their understanding of Literacy and Literacy education to incorporate innovations in their teaching and to promote and disseminate our new understandings to a wider audience of both primary and secondary teachers.

Freebody(2007) suggests that approaches to literacy improvement that are over-structured and restrictive will not be as effective as those that take account real teachers and real students in real classrooms while Hattie’s research findings (2003; 2005; 2009) affirm that most improvement in student achievement is through the action of the teacher in the classroom.

We also noted that the high expectations articulated for students, teachers and school leaders in the *SA Teaching for Effective Learning* (TfEL) Framework (South Australia, DECS 2011) include a focus on teachers providing opportunities for students to ‘communicate learning in multiple modes’ which implies an emphasis on multi-literacies across all curriculum areas as well as the imperative for teachers to develop their understanding of how to teach in a multi-literacy environment.

We believe that the ASMS Central Studies curriculum creates just such an environment. Our research into the Literacy within the Science of the Central Studies has involved determining our own definitions of what constituted Literacy.

The renowned Australian poet and Literacy educator, Erica Jolly wrote about the ASMS in the final chapter of ‘Challenging the Divide’:

“Clearly the teachers of the sciences and mathematics had cooperated with the humanities teachers and, in particular the teachers of English. That willingness to collaborate had contributed to ... excitement, a sense of purpose, questions about where science might be taking us as well as a feeling of awe filled some of the poems. “(Jolly, p 191)

Consequently, we believe that our investigations will lead to deeper understanding of what constitutes Scientific Literacy and how this is related to interdisciplinary approaches.

LITERACY IN SCIENCE

Beginnings

The development of the current “program” of Scientific Literacy investigation arose from the sharing of class teaching between the authors; an English Literature teacher and a Science teacher, both with experience and interest in the other’s discipline. Teaching a shared class which required the writing of a Scientific Investigation Report about Nanotechnology stimulated our Action Research into Literacy at the ASMS.

In the process of collecting evidence for this investigation it soon became apparent that there was a wide range of evidence that could be described as Literacy in some form or another. This includes scientific investigation reports, scientific interpretive essays, Practical Reports, Design Practical reports, scientific journal writing, examples of student work in Interdisciplinary curriculum formats (including Poetry and Science, Nanotechnology Expo, Eco-Summit, Technology Museum, multimedia presentations) and reflection journals and surveys.

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We did not want to get distracted with definitions of Written Literacy, Oral Literacy, Multi-media Literacy, ICT literacy, Critical Literacy, Scientific Literacy, Literacy in Science, Environmental Literacy and so on. We appeared to be adopting a Grounded theory approach.

Initially (as we shared a class in Nanotechnology) we took a closer look at the Philosophical Scientific essay undertaken by Year 10/11 students. An initial written elicitation by students demonstrated their current understandings. The writing was done on paper in draft form and then handed to staff for feedback. The students completed a draft two weeks later.

This preparatory essay would form the basis for a Philosophical essay on the Fertile Question entitled, "What is Nanotechnology and what are the implications for the Future?" that was required to also show an understanding of the Science.

Our discussions at this time were general in nature and could be described as "What is the Literacy in the Science?" It had become quite apparent that there had been an infusion of the Science and Philosophy in the essays and that the process of drafting had improved the overall product. Other staff had also commented on this in Nanotechnology meetings.

It led to wider discussions about Scientific Literacy and the acquisition of a State Government grant that allowed the expansion of the investigation.

Expansion

The grant targeted Scientific Literacy within a whole school approach. After due consideration we looked closely at how Science was delivered in our school and decided on the following Action Plan.

1. Survey teachers of Year 12 subjects of Physics, Chemistry, Biology, Aviation, Psychology and Geography:
 - What ways would year 12s benefit through being more informed/skilled in the Central Studies?
 - Are science literacy skills different between science disciplines?
 - Are gaps in content knowledge a problem for scientific literacy?
2. Sourcing additional information from assessments of year 10, 11 and 12, in particular Science Design Practicals.
3. Investigate perceptions of Scientific Literacy?

Initial findings

What aspects of scientific literacy were problematic for our students in writing experimentally-based research reports? There were:

- Little connection between results and conclusion
- Minimal analysis of results
- Poor understanding of errors

Students tended to see scientific experimental designs as geared to obtaining desired results rather than testing hypotheses. This affects the reliability and validity of students' conclusions. Students generally have trouble in interpreting evidence to draw conclusions, to explain them, to identify assumptions, evidence and reasoning that underpin the assumptions. Inability to analyse their own

data suggests that students have weak knowledge about science because they do not properly understand the purpose and nature of scientific enquiry.

Our focus was drawn to design-type practicals. We believed that the creative aspect of the practical and the fact that it involved students being Science Writers was a critical element in demonstrating Scientific Literacy. We started by asking “How many practicals are run with a class in a year?”

In Year 12 Chemistry (2003-2010) there was only 1 design type practical occurring per class per year. Currently at year 10 and 11 at the ASMS there are 4 design practicals per class per year, often of significant duration and requiring substantial planning. Responses from several other schools suggest that the number of design type practicals for a class varies from several to none, depending on the teacher and on policies and projects instituted by school leaders. Curriculum pressures are also relevant e.g. the International Baccalaureate specifies that assessment should include open-ended, problem-solving activities, investigations, hands-on experimentation, analysis and reflection.

What format is used for the Practical Report?

Students are expected to emerge from the limitation of traditional school Practical Report formats that rigidly specify “Aim, Method, Results, Conclusion” and begin to understand the social context and variation in scientific reporting. Some teachers thought that the format of a scientific report was fixed from primary school to University. If that were the case the growth of scientific literacy would be impaired by the falsely constant structure that makes report writing a response to those simplistic categories listed above. Even when efforts are made to teach about hypotheses and variables, these become headings to receive a one line response, and only if the work is assessable. Indeed, inclusion of the heading “Hypothesis” still does not displace the heading “Aim”, it is just added, as if the aim of the experiment were something else than testing the hypothesis. The further consideration of a null hypothesis complicates the issue because the term is not properly understood by students and some teachers. There is no actual statistical testing of the null hypothesis. There is very little in the way of statistics in school science reporting except to calculate a few averages, without any consideration given to variance in the data.

At the ASMS the format of design type practical reports is variable but there is a growing understanding that they should mirror real life science journal reporting. Students are expected to use a real journal as a model for the structure of their reports but teachers have varied expectations. Some teachers have a pre-set list of headings that does not mirror the variation in real-life scientific research reportage. In real world publishing there is no single format, although many similarities exist between journals. Annotated exemplars from a range of journals are made available to explain the purposes of each element of the given report.

By placing responsibility on students to emulate a real journal structure and understand what each element of the structure requires we hoped to “shake up” the established norms of an imposed list of headings; headings that have become solidly established by such long usage in traditional schooling, that little consideration is given to their real value or potential to impede development. The ASMS still grapples with some science teachers believing they cannot teach literacy and continue to follow habits that may limit the growth in scientific literacy of students and teachers alike. We noted also a worrying degree of isolation of teachers in traditional schools, limiting discussion about literacy.

DEVELOPMENT

At this point in our research other questions emerged:

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- What do teachers understand by scientific literacy?
- Where do teachers see it enacted in the curriculum at year 10 and year 11?
- What specific science tasks in schools demonstrate scientific literacy?
- What links do teachers see between middle years and senior years science curriculum in terms of scientific literacy?
- What aspects of scientific literacy do teachers see as problematic for their students?

Our visits revealed many insights, many of which as yet we have had little opportunity to explore. We noted, however, that opportunities for staff to meet and discuss were very limited, both within and beyond their school and required good will and extra time from staff. However, this was a worrying trend and was pervasive in the schools that we visited. We offered some time support to schools through our grant. Artificial opportunities such as faculty meetings were dominated by other pressing issues while school life itself appeared frantic. Opportunities for general discussion (while welcomed by staff) were also isolated instances. We found this aspect of public schooling despairing and reflect on our own discussions in a public school where discussions are valued to the point that regular time is provided within the timetable albeit limited.

Reflection

What do we understand by Scientific Literacy?

Verbal reports on our research were presented at a number of venues e.g. ASRI conference at Finders University in November 2010 and later that month to a meeting at the DECS Literacy Secretariat.

We also presented a written report to ASMS staff in several forums.

We reported on the current status of the inquiry in mid-December 2010 and looked to engage in discussions with ASMS staff re further research activities. Ongoing analysis of the collections of writing would build an archive of annotated student work as exemplars for students and staff. The current focus has been on Chemistry and this could be expanded to gain an understanding of inquiry processes and reporting in biology, physics and psychology. Some consideration should be devoted to system policies to enable continuing professional development for staff and allow time to promote learning and assessment strategies that focus on scientific literacy. The intersection of mathematical and scientific literacy (almost a null set) has not yet received formal attention but is another key area needing development. Other areas of scientific literacy such as those evident in Research reports, Problem-based learning, within interdisciplinary connections e.g. science reporting in magazines and so on were areas that required further analysis. How all this relates to pedagogy of teaching in a Senior Science classroom is also as Johnson (2004) noted:

Naturalising conversations about the intentional nature of writing provides the grounds for critical literacy. It opens the possibility of making word choice, ideology, and private interest important when reading. It also requires the child, as a reader, to imagine himself into the writer's role, building a bridge between reading and writing that helps to generalize what is learned in one to become useful in the other. (pp. 37-38)

It therefore is the role of the writer – in this instance the science writer to understand the concept of writing for a purpose. A student needs to see themselves as the scientist doing “science” things.

In many ways we felt our research to date, had simply shaken the surface tension.

Escalation

In Term 1, 2011 we held meetings with interested ASMS staff to discuss the scientific literacy of students, changes to teaching practice and to acquire new data on design practicals. We also discussed other science writing that students were doing and whether students were improving in investigative report skills? What were science people doing in science that connected with literacy?

There was strong interest in staff undertaking professional development in teaching English as a Second Language across the curriculum, with a number of Science teachers taking up the opportunity when provided. This Professional Development involvement led to specific discussions about literacy on regular occasions.

The lunch-time discussions with the Literacy group (as it was now known), generated many additional questions and perspectives about Literacy. For example: there are elements of scientific literacy that relate to different genres. Examples shared of effective presentation in video format, showing the science behind the topic, demonstrated how students can produce an exciting personalised video incorporating scientific data and information.

The design practical was chosen as an entry point for investigating scientific literacy development in the ASMS. The course of discovery would not be limited to this, but it would be a focal point. We asked the question: What does a design practical look like at Year 10 and at Year 11? What differences were there between chemistry, physics and biology? How did this change at Year 12?

In the Central Study Technological World there were moves towards creating design practical templates that scaffolded the structure and content of planning, performance and reporting stages of those practices. The “scientific” components require students to include the “mechanics” of the report e.g. correctly formatted tables. Then they must actually use the data in the table to write a discussion and reach a conclusion. These areas were identified as needing explicit instruction since many students do not understand the reasons or use of the various parts of a report.

Other points considered were more specific. For example, what proportion of the scrapbook of student work in Body in Question is blending science and mathematics? Could mirror exercises (e.g. writing purposely in a Non-scientific way, to contrast with formal scientific writing) improve scientific literacy? What is the nature of truth in scientific writing? For example, on a Radio program discussing flu vaccine an Immunologist says one thing, but other scientists have differing views.

Form and conventions of scientific reports relate to purpose e.g. writing conceptually, objectively, with precision, with ambivalence being recognised and discussed explicitly. In Investigative Reports, there is a formulaic structure. There is a broad overlap in the major sections of research reports in scientific journals, but there is also considerable variation in details. The structure stays the same. It remains coherent. Cohesion is important. It is not just a step approach. A psychology practical report is different to a physics practical report. Styles change depending on the journal publishing the work. It is also about the design of a practical report. A controlled experiment with all major factors controlled enables one to say data supports conclusion X. In Psychology it is difficult to control all variables so it is more difficult to be strongly assertive about conclusions. Validity, objectivity, bias and ability to control all variables are part of the Design. Students should show the ability to critique their data. Some students have a lot of information but are unable to make linkages in their writing. Conceptual skills for an argument required explicit instruction.

A fermentation practical video in Biotechnology was outside the structure of a practical report and raised questions as to assessment. It brings another level of complexity. Similarly oral presentations

frequently lacked structure. For example in presentations of wave theory no student provided a summary.

A Literacy response takes all these into account.

Writing skills are cumulative in nature so we believe teachers should start early rather than rushing in year 12 to introduce stylistic or grammatical skills. It would then develop as an intuitive process. Cumulative bits of literacy suddenly come together as an “Aha” moment. This is much like the gradual build-up of meaning in Stage 2 subjects when internal connections in the content matter reach levels where the whole thing begins to be coherent.

We also considered the differentiation for students with learning difficulties e.g. Asperger’s and dyslexic students?

There was a realisation that Literacy within the Central Studies was different to defining Scientific Literacy.

Where is the literacy?

By Mid-2011 we were finding many areas of Literacy (including multi-literacies) that were embedded within the Central Studies. Science teachers felt more confident that they could teach the literacy aspects of the various tasks - and in fact could recognise that they were areas that needed specific instruction.

Our organised group discussions now included members of the Mathematics faculty and their growth in ensuring Literacy was part of the student experience. They are using Bloom’s taxonomy to promote autonomous learning and using journals to provide evidence of mathematical learning.

They were trying to define literacy in mathematics and mathematical literacy as effective learning paradigms. Some of the student work was very creative and included narratives, films and Prezi presentations.

We were conscious that our work was based on real student work in real classrooms supported by real teachers. We had gathered together teachers from a range of curriculum areas who viewed interdisciplinary curriculum as a way forward for student improvement in learning. That the students were positively engaged in all these tasks was self-evident but backed up by student surveys at the completion of the Central Studies.

Part of the ASMS’s role is to provide Professional Development in South Australia. We believed our staff had sufficient confidence to hold a conference on “Literacy in Science and Mathematics”. Staff from around South Australia to the conference that featured over 25 different workshops that highlighted Literacy aspects within Science and Mathematics that have become normal classroom practice at the ASMS. Over 70 respondents from Primary and Secondary Schools as well as a number of academics attended. Feedback from the attendees was positive – so much so that planning has commenced for a future conference.

We provided workshops in:

Problem-Based Learning

- Problem Based Learning activity in a model used at the ASMS to support students in inquiry-based learning. Groupwork operates best through effective speaking and listening. PBL encourages students to engage in a sustained process that leads them to a greater understanding of Scientific Literacy.

Digital literacy in Science

- Easily accessible digital tools to support students in maths and science, and particularly for increasing literacy skills in writing practical reports, scientific articles and research reports as well as to support independent research skills for academic materials on the web.
- mini-documentaries based on a science experiment.
- Using the internet as a research tool; rating web-sites; critical analysis of the credibility and bias of information sources (especially the internet) including ways to engage students in correct referencing format.
- presenting findings using Prezi or PowerPoint

The Techno-history Museum

- explore, research and study the links between science, technology and history
- express their learning creatively utilising a wide range of media genre to an authentic audience including practical scientists.

Earth Summit

- collaborative group work to present an argument on a specific question from the point of view of a country.
- The ASMS version involves over 100 students at the summit playing their various roles.

The Town Meeting

- explore social issues related to nanotechnology.
- role-play scenario of a town meeting discussing the merits of a nano-factory being built within a fictitious town
- production of a newspaper reporting on the science issue

The Impact of Peer Review

- Modelling the peer review process
- mirroring authentic science through critique, feedback and presentation

Nano Innovation Expo

- students work collaboratively to produce an idea of an innovative science-based product
- develop a “show” stand to attract investors/manufacturers in the product
- Opportunities for generating 3-D modelling, Advertising, Digital presentations, Posters, Salesmanship to an authentic audience from the Scientific and general community

My Sustainable Garden

- design of a sustainable food production garden, using the student’s own place of residence
- draws together a wide range of scientific principles, using a range of resources,
- clear explanation and justification of the design

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- high level of decision making based understanding of key scientific concepts make this task ideal for developing scientific literacy.

Oral literacies in the Sciences

- presenting a teaching session to the rest of the class.
- exploring formal debating based around a fertile question.

Our research continues focussing on assisting staff to understand “where is the Literacy” in the Subject-specific curriculum and how that supports the development of the ASMS as a learning community for both staff and students. Hopefully this leads to a more intertwined approach to teaching that uses interdisciplinary curriculum and enquiry to foster the growth of Scientific and Mathematical Literacy in students.

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Homestays and Service Learning: Understanding the Community in Ecotourism

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ABSTRACT

This study explores the literature on the development of homestays and service learning programs as mutually beneficial to both the hosts and participants, in particular, those undertaking tourism education and research through volunteer tourism programs in developing countries. It is recognized in this study that a growing number of studies on community-based ecotourism demonstrate how tourists are attracted to an experiential learning of local culture and how it contributes to the sustenance of the host community. Indeed, combining nature tours with a social contribution provide a richer and more meaningful tourist experience. In essence this paper demonstrates that the same benefit for tourists applies to researchers. Experiential research increases the potential of the research investigator to integrate a wider sector of influences to the phenomena being studied.

Existing literature on ecotourism identified positive and negative impacts on local communities. However, they are mainly targeted to identify difference of perceptions in hosts and tourists, and not so much in understanding the term “community” in terms of multi-sector engagements or interdependence. This study argues that in order to provide an understanding of the interrelationships between sectors within communities located in ecotourist destinations, researchers need to embark on a participatory approach to data gathering.

This research also investigates community housing in various ecotourist destinations in the Philippines, in particular, the Gawad Kalinga Villages in Cam Sur, Philippines that are seen as tourist attractions aside from its natural resources. The GK communities are implemented through self-help housing provision for the poor and homeless residents through Bayanihan (voluntary mutual help) spirit. The homestay experience was found as a useful approach in effectively conducting participatory observation, FGD workshops, interviews and surveys. The data gathered led to a model that establishes the influence of housing strategies on ecotourism development in terms of community participation.

Keywords: Community participation, ecotourism, homestays, service learning, volunteer tourism, self-help housing

INTRODUCTION

This paper investigates the concepts relevant to housing communities within ecotourist destinations. Housing and ecotourism are two areas that have significantly broad and distinct themes and whereby other sub-concepts and issues emerge. What are the aspects that bring these two fields of development together? How do the prevailing concepts fit into the realms of both housing and ecotourism?

The first part of the paper is a review of literature which attempts to clarify the interconnectedness of the fields of housing and ecotourism, particularly in the aspect of community participation. As literature seem to have fallen short in the aspect of housing as an essential component in ecotourism development, the paper finds the need to ascertain prevailing concepts that emerge within both areas, namely, volunteer tourism, homestays and service learning. It is argued that such concepts are experiential approaches to the understanding of the relationship between housing and ecotourism from the perspective of the host community.

In order to illustrate the benefits of the three interlaying concepts, the case study research conducted in Gawad Kalinga villages in Cam Sur, Philippines, are presented on the second part of the paper. The case study utilised a grounded theory approach to develop an analytic generalisation leading to the identification of different levels of community engagement in housing for ecotourist destinations, not only in the Philippines, but in other developing countries as well.

BACKGROUND

Community Participation: The common factor

Studies reveal problems and threats of tourism infrastructure. Specifically, infrastructure for tourism yields costs and benefits, including government expenditure, the rise in home prices, loss of traditional housing and local characteristic, transportation issues, crime, as well as degradation of common resources. While tourism is intended to increase overall socioeconomic development, however, there is not a lot of evidence that the benefits actually reach the communities. In fact certain communities in ecotourist destinations have been subjected to social displacement or dislocation.

The strategies for community housing in ecotourist destinations is thus highlighted in this research, as housing is an activity that involves collaboration and which likely influences the people's involvement for environmental stewardship. This paper argues for the interconnectedness of the fields of housing and ecotourism, particularly in the aspect of community participation. In the field of housing, studies have revealed community participation as one of the factors that advance or deter its development (Davidson, Johnson, Lizarralde, Dikmen, & Sliwinski, 2007; Gonzalo & Mark, 2008; Lizarralde & Massyn, 2008; Mafukidze & Hoosen, 2009; Moser; Sheng, 1990; Steinberg, 1992; Sucgang, 1964). It must be noted also that in several studies, community participation is strongly associated with the concept of self-help housing (Moser; Stein, 1990; Steinberg, 1992; Victor & Hope, 2011). Likewise, in the field of ecotourism, studies have revealed community participation as a factor that contributes to either the success or failure of project implementation, particularly that of community-based ventures (Cusack & Dixon, 2006; Gurung & Scholz, 2008; Jones, 2005; Okazaki, 2008; Oviedo-Garcia, Castellanos-Verdugo, & Martin-Ruiz, 2008).

Beyond self-help housing – towards developing potentials for tourism

Several studies have investigated the sustainability of self-help housing, particularly in the aspect of preserving traditional environments as well as social heritage (Hudson, 1997; Steinberg, 1992). Steinberg (1992) argued how Indonesian Kampung in Jakarta and Surabaya provide traditional environments and a “culture of self-help” through the positive experience brought about in the Kampung Self-help Improvement Program. Likewise, Hudson (1997) evaluated the heritage of Caribbean domestic architecture and came up with an understanding that vernacular architecture as exemplified in self-help housing in the Caribbean Islands are “more cost-effective and energy-efficient, as it draws on both local building material and human capital [author’s italics]”. However, though they inhibit potential value in folk and vernacular traditions, these small shanties are in danger of disappearing.

Aspects such as the “culture of self-help” and the utilization of “human capital” in self-help, draw enriching benefits that can be shared between community residents – that is, through tourism. Though this perspective of housing remained undeveloped in literature, there is one actual study that is found to discuss touristic benefits of self-help housing. This particular study by Stoddart and Rogerson (2004) for a self-help housing project in South Africa, was found to explicitly assess the experiential benefits of housing through volunteer tourism.

Volunteer tourism, as part of alternative tourism, has so far received only limited attention in terms of tourism scholarship. The South African case of the activities of Habitat for Humanity shows clearly that volunteer tourists are ‘new tourists’ and searching for an experience which is beyond that offered by mass tourism. For the groups of volunteers involved in building houses in some of South Africa’s poorest urban settlements, the focus was upon forming a link with local people in a manner that enables volunteers to have a tourism experience that does incorporate social value into identity. The development work undertaken by these volunteers to assist the shelter needs of poor communities is in locations which are often far removed from the scenic and exotic locales enjoyed by volunteer tourists engaged in conservation work... Indeed, in final analysis, South Africa provides fertile territory for the further expansion of scholarship on issues surrounding volunteer tourism (Stoddart & Rogerson, 2004, p. 317).

PART I: VOLUNTEER TOURISM, HOMESTAYS AND SERVICE LEARNING – BRIDGING THE GAP

The relationship between housing and ecotourism were further clarified with a careful review of literature, which revealed three programs related to community participation. These programs are adopted within self-help housing development, and likewise prevail within the parameters of ecotourism development. The programs are: volunteer tourism, homestays and service learning.

Volunteer Tourism

The research of Sally Brown (2005) focused on four major motivational themes of individuals who volunteer while on a leisure trip. First, volunteering while vacationing enables one to physically and emotionally immerse in the local culture and community. Second, participants desire to give back to the less privileged in order to feel that they do well in life. Third, trips bring together enjoyable groups who share common interests and values. Fourth, the experience can create family-bonding opportunities, where parents can teach their children the value of giving as well as understanding of the world and the environment. In essence, the study has added a new dimension in tourism

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phenomenon which includes a spiritual search that increases the sense of place – an altruistic theme in which “participants can make a difference and help others” (Brown, 2005).

Meanwhile, Harng (2010) summarized the motivations for volunteer tourism into four expressions on a research among 11 volunteers who went to South Africa for a volunteer tourism trip. The four major expression that were gathered in the interviews were:

- “I want to travel”, which refers to the desire to go to a place that is far-away and exotic;
- “I want to contribute”, which refers to the desire to do community work;
- “I want to see if I can do this”, which refers to wanting to see how one does with a highly adventurous challenge; and,
- “It’s more convenient this way”, which refers to wanting to go on a trip with a group.

Moreover, while most studies are centered on volunteer tourists, one particular study worked on the perspective of host communities who should likewise be held responsible for environmental protection, conservation and poverty eradication (Harng Luh, 2010). The study gathered problems that were created as a result of the influx of tourism, such as tensions and unhappiness “because of insensitivities on the part of volunteer tourists”. Nevertheless, the study finds that despite the problems, it also provides some aid - and is “supposed to be better than nothing at all”.

Homestays

The subject of volunteer tourism brings to fore the significant contribution of homestays, which provide a structure where students gain informal experience of the local’s daily life. In writing about volunteer tourism, Harng Luh (2010) writes,

... those centered around community homestays where tourists live and learn from the locals, rather than those that attempt to go and help the poorest of the lot, may in fact be more sustainable forms and models (at least in providing an income through tourism (Harng Luh, 2010).

One example of homestays was explored in a volunteering program in Gibbon Rehabilitation in Thailand. The outcomes of volunteering were investigated by living in shared accommodation at the project headquarters in a small village on the island. Volunteers were able to be immersed in the Thai culture and way of life and “contributed to ‘personal growth’ and a ‘changed view of the world’ as some of the benefits of volunteering while undertaking tourist activities” (Broad, 2003).

This cultural assumption were also identified as problematic outcomes of volunteer tourism in another study by Raymond and Hall (2008). The authors of the study identified this as “cultural misunderstandings” and “reinforcement of cultural stereotypes”. Rather than creating negative results, cross-cultural understandings should be one of the goals of volunteer tourism. Yet, “it cannot be assumed to be an automatic outcome”. The study suggests that “sending organisations can play a central role in facilitating the achievement of such an objective”, where programs shall be carefully developed and managed to be of genuine value for the local community (Raymond & Hall, 2008).

On a positive note, ecotourism projects in homestays in Koh Yao Noi in Thailand enable “tourists to learn experientially, to understand and appreciate local knowledge, and in the process, contribute to the sustenance of the community”(Walter, 2009, p. 513). This implies that it is in environmental adult education, adult learning, and political activism of the members “whereby the deleterious effects of commercial development will likely be moderated”. Furthermore, although there have

been unexpected negative outcomes in volunteer tourism, ecotourism ventures offering experiential learning – such as in homestays and service learning programs – resulted in increased competitive advantage of ecotourist operators (Price, 2003; Walter, 2009).

Service Learning

The popularity of volunteering in tourist settings is also manifested in schools and other educational institutions that utilize this activity, in support for active and experiential learning (Culture and Tourism in the Learning Age: A Discussion Paper, 2000; Harnng Luh, 2010; Lyons & Wearing, 2012; Prins & Webster, 2010; Sin, 2009). Sending organisations refer to this as service learning programs, which have also been integrated with the creation of homestay programs, aiming to develop the roles of participants as insiders, and not just visitors or tourists (Baker, 2008; Diamante, 2004; Kershaw, 2009; Nathan, 2002; Prins & Webster, 2010; Walter, 2009; Wang, 2007).

International Service Learning (ISL) programs not only have the ability to enhance cultural understanding, build cultural competencies, and increase intercultural communication, but they have also shown to foster a sense of multicultural and intercultural education between students and the community (Berry & Chisholm, 1999 and 2002; Tonkin & Quiroga, 2004, as cited in Prins & Webster, 2010, p. 7). When students are confined to visitor centers only, they have less opportunities to interact with local people and so remain in a “staged” tourist platform (MacCannell, 1973). On the other hand, tourism is also part of the local culture in that all cultures continually reinvent themselves (Greenwood, 1982, as cited in Prins & Webster, 2010, p. 27). However, the study argues the advantage of students entering the “back regions” where they can experience a wider slice of community life (MacCannell, 1973).

Three concepts with three interlaying components and one common objective

Literature reveals how the three concepts – volunteer tourism, homestays, and service learning, have apparent component interlays. First, the “education” component is reflected in both service learning and homestays; second, the “community service” component is reflected in both homestays and volunteer tourism; and finally, the “tourism” component is reflected both in homestays and volunteer tourism.

These three concepts also have a common objective - which is basically centered on the development of the host community. The interlays can be illustrated as follows:

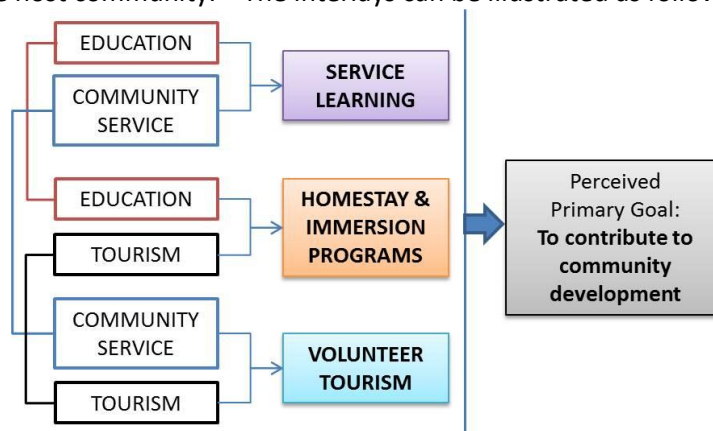
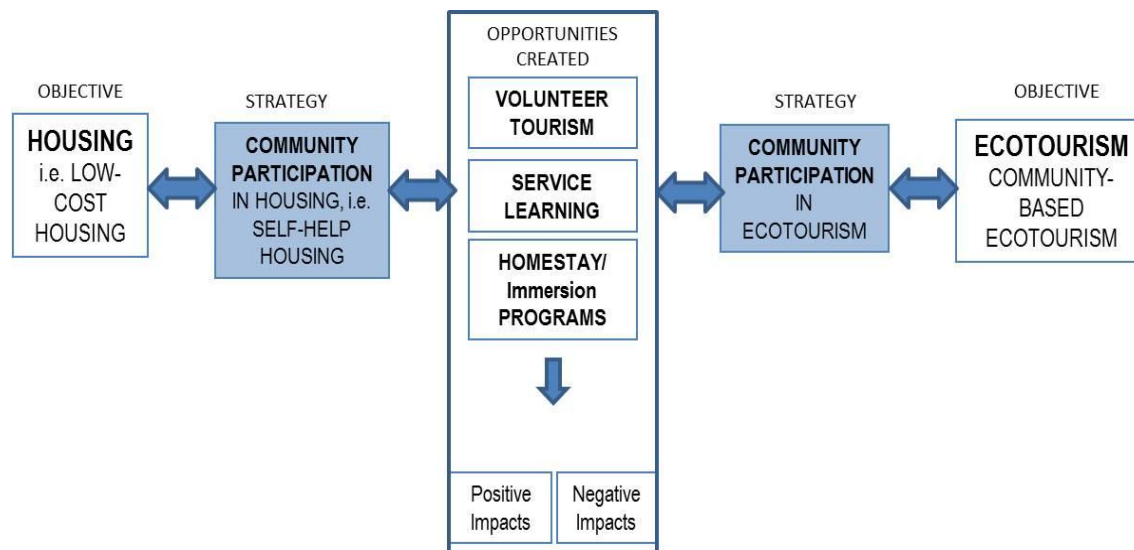


Figure 1. Contiguity of Service Learning, Homestays and Volunteer Tourism (Source: This Author, 2012)

Social capital and the role of enabling environments in achieving participation are expected to improve the quality and sustainability of projects. However, the direction of causality between participation and effectiveness of projects is unclear. It is only with careful learning by doing that general application of best practice will participation be a useful strategy. In essence, key concepts in participation needs to be detailed in a context-specific manner to avoid unintended outcomes (Mansuri & Rao, 2004).

In summary, the following diagram is a graphical narrative that describes the conceptual milieu, and which sets the stage where both the relatively distinct areas of housing and ecotourism revolve. The importance of community participation as a common strategy in achieving housing and ecotourism would thus become a central factor in research for housing in ecotourist destinations.



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PART II: THE PHENOMENON OF TOURISM IN POOR COMMUNITIES: THE CASE OF CAM SUR, PHILIPPINES

This section illustrates the significance of the concepts of volunteer tourism, homestays and service learning in understanding the development of community housing within ecotourist destinations, through a participatory approach to data gathering.

The case study discussed below addresses the notion that the only thing that the communities are after is mainly shelter and livelihood development and that they have nothing or little to do about ecotourism. While most studies on ecotourism are mostly concerned on tourism's socio-economic and environmental problems, this study clarifies the role of communities and how they themselves act in resolving such problems.

Are the communities really after the welfare of their own household alone, or are they also taking their share in the development of responsible tourism? What are their strategies for housing and how much does it influence strategies for ecotourism?

The Case Communities and Research Methods

The Gawad Kalinga communities in Cam Sur Philippines were chosen as case study areas not only because of the province's transformation from one of the poorest regions in Asia to the top tourist destination in the Philippines, but also because the houses themselves are seen as tourist attractions, with public investments for housing provision for the poor and homeless residents. The Gawad Kalinga (GK) Communities, which are implemented through multi-sector collaboration, were implemented and maintained by the neighbourhood community through bayanihan, a tradition which refers to voluntary mutual help.

The two GK communities selected for investigation are: GK Character Village in Iriga City and the GK Puna Village in Libmanan. For comparison, two non-GK housing projects that are adjacent to the GK communities were also selected to represent Government-administered communities, namely, Sierra Homes, in Iriga City and Mambulo Nuevo Housing Association, in Libmanan.

The 5-weeks immersion in the Gawad Kalinga villages, as well as the 1-week volunteer program attended in 2011 and 2012 respectively, supported a grounded theory method for the analysis of qualitative data, which was adopted from (Strauss, 1990). Qualitative data strategies included FGD workshops, interviews, archival research and participant observations. The data were systematically categorized through the Grounded Theory Coding Paradigm (Bohm, 2004) and assisted by the Nvivo software. Themes were generated and data clustered accordingly. The data collected from qualitative strategies were utilized to formulate a survey questionnaire and distributed among 70 household representatives. The survey was analyzed through One-way Anova and General Regression, using the Minitab software, to establish the relationship between the communities' participation in housing, against participation in ecotourism.

Housing Communities in Cam Sur, Philippines: A Case Study Discussion

The coding process revealed that the phenomenon or core category is "tourism in poor communities". The categories and prevailing themes were then elaborated to identify prevailing themes that were developed to provide a systematic description of findings:

The Phenomenon

Central to the phenomenon of tourism in the province is the implementation of housing through GK, which not only provided tourists a chance to see poverty - amongst the poorest of the poor - but allowed them to experience the different ways that poverty is addressed in both urban and rural areas.

Mr. Tony Meloto, the founder of GK revealed several reasons why visitors come to GK. Among other reasons, visitors witness how different sectors take part in addressing homelessness and poverty by establishing a holistic housing development. For the residents and volunteer organizers, holistic development is the kind of housing program that puts into practice, not just the construction of houses and infrastructure, but also the programs geared towards social transformation and livelihood opportunities.

Myrah, one of the beneficiaries of GK Libmanan explains that they feel special whenever people come to visit them. For her, having people come to their village to have a look is a benefit in itself, as it makes them proud that they can do something to help themselves overcome poverty, as well as to contribute to a meaningful and pleasurable tourist experience.

Causal Conditions

In the FGD workshop with community leaders, the value that stands out in the identified strategies is bayanihan, which has evolved to support modern-day Filipino housing programs for the poorest of the poor. Historically, bayanihan is a practice among neighbors, friends and relatives, who work together to help a family move from one place to another, by literally carrying nipa huts on their shoulders. For GK volunteers and beneficiaries, the “spirit” of bayanihan was revived when people from different sectors became engaged on the building of houses. In fact, one of the promotional lines that GK uses to motivate private and public sector cooperation, is that modern-day bayanihan is not just about the building of the poor people’s bahay (houses) rather it is about the building of their buhay (life). This includes gardening, landscaping, livelihood, health, education, environment and cleanliness programs.

In order for beneficiaries to avail of the housing benefit, they were required to participate in the values formation program which was started by the members of the religious organization called Couples for Christ (CFC). This is intended to create a good foundation by developing moral values and good habits among the poor, such as honesty, diligence, healthy lifestyle, cleanliness, love for others, and other virtues, which has evidently reduced the incidence of crime and violence. Attendance and participation to the Christian Life Program is a prerequisite to participation in the shelter programs of GK, where they will then render at least 400 hours for bayanihan.



Figure 3. GK Character Village (taken during a local festival; Source: Iriga City Planning)



Figure 4. Community Store in GK Puna Village, Libmanan (source: GK Libmanan)

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The role of “GK caretakers”, were also regarded as a more significant factor for the effective housing implementation. Caretakers are private volunteers who assist by conducting values formation programs and facilitating community activities. They are not salaried, but they spend substantial time and effort to uphold the values of caring and loving, rooted from the desire to see the poor realize their dreams.

Contextual Conditions

In an interview with the mayor of Iriga City, the development in the region of Cam Sur started with the recognition of what is already there. With the vast natural resource of the region, the Regional Development Council of Bicol Region recently updated the Medium Term Regional Development Plan (MTRDP) “to address the challenges following the creation of the super regions in the region as a major tourism hub.” One of the roles of the region is to serve as an ecotourism destination, taking into account the presence of unique and diverse flora and fauna. The province of Cam Sur is flanked by the richest marine fishing grounds in the country; Mt. Isarog and Lake Buhi were regarded as one of the “key ecotourism destinations” in the country.



Figure 5. View of Mt. Isarog from GK Character Village, Iriga City (source: author)

The local government recognizes that ecotourism, which provides the opportunity for tourists to encounter locals and their culture, is likewise an advantage for residents as it provides livelihood, and motivates cleanliness and orderliness. In GK communities, the residents’ interaction with foreigners has boosted their sense of pride, and even served as learning opportunities, particularly in developing communication skills. Visits range from experiencing local culture and partaking of the social responsibility while gaining pleasurable nature tours. For several tourists, “arriving as a tourist, and leaving as a family” has created lasting impressions. The government officials interviewed in Iriga City reported that with GK there is now an increased community participation in public events such as in cultural festivals, environment conservation, i.e. planting nurseries, as well as beautification and peace promotion, paving the way for niche-making in ecotourism that makes the destination more marketable.

Action Strategies

Livelihood opportunities through growing organic vegetables, and manufacturing slippers, soaps and fertilizers were introduced and have augmented fishing and agricultural productivity. Others engaged in training and skills development in construction, waste management, restaurant management, bed & breakfast hospitality services, and handicraft. The Green Kalinga (Green Care) program was promoted by the building of sustainable farms to help the community to become stewards of the environment through environment-related programs.



Figure 6. Mutual Self-help Housing in GK Character Village, Iriga City (source Iriga City Planning)

The community association, called kapitbahayan is organized to handle land tenure, where land rights were granted to the association, rather than individual families. In effect, the members are enticed to participate and adhere to development

guidelines and policies imposed by the community association. With the influx of visitors in the villages, they learned to value the sense of responsibility. This is affirmed by Cina [not her real name], who is one of the community leaders, saying that the procedures for implementation that was set by their leaders were tough for the members, however they value its outcome saying, “if it was easy to get, it would have been easy to give up”.

Development Challenges

Community leaders and organizers expressed how it takes a lot of effort to motivate full cooperation among residents. Even after repeated participation in values formation, some residents remained uncooperative with some of them violating certain regulations such as no-house-extension policy, waste management, and clean-environment policy. The caretakers also acknowledged the slow response to participation in the values formation. Based on interviews with household representatives, it is perceived that 3 out of 10 community members do not adhere to the conditions and regulations set by the kapitbahayan. This gave rise to the need to hire community organizers for resolve conflicts.

On the other hand, household representatives expressed that conflicts happen because apparently, the projects were not mishandled by some leaders who lack communication and organizational skills. They reiterated that leaders need improvement in handling policies.

Consequences

Interviews with City Housing officials in Iriga revealed that housing implementation through GK stems from the capacity of the community as a whole, to make their vision a reality. They asserted that its success has in fact resulted in the replication of villages in various provinces of the country, such as the Agta Tribe in Iriga, leading to poverty alleviation through self-sustainable community development and housing.

The influx of tourists in the villages highlight local participation and decision-making in community organizing. The community’s support for ecotourism initiatives of the government is evident in their participation in tree-planting, waste management campaigns, cultural festivities, agro-tourism festivals and organic farming.

The GK Model for Housing in Ecotourist Destination

The coding of data sources were then synthesized to establish the prevailing themes, clustered according to prevailing categories illustrated below:



Figure 7. GK Character Village, Iriga (after the typhoon in 2009; Source: Iriga City Planning)



Figure 8. Beautification in GK Puna Village, Libmanan (Source: GK Libmanan)

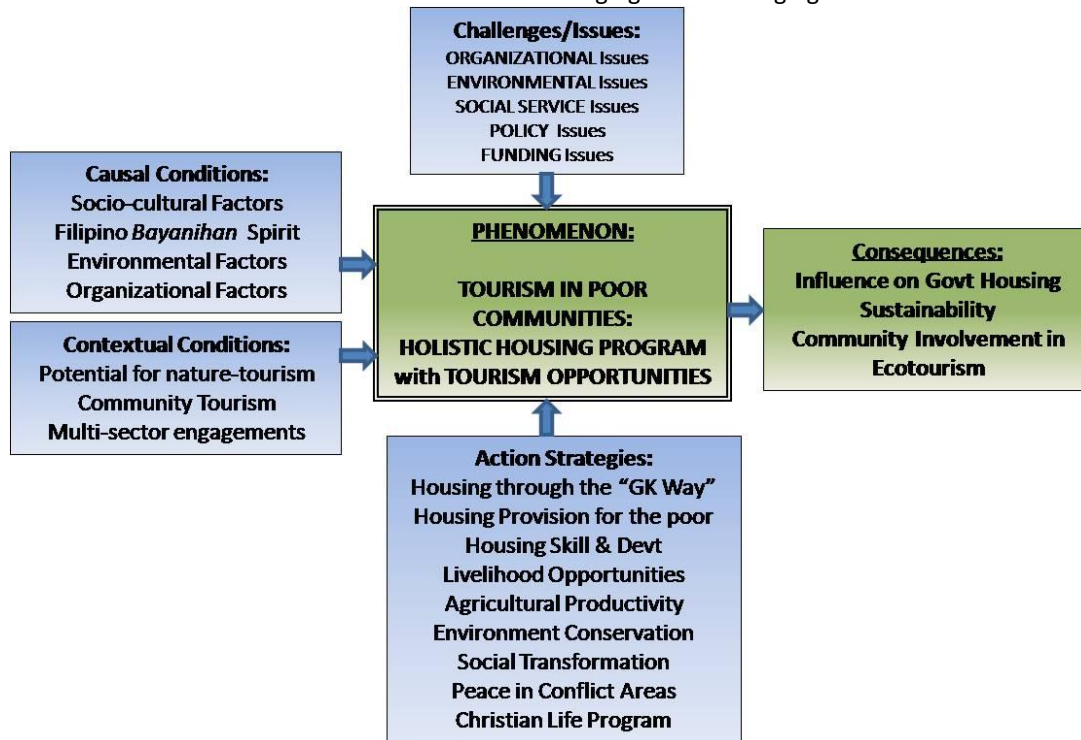


Figure 9. Model for Tourism in Housing Communities in Cam Sur Philippines (Source: author)

ANALYTIC AND STATISTICAL GENERALISATION: CONSTRUCTING THE CRITERIA FOR EVALUATION

The qualitative and quantitative analysis provided a theoretical elaboration linking the theories of community participation with empirical data. In particular, certain theoretical observations related to participation have been found to prevail in the data derived from immersion. Hence, essential factors for evaluating housing and ecotourism were established by linking the theoretical concepts of participation with actual strategies for both housing and ecotourism, as follows:

1. Organizational Structure – the level of social organisation and administration, and, the strengthening of cohorts and community cohesion, i.e.:
 - conduct of meetings and elections;
 - formation of sub-groups or committees;
 - appointment of leaders;
 - conduct of trainings and skills development;
 - creation of rules and standards and monitoring implementations”.
2. Social Capital – social trust and network of relationships, particularly with external agents, i.e. facilitators, grounded on the belief that the quality and the quantity of groups are “key sources of a community’s strength and its ability to work for its own betterment” (Mansuri & Rao, 2004), i.e.:
 - resource generation from private and public partnerships, including manpower through volunteerism ;
 - participation in values formation and religious groups;
 - creation of visitor programs, e.g. inter-city/municipality sports and festivities;

- participation in activities that aim at strengthening family and community ties.
3. Sweat Equity – the voluntary contribution for cost-effective construction project implementation leading to community mutual help, which is an active participatory process where members influence the direction and execution of a development project (Sheng, 1990), i.e.:
 - self-help construction;
 - creation of standards and monitoring of implementation.
 - bayanihan – a traditional Filipino value, described as voluntary mutual help
 4. Project Delivery – the community’s level of satisfaction in terms of service offering and delivery, particularly related to basic needs such as housing, education and social amenities (Grillo, et al., 2010), i.e.:
 - building of school infrastructure;
 - setting up of livelihood centres;
 - provision of affordable utility services.
 5. Economic Benefits – community livelihood providing economic development obtained from alternative tourism/volunteer tourism (Horton, 2009; Kontogeorgopoulos, 2005), i.e.:
 - conduct of livelihood trainings;
 - production and trading of farm products and souvenir items;
 - implementation of livelihood from backyard farming;
 - waste management and leadership seminars.
 6. Education – the capacity to cultivate a learning environment through active involvement, i.e. experiential learning (Price, 2003; Sin, 2009). This includes the potential for promoting cultural and environmental learning among locals which are at eventually transmitted to the visiting students or tourists. (Walter, 2009), i.e.:
 - practice of local craftsmanship through house building, landscaping, backyard farming and gardening;
 - manufacture of customised products from local natural materials; training programs for managing visitors or tourists;
 - business entrepreneurship through bed-and-breakfast facility, community convenience stores and farming produce;
 - honing of positive cultural traits which assists in hospitality training - such as the attitude of caring and sharing, diligence, hospitability, and maintaining relationships among community members.)
 - creation of homestays and service learning programs to set-up venues for training and education
 7. Volunteerism – promoting responsible citizenship not only among hosts, but among private sectors, as well as “understanding and trust among people of different cultures to build improved relationships” (Harng Luh, 2010), i.e.: (It must be noted also that one of the prevailing motivating factors for volunteering are related to religious activities, as indicated in the interviews and online blogs.)
 - conduct of seminars by partner institutions for values formation, construction skills, farming and entrepreneurship;

- bayanihan through the formation of volunteer sub-groups to perform house construction, farming, gardening, cleanliness drives, feeding programs, and service learning
- participation in sports, festivities and religious events (Religious activities are noted as one of the prevailing motivating factors for volunteering, as indicated in the interviews and online blogs)

To establish validity of findings, the research finds it significant to incorporate data from Government-administered housing. The qualitative data was then combined with quantitative data from a survey conducted among 70 household representatives from the four case communities leading to the an analytic generalization (Yin, 2003), see Table 1 below. The generalization reveals that the two GK villages has attained high levels of participation in terms of organizational structure, sweat equity, education, and volunteerism and a mixed high-moderate levels of participation in terms of social capital, project delivery and economic benefits. In comparison, the other two communities were generalized to attain mixed moderate and low levels of participation in all seven components.

Table 1. *Analytic Generalisation of Participation in Housing and Ecotourism in the Four Case Study Communities*

Seven COMPONENTS For Evaluating Participation in Housing and Ecotourism	Case Community 1: GK Puna Village, Libmanan	Case Community 2: Mambulo Nuevo Housing Assn., Libmanan	Case Community 3: GK Character Village, Iriga City	Case Community 4: Sierra Homes Housing Assn., Iriga City
1. ORGANISATIONAL STRUCTURE	High	Moderate	High	Low
2. SOCIAL CAPITAL	Moderate	Moderate	High	Low
3. SWEAT EQUITY	High	Moderate	High	Low
4. PROJECT DELIVERY	High	Low	Moderate	Low
5. ECONOMIC BENEFITS	Moderate	Low	Moderate	Low
6. EDUCATION	High	Low	High	Low
7. VOLUNTEERISM	High	Moderate	High	Low
Generalisation	HIGH	MODERATE	HIGH	LOW

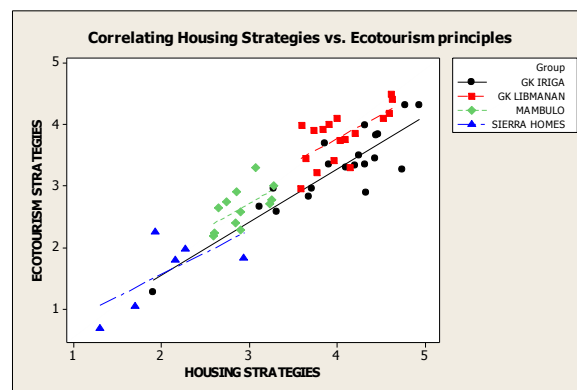


Figure 10. Scatter Plot for ecotourism strategies vis-a-vis housing strategies

THEORETICAL MODELLING: IDENTIFYING THE LEVELS OF ENGAGEMENT IN HOUSING AND ECOTOURISM STRATEGIES

The scatterplot below emphasizes the relationships between participatory strategies for housing and participatory strategies in ecotourism in mathematical terms. In this investigation of strategies of housing in ecotourist destinations, nonlinear relationships, i.e. polynomial functions were adopted as useful tools in effectively describing the emerging concepts in literature that are reflected in the empirical data derived from the research investigation. As such, the following mathematical model was derived:

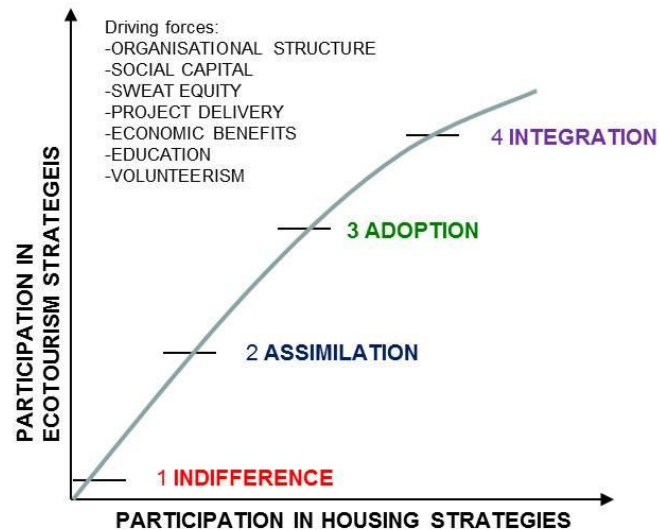


Figure 11. Levels of Engagement – A Theoretical Model for Evaluating Participation in Housing and Ecotourism

The analytic generalisation, which covered at least seven components for evaluation, combined with the fitted line plot now forms a theoretical model for evaluating participation in housing and ecotourism involving four levels of engagement:

1. INDIFFERENCE (LOW LEVEL OF COMMUNITY PARTICIPATION)
 - Weak community organization
 - Housing provision is the only priority. Residents have very little knowledge of ecotourism costs and benefits
2. ASSIMILATION (MODERATE LEVEL OF COMMUNITY PARTICIPATION)
 - Formation of community organization
 - Acknowledgement of residents that their location has potential for tourism
 - Housing project is visited and appreciated by volunteers, and eventually attracts other tourists.
3. ADOPTION (HIGH LEVEL OF COMMUNITY PARTICIPATION)
 - Strengthening of community organization and creation of synergies with other sectors (reflective of Social Capital theory)
 - Residents are trained to receive guests and perform hospitality services
 - Linkage with public and private sector is strengthened to enhance and promote products and services

- Tourist Infrastructure is supported through the synergies.
- 4. INTEGRATION (MAXIMUM LEVEL OF COMMUNITY PARTICIPATION – not found in the case communities)
 - High level of community organization and strengthened synergies with public and private sectors
 - Resources are devoted for both housing and ecotourism purpose
 - Housing site becomes a tourist landmark
 - Increase of tourists paves the way for it to become a major income generator or economic contributor

CONCLUSION: BUILDING UP A MODEL FOR HOUSING IN ECOTOURIST DESTINATIONS

The growing interest on volunteer tourism, homestays and service learning within housing and ecotourism literature emphasized the aspect of community participation not just among community residents, but other partners including private sectors, government and non-government institutions. The link between housing and ecotourism was therefore seen in the realms of community participation, as well as in the emerging trends of experiential learning of local culture which provides avenues for a clearer understanding of the term “community” in terms of multi-sector engagements and collaboration.

The case study of Gawad Kalinga Communities in Cam Sur has provided a contextual understanding of the process for housing the poor within ecotourist destinations. The GK communities provided evidence of the influence of participation in community housing programs, wherein government has identified ecotourism as their development niche. Despite corresponding development problems, the GK programs have contributed to the community’s understanding and contribution for upholding the principles of ecotourism. With collaborative strategies made possible through bayanihan, the residents have recognized themselves as stewards of the environment, participating in strategies beyond housing implementation alone. It has demonstrated how a community-based approach for housing was instrumental in the development of ecotourism. The correlation analysis draws in the driving forces that support a model for evaluating community engagement for holistic housing and ecotourism initiatives in developing countries.

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Ethical Research in Indigenous Australian Contexts and Its Practical Implementation

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ABSTRACT

This paper is based on a three year longitudinal case study involving a number of Indigenous Australian communities in metropolitan, rural and remote settings. It will briefly discuss current ethical guidelines which have been developed by the National Health & Medical Research Council (NHMRC) for the conduct of research involving Indigenous Australian subjects (2003). These guidelines are in addition to the National Statement on ethical conduct in research involving humans (1999) and are aimed at incorporating values and principles of Aboriginal & Torres Strait Islander cultures in the conduct of research. In the case of Indigenous communities, research has historically been controlled and dominated by non-Indigenous researchers. In many cases, Indigenous involvement and ownership over the research activity has been minimal or nonexistent and the benefits of the research have not been shared by Indigenous participants and/or communities.

The main focus of the paper will discuss issues arising out of the research process that occurred during the longitudinal study that impacted on ethics and the research study itself. Issues such as gaining consent from multiple sites, obtaining consent from afar, the wording of consent forms, the use of passive consent and the need for ongoing consent will be addressed. Despite following ethical research guidelines and promoting best practice in research, researchers in this study encountered issues which both supported and inhibited the research process. In closing, the paper will discuss the importance of observing Indigenous protocols during the research process and the need for Indigenous cultural competency training for researchers who research in Indigenous contexts.

Keywords: Indigenous experience, indigenist research methodologies, indigenous Australian.

INTRODUCTION

Research in Indigenous Australian communities has historically been controlled and dominated by non-Indigenous researchers (Fredericks 2007, Fredericks 2008, Greenhill & Dix 2008, Liamputtong 2008, Rigney 2006, Smith 1999). In many instances, the research methodologies used have been inappropriate and invasive, often ignoring the rights of Indigenous Australians to participate or not to participate in research (Fredericks 2008, Greenhill & Dix 2008). The Indigenous experience in research has been largely one of exploitation with little or no participation and no benefit for the

Indigenous community (Fredericks 2008, Greenhill & Dix 2008, Rigney, 2006). The ownership, interpretation and dissemination of research findings and data are other issues of major concern to Indigenous peoples as often this knowledge is not shared with Indigenous communities, but rather is typically stored in universities and is used by academics to pursue their academic careers (Fredericks 2008, Liamputtong 2008, Rigney 2006). As a result of these past practices in research, Indigenous Australians have become sceptical and at times, reticent towards research and researchers.

Several publications and statements regarding the conduct of research in Indigenous Australian communities began to appear in the early 1980s and early 1990s as a result of Indigenous concerns about what was happening in research, particularly in relation to cultural sensitivities, exploitation and inappropriate research methods (NHMRC 1991, Federicks 2007).

In 1991, the National Health and Medical Research Council (NHMRC) in Australia developed a set of national guidelines for the conduct of all research involving humans, animals and the environment and these were later revised in 1999 and 2007. In addition to the 1991 national guidelines, the NHMRC developed a set of interim guidelines on ethical matters in Aboriginal and Torres Strait Islander Health Research which focused on consultation, community involvement and ownership and publication of data. These guidelines were to be read in conjunction with the national statement (NHMRC 1999). This publication was revised in 2003 and retitled, "Values and Ethics: Guidelines for the Ethical Conduct in Aboriginal and Torres Strait Islander Health Research (2003).

The Australian Institute of Aboriginal and Islander Studies (AIATSIS) in 2000 also developed a set of comprehensive guidelines for the conduct of ethical research in Australian Indigenous studies. A revised edition of these guidelines in 2011 focused on Indigenous authority and ownership of traditional knowledge and the establishment of reciprocal partnerships through agreements between Indigenous people and researchers (AIATSIS 2011).

A number of government agencies and university research centres have also developed ethical research guidelines and protocols for use by researchers in conjunction with the research guidelines published by the NHMRC.

These recent research guidelines have signaled changes to practices in Indigenous research and a shift towards Indigenous ownership and control over research via reciprocal and partnership agreements with researchers (Fredericks 2008, Humphery 2001, Rigney 2006,). In fact, there is a growing number of Indigenous academics and activists who are now participating in research and guiding research practices, methodologies and are strongly advocating the principles of Indigenous self determination, ownership and control over research (Fredericks 2008, Nakata 2007, Rigney 2006). For example, Rigney (2006), an Indigenous academic, presents an 'Indigenist' research methodology as a means of addressing past research practices and a move forward to shift research principles and practices that reflect Indigenous autonomy and self determination in research. "What is central to Indigenist research is that Indigenous Australian ideals, values and philosophies are the core research agenda even if there is a difference about what constitutes such values and ideals" (Rigney, 2006, p. 41).

Other Indigenous peoples from countries such as Canada, New Zealand and the United States have also experienced similar research practices in the past and are now also strongly advocating for ownership, control access and possession over research (Liamputtong 2008, Schnarch 2004, Smith, 1999).

The move to a 'redistribution of power' and 'methodological reforms in Indigenous research may result in some non-Indigenous researchers viewing these changes as a 'threat to their academic

freedom” and as a consequence, maybe unwilling to compromise and or, may no longer wish to be involved in Indigenous research (Schnarch, 2004, Rigney 2006).

It is therefore clear that there is a need for Indigenous communities and researchers to reach agreed understandings of these new approaches in Indigenous research before any research takes place and throughout the research process itself. Rigney(2006, p.42) claims that, “ maintaining Indigenous political integrity throughout the whole research process is vital to self-determination” and that “mutual respect and power sharing in methodological negotiation and collaboration is essential.” Hence, Rigney believes that non-Indigenous researchers can play a role in Indigenist research but it must be based on a relationship that supports Indigenist principles, trust and cooperation. While the rhetoric points to changes in Indigenous research practice, authors such as Humphery (2001,p. 201) questions whether these reforms are at times ‘exaggerated’ and/or ‘masked’ by the broader research community, as some research processes are still controlled and maintained by non-Indigenous researchers today.

In drawing upon some of these recent changes in Indigenous research practices, this chapter will make reference to a three year longitudinal case study involving a number of Indigenous Australian communities in metropolitan, rural and remote settings. It will highlight and discuss issues arising out of the study that impacted on ethics and the research study itself. Issues such as gaining consent from multiple sites, obtaining consent from afar, the wording of consent forms, the use of passive consent and the need for ongoing consent will be addressed. Despite following ethical research guidelines, researchers in this study encountered factors which both supported and inhibited the research process. At times, the researchers felt that some of the changes which supported Indigenous control over the research process had gone too far and was jeopardising the research project. In closing, this chapter will discuss strategies to support this new approach to Indigenous research and will advocate the requirement for Indigenous cultural competency training for all researchers who research in Indigenous contexts.

This chapter will begin by briefly discussing the history of research practices in Indigenous Australian communities and will present the major national ethical research guidelines currently in use for the conduct of research involving Indigenous Australians.

HISTORY OF RESEARCH PRACTICES IN INDIGENOUS AUSTRALIAN COMMUNITIES

It is well documented that previous research methodologies and practices on Indigenous issues which have been carried out by non-Indigenous researchers have been inappropriate, unacceptable, devious, culturally insensitive and in many instances harmful to Indigenous individuals and communities (Cruse, 2001; Fredericks 2008, Greenhill & Dix 2008, Taylor & Ward, 2001, Smith 1999). Melville and Rankine (2000) affirm that research in Indigenous contexts raises sensitive issues, due to its history and some current practices. The collection of data, data analysis and interpretation of data by non-Indigenous researchers has also raised issues concerning the application of ethnocentric research models which are “neo-colonial and paternalistic” in nature and of little benefit or are detrimental to those being researched (Foley, 2000, Nakata 1998b). As a result, research for Indigenous people is often “inextricably linked to European imperialism and colonialism,” a term taken to mean the “continued construction of Indigenous people as the problem” (Smith, 1999, p.1).

The above authors have also been scathing of past practices of researchers, who often treated Indigenous communities as ‘field laboratories’. Manderson, Kelaher, Williams and Shannon (1998) sum up the views of all these authors when they contend that, “Indigenous perceptions of

Australian research practice have emphasised their subject status, in which academics have been seen to descend on a community, gain peremptory permission to conduct their work, collect their data (biological or social) and leave, with little or no feedback to the community and no lasting benefits to it" (p.2).

In many instances, research has resulted in the appropriation of Indigenous knowledge using methodologies and procedures that many people consider to be culturally insensitive and inappropriate. Previous practices have often excluded Indigenous participation and ownership of the research which, in many cases, has resulted today in Indigenous people being wary of proposed research projects. Taylor and Ward (2001) state that, "it is fair to say in the past that there has been suspicion of and even hostility expressed by Indigenous Australians towards some anthropological and archaeological research ideas and practice. Some suspicion continues today" (p.16).

As a result of experiences such as those outlined above, many Indigenous people have become reluctant to support or participate in proposed research activities. Research for many Indigenous Australians is another form of dispossession because of the appropriation and custodianship of their knowledge by non-Indigenous researchers and institutions that are not accessible to them. The methods used by researchers who conduct research in Indigenous contexts should take account of the principles and values of Indigenous Australian culture and be informed by Indigenous interpretations of advantages, the potential to cause harm and issues concerning intellectual property rights and confidentiality.

RESEARCH GUIDELINES

Research ethics in Australia is guided by the National NHMRC's National Statement on Ethical Conduct in Research Involving Humans (2007). Among the NHMRC's values and principles of ethical conduct is the protection of the welfare and the rights of participants in research. "The ethical and legal responsibilities which researchers have towards participants in research reflect basic ethical values of integrity, respect for persons, beneficence and justice" (2002, p.11).

In addition to the National Statement, research in Indigenous contexts has been also guided by supplementary guidelines that have been produced by the NHMRC in 1991 and 2003. The more recent publication, "Values and Ethics: Guidelines for ethical conduct of research in Aboriginal and Torres Strait Islander Health Research " (2003) outlines six core values which are considered to be important to Aboriginal and Torres Strait Islander people: Reciprocity, Respect, Equality, Responsibility, Survival and Protection and Spirit and Integrity.

While these guidelines outline major principles and values of ethical research in Indigenous Australian contexts, they do not completely capture the changes in research methodologies, Indigenous control and ownership over research that have been strongly advocated by a number of Indigenous academics including Rigney (2006), Nakata (1998b) , and Fredericks (2008).

A number of agencies such as AIATSIS, Aboriginal Health Councils and federal and state Departments of Health have developed their own sets of guidelines for research that they sponsor or if the research concerns the clients they serve (AIATSIS 2011, Fredericks 2007). These guidelines are used in conjunction with the NHMRC's national guidelines. The guidelines developed by AIATSIS comprise 14 principles of ethical research and are covered under the broad categories of "Rights, respect and recognition; Negotiation, consultation, agreement and mutual understanding; Participation, collaboration and partnership and, benefits, outcomes and giving back" (AIATSIS 2011, pp. 2-10).

Process for ethic approvals

Research involving humans and animals require approval from research ethics committees prior to the commencement of the research activity. Ethics committees have been established in universities and in a number of government and non-government departments. The NHMRC guidelines are used to assess all proposed research activities involving animals and human beings.

Aboriginal and Torres Strait Islander people have also become increasingly involved in research as researchers and have set up their own Aboriginal Health Research Ethics Committees (AHREC) to oversee the approval of research applications. New measures introduced under these guidelines require consultation with and approval of the proposed research activity by appropriate Indigenous leaders (Fredericks 2007, Social Policy Research Centre (SPRC, 2008).

While there has been a shift in the principles and values that guide Indigenous research and support Indigenous self-determination, ownership and control over research, these new understandings and practices will require the development of strong partnerships, collaboration, consultation and observance of cultural protocols between researchers and the Indigenous community. The implementation process of these principles is still undergoing a transitional phase with the intention of control of Indigenous related research ultimately resting with the Indigenous community. Researchers and Indigenous communities alike are sometimes apprehensive about one another's intention regarding the research process as a result of these introduced guidelines and negative research experiences of the past. "Unless clear protocols are in place and clearly communicated to Indigenous people, researchers are likely to be regarded as 'just another white-fella mob coming to steal our stories'" (SPRC, 2008, p.2).

To highlight some of these tensions and changes to research practices, examples from a three year longitudinal research case study involving a number of Indigenous Australian communities in metropolitan, regional and remote settings will be discussed.

A case study

The research study examined effective practices in teaching Indigenous children with Conductive Hearing Loss (CHL) and involved a number of schools in metropolitan, regional and remote locations in Western Australia. The schools were selected from the state's three educational providers and each was characterised by high Aboriginal enrolment numbers. The main participants in the research were teachers and Aboriginal students, although some non-Aboriginal students were indirectly involved as classroom members. The research team was comprised of university staff members, including the author of this chapter.

Consultation

The research project used in this case study overlapped the NHMRC's 1991 and 2003 guidelines for the ethical conduct in Aboriginal and Torres Strait Islander Health Research. The 1991 guidelines covered three broad categories: Consultation, Community involvement and Ownership and publication of data. In following the 'consultation' guidelines, the research teams were required to consult widely with stakeholders at several levels including state and local health authorities and with Aboriginal & Torres Strait Islander controlled health services (NHMRC, 1991, p. 6).

Consultation with relevant stakeholder groups and participants was given high importance by the research team and this aspect was duly carried out during all stages of the CHL research project

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(Gower, 2012). Examples of consultation by the research team are described throughout the chapter below.

Multiple ethics clearance

The level of ethics approval required for a research project is dependent on the nature of the study and the number of stakeholders who are associated with the research activity. The CHL research project required more than one ethics clearance because it involved education and health matters concerning Aboriginal children. Although the research study did not involve any medical testing of participants, Aboriginal students who had conductive hearing loss had to be identified by the school nurse and/or medical records.

A research ethics application for the CHL Project was submitted to the University's Ethics Committee and approval was confirmed a month later. In seeking further ethics approval that was required for the project, the CHL research team consulted with representatives from the WA Aboriginal Health & Information Ethics Committee (WAAHIEC), a body located within the WA Health Department of WA and, with local Aboriginal Medical Services in each of three regions under study. The WAAHIEC had advised researchers that ethics clearance was also required from local Aboriginal Medical Services that were involved in the study. This resulted in the CHL research team encountering lengthy delays in obtaining clearances from local Aboriginal Medical Services in all three regional areas and from WAAHIEC, despite the research study being principally educational in nature and not specifically health orientated.

Delays in obtaining ethic approvals should always be anticipated by researchers, and especially when more than one ethics approval is required. The CHL research team were mindful and respectful of this situation but were not expecting the process to take almost one year. The delays were caused by changes to the membership of WAAHIEC, the postponement of scheduled meetings at the state and local AMS level, the lack of clarity as to who in the AMS had the responsibility or authority to give approval, and the misplacement of consent forms and other supporting documentation as a result of the changeover in committee membership (Gower 2012). In one case, the application form was passed to a medical doctor by an AMS Chairperson for approval and the form was neglected for months. This happened twice in the one AMS office and only on the third approach was approval given. Of special note is the acknowledgement by the health service providers that obtaining medical ethical clearance involves a very complex process (Gower 2012).

The ensuing delays in obtaining consent from WAAHIEC caused the CHL Project Leader to seriously consider abandoning the research study. Despite addressing all the requirements that were listed in the ethics application form and personally discussing the project with personnel from WAAHIEC and the various AMSs, further delays continued (Gower, 2012).

This outcome meant that the research team could observe and collect educational data in schools where consent had been given but the students with CHL could not be identified. This situation resulted in confusion for one teacher who was involved in the CHL study as she did not clearly understand what data collecting was ethically permissible under this arrangement. The Project Director confirmed with the school that students with CHL could not be identified until medical ethics clearance had been received, but as the project had been cleared by a university ethics committee, it was permissible for the research team to continue with classroom observations (Gower, 2012).

The level of ethics approval required under these circumstances presents a 'grey' area for researchers and this matter requires further consideration by respective ethics committees. The

level of ethics approval which applied to the CHL Project and the subsequent delays in approving ethics clearances raises the question of what level is appropriate, especially when the research activity was educational and not medical in nature and secondly, when consent had been obtained from parents whose children were involved in the study .

The requirement of consulting and applying for ethics approval from various Aboriginal stakeholder groups is not in question here as this condition serves to protect and also involve Indigenous participants during the research process and importantly, ensures Indigenous ownership and control over research. The process of approving ethics within the health system needs to be examined and streamlined to assist managers and those responsible for dealing with ethics applications to make decisions within reasonable timelines. This process, however, should not in any way ignore established ethical guidelines which have been produced by the NHMRC and/or specific requests made by Indigenous communities which relate to the research activity.

Consent

One of the major requirements in ethical practice is gaining informed consent from participants who are involved in the research study. This requirement informs the participant of the nature of the study, the obligations of the researcher in protecting the identity of the participant, and the option to participate or not to participate in the study.

A requirement of the university's Research Ethics Committee was that the information on the consent form had to be clear to parents and teachers and that each consent form had to be signed individually by each participant. The Committee at the time provided a template to assist in the drafting of relevant consent forms that were to be used in the CHL project. The first form that was drafted for the project was considered to be too long and ambiguous by the research team and several revisions were made. For example, the language used and the length of the form were adjusted and simplified so that parents and/or caregivers could easily understand the purpose of the study and the involvement of their child(ren).

A senior officer from one of the education systems also reinforced the importance of obtaining written consent from parents and care givers prior to commencing the research activity by stressing that under no circumstances could a school or community member give consent on the behalf of the group. It was agreed that schools participating in the CHL project would be required to implement an appropriate process to obtain consent from parents and/or caregivers (Gower 2012). Under the Privacy Act (1988), the research team could not carry out this task. It was recommended that Aboriginal and Islander Education Officers (AIEOs) and Aboriginal Teacher Assistants (ATAs) in respective schools be assigned to carry out this task on the behalf of the research team. The method used to send forms to parents was through a combination of school newsletters and the use of AIEOs and ATAs. It was the school's responsibility to send and receive forms.

The research team provided additional notes for the AIEOs and ATAs that they could refer to when speaking to parents and/or caregivers. For example, what to tell parents; what steps are involved in this particular research process, the degree of confidentiality, their right to not consent, the option to withdraw consent at any time and, the implications of agreeing to participate.

Personal contact is always considered better as many Aboriginal parents prefer oral rather than written communication. This form of communication also allows the informant to gauge whether or not the conversation about the research project and the various processes, including their rights, are clearly understood.

However, if the consent forms are being explained to parents by a non –researcher such as the AIEOs and ATAs who, for example, carried out this role in the CHL project, instances of miscommunications may arise with the informer giving incorrect information about the research project. This outcome raises ethical issues as parents may have come to a different decision if accurate research information had been provided. This scenario happened in one school that participated in the study when an ATA who incorrectly informed parents that the CHL research project involved the testing of hearing of their child(ren). This mistake came to the attention of a research team member following a visit to the school and after having had a discussion with the ATA. This matter was quickly rectified with a follow up visit to parents by the ATA and an opportunity to reconfirm their previous decision (Gower, 2012).

Some schools however, opted to send the consent forms home with students for parents to read and sign. This arrangement proved to be unsuccessful at one particular school as only three forms had been returned despite the form being sent home twice. The project manager recommended to the school principal the use of AIEOs or ATAs to explain the form to the parents and for the parents to sign off appropriately in order to expedite this process. In one case, a school used the telephone to discuss and obtain verbal consent from parents who had low literacy levels. The school then signed on behalf of parents who had given their verbal consent. The research team did not favour this approach in obtaining consent but the failure of all other avenues due to parental illiteracy, and their ready accession to the project when it was explained verbally to them, confirmed this as an acceptable strategy for obtaining informed consent (Gower, 2012).

A more serious breach to the ethics process involving the absence of written consent came to the notice of the research team when they discovered that some teachers were allowing them to conduct research activities in their classrooms despite not receiving official approval from parents. These inappropriate actions required vigilance on the part of the researchers. At times, students for whom consent had not been obtained would be in classes where research was occurring and the teacher would give approval for video- or audio-recording to take place. Following the first recording event, the researchers realised they would have to be strict regarding student inclusion because teachers were liberal in their inclusion of students who did not have consent. The research team strictly enforced the practice that no video or audio recording would take place without the official receipt of consent forms (Gower 2012).

In some cases where the research team had travelled long distances only to find out that consent forms had not been received for all students concerned, the research team would observe classroom lessons and only use the data if consent was later given.

Ongoing informed consent

Given the three year duration of the study and that issues had arisen in the consent process, the importance of developing relationships and winning trust among parents whose child(ren) were involved in the study was considered to be important by the research team. It was also considered important to inform and remind parents and caregivers of the research project and of their rights in relation to giving and also withdrawing consent at any time. To this end, the CHL Project Leader designated this role to an Aboriginal person who was also a member of the research team. The team member assigned to this role would often meet parents and care givers at school and speak to them about the CHL Project and their understanding of it. Although many of the parents were interested and supported the study, they did not have a clear understanding of its major purpose, that is, to introduce CHL teaching strategies via classroom teachers and evaluate their effectiveness. The understanding of many parents was that the research team was there to conduct hearing tests with

their children as this activity was conducted regularly by the school nurse. This understanding was corrected when the responsible research team member met and spoke to parents and/or caregivers during each visit.

Use of passive consent

The use of 'passive' or negative' consent in the research process is usually discouraged by Research Ethic Committees and is only approved under special conditions and circumstances. Fletcher & Hunter (2003, p.216), define passive consent as a procedure that, typically inform parents of the researcher's intent to collect data from all children in a given location (e.g., school) and describe the project to the parents. Parents are requested to contact the researcher or return the form if they do not wish to have their children participates in the project.

This description of passive research is sometimes applied in an educational context, as it was on one occasion in the CHL project. While the research team had used 'active' consent procedures or procedures requiring written permission by parents or caregivers for their child to participate in study, passive consent was used for a specific purpose. The research team successfully applied to the University Ethics Committee to use 'passive consent' forms for the purposes of sending out to non-participating Aboriginal & non-Aboriginal students who may be included in the process of videotaping and/or audio taping of classroom interactions.

The University's Ethics Committee approved the use of negative consent on the condition that the forms were to be mailed out to each parent/caregiver, and a reply paid envelope is included for the return of the form to the school. Under the provisions of the Privacy Act (1988), each school had to address each letter to respective families and receive the replies. This process could not be carried out by the research team or by the University. The research team leader reported that when data recording was underway in all districts, no non-Indigenous parent had refused permission for incidental recording of their children who were in classes involved in the study (Gower, 2012).

The use of negative consent is a matter which has to be carefully considered by Ethics Committees who are responsible for approving such applications. It provides for a convenient and quick method for researchers to obtain 'consent' and there is no need to follow up on outstanding responses. This method of obtaining consent does not provide confirmation that the parent/caregiver has received the form and/or fully understood the meaning of the request. Given that the CHL research team experienced misunderstandings from Aboriginal parents/caregivers and also from AIEOs/ATAs who were distributing and explaining these forms, this method should be used sparingly, if at all, in Aboriginal contexts or when dealing with parents who speak English as a second or third language. There was the potential for misunderstanding among some, if not many, of the recipients of the letters seeking negative consent, particularly those whose command of written English was limited.

Observing Indigenous protocols

With new models of Indigenous research being established by the NHMRC (2003), AIATSIS (2011), Aboriginal and islander Health Councils (Fredericks, 2008) and those being advocated by Indigenous academics such as Rigney (2006), Fredericks (2008) and Nakata (2007), it will become extremely important for researchers to observe Indigenous values and ways of doing things. Changes in ethical approval processes which support Indigenous ownership and control over research, appropriate levels of consultation, reciprocal agreements regarding the outcomes of the research, data collection and the discussion and dissemination of research findings needs to be understood by researchers and become intrinsic in research practice in Indigenous contexts.

The need for Indigenous cultural competency training for researchers

The importance of building relationships, showing respect and demonstrating cultural sensitivity and competence are very important aspects when engaging in cross cultural research (Liamputtong 2008, Greenhill and Dix 2008). Demonstrating cultural sensitivity is about understanding another person's culture, beliefs and values and applying these understandings in practical situations (Liamputtong, 2008). In the light of previous research practices that have been experienced by Indigenous Australians and the need for all current and future research to adopt principles of Indigenous self-determination, these factors become paramount to the success of Indigenous research activities. As many non-Indigenous researchers are still actively involved in and will continue to be involved in Indigenous research, the need for cultural competence training should become a necessary requirement for all researchers. Cultural competence is defined as:

The awareness, knowledge, understanding and sensitivity to other cultures combined with a proficiency to interact appropriately with people from those cultures in a way that is congruent with the behaviour and expectations that members of a distinctive culture recognise as appropriate among themselves. Cultural competence includes having an awareness of one's own culture in order to understand its cultural limitations as well as being open to cultural differences, cultural integrity and the ability to use cultural resources (Universities Australia, 2011, p. 48).

Cultural Competence embraces a number of key concepts including Cultural Awareness, Cultural Safety; Cultural Security and Cultural Respect. Cultural competence builds on the attributes of awareness, knowledge, understanding, sensitivity, interaction, proficiency and skill to interact and communicate effectively with Indigenous Australians (Thomson, 2005, pp.3-6). These qualities in turn will greatly assist individuals to contribute to and serve Indigenous communities effectively so that differences and diversity are respected and valued.

Cultural competence training and subsequent understandings is a mechanism which researchers can apply in accepting and supporting the new methodologies and principles for conducting research in Indigenous contexts outlined by Rigney (2006), Nakata (1998b), Fredericks (2008) and the NHMRC (2003).

CONCLUSION

The landscape of Indigenous research in Australia is changing in response to poor research practices of the past by non-Indigenous researchers and with the implementation of new research guidelines which are based on principles of self-determination, Indigenous ownership and control over research. The understanding and implementation of these changes will require further discussion and clarification between researchers, participants and the Indigenous community to achieve examples of best practice in Indigenous research and a smooth transition to the new guidelines. This requirement has been highlighted by incidents from a case study which demonstrated the need for shorter timeframes for approving ethics applications and for all participants who are involved in research to be clear of their role and responsibilities in all research matters, and especially those that relate to informed consent. The evidence from that case study illustrates the need for researchers to be quite clear of appropriate ethical procedures and the dangers arising from misunderstanding of those procedures by participants in the research process. Establishing clear guidelines and protocols prior to and during the research activity will assist both researchers and the indigenous community to facilitate ethical research and achieve best practice in Indigenous research. Indigenous cultural competence training and associated understandings is necessary for all

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researchers so that they can expedite this process and support self-determination, control over and participation in research.

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Parents: Advocates for Literacy Success

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ABSTRACT

This paper explores the role of parents in reading intervention. While parents have a vested interest in supporting their children's literacy success, Cunningham and Allington (2003) point out that most parents are unsure of how to teach reading or help their children with literacy development. Parent education is a fundamental component of the literacy work conducted at U-CAN READ: Literacy Intervention Years 3-10 (UCR). A network of support for students (consisting of parents, literacy advisors and classroom teachers) is essential for moving students from reluctant, resistant and disengaged students to motivated and enthusiastic readers. The UCR team works with a minimum of one hundred families per year at the University of Canberra. Students accepted into the program are reading at least one grade level below their peers. Effective research-based reading and writing strategies, the incorporation of technology, and the collaborative nature of the experience are keys to engaging parents and students in attaining literacy success. This paper explores how and why parent education is a crucial component of reading intervention.

Keywords: Parent education, literacy intervention, struggling readers.

INTRODUCTION

When my children started at UCR, I was so scared that my children would never do well at school. I want the best for them...to find the passion in what books can bring. They avoided reading like I was ordering them to a dentist. Now, there is drive and passion. They stay up reading at night for almost an hour and you know what? I don't mind. I love walking past their rooms to not just see them reading but truly engrossed in their books. (Father, 2012)

This paper highlights the crucial nature of parent involvement in the literacy education of struggling readers. Parent education is a fundamental component of the literacy work conducted at U-CAN READ: Literacy intervention Years 3-10 (UCR). UCR is a joint project of the University of Canberra and the ACT Education and Training Directorate. This unique and innovative university and government initiative has been in place for more than thirty years and has catered for many thousands of struggling readers in Years 3-10 residing in the Australian Capital Territory (ACT). The UCR team (consisting of three full time literacy advisors) works with a minimum of one hundred families per year. Students accepted into the program are reading at least one grade level below their peers. Students are referred to the centre by classroom teachers or school counselors and applications must be endorsed by the student's Principal.

This paper examines the critical need to include parents as advocates for literacy success and highlights the findings of research conducted at UCR. A network of support for students – parents, literacy advisors and classroom teachers – is seen as essential for moving students from reluctant, resistant and disengaged students to motivated and enthusiastic readers. Effective research-based reading and writing strategies, the incorporation of technology, and the collaborative nature of the experience are keys to engaging parents and students in the process.

BACKGROUND

It is apparent from current literacy data that our attempts at improving outcomes for struggling readers are less than desirable. Students continue to “fall through the gap” and their chances of catching up are lessened each year as they proceed beyond Grade 2.

According to the Literacy and Numeracy Report prepared by the Department of Education, Employment and Workplace Relations (DEEWR 2008) despite ongoing attention to benchmarking and monitoring performance over the past decade the literacy levels of Australian children have not improved. National Benchmark data shows that the percentage of students achieving grade level in reading declines from Year 3 to Year 7. The performance of indigenous students remains significantly below that of non-indigenous students. According to the report, students from remote locations achieve significantly below students from metropolitan and provincial areas.

The Program for International Student Assessment (PISA) states that between 2003 and 2006, Australia’s results declined in both absolute and relative performance in reading. The PISA results show that while the average performance of our 15 year olds is significantly better than the OECD average, there is a “long tail” of struggling students.

These results suggest significant levels of disadvantage exist in Australia and that the gap between students of the same age can be equivalent to several years of schooling. The gap places an unacceptable proportion of 15 year old students at risk of not achieving levels sufficient for them to participate fully in the workforce and to be productive citizens.”

(DEEWR 2008, p.5)

Enlisting those with a vested interest in promoting literacy success -parents

Having completed an extensive search of the research literature, it is apparent that there is a dearth of ongoing, effective and successful parent initiatives in literacy. The existing research, however, does stress that parents are keen to be involved in supporting their children and are often at their “wits end” to know how to go about locating necessary information to alleviate the stress and anxiety associated with reading at home. Cunningham and Allington (2003) point out that most parents are unsure of how to teach reading or help their children with literacy development. The positive impact of parent education on children’s reading acquisition is emphasized in research by Senechal (2006). In his study of 1174 families, it was found that when parents were taught specific literacy skills to use with their children, they were twice as effective as parents who listened to their children read and six times more effective than parents who read to their children. In addition, Project ROAR (Reach Out And Read) indicates that parents are eager to help their children and when instructed in appropriate literacy activities can positively affect the academic progress of their children (Gilliam et al, 2004).

The need for evidence-based, prolonged research on the effectiveness of parent education programs is paramount. Senechal et al (2000) confirms the lack of research evidence. “One of the most important findings here was the dearth of intervention research on par–ent reading with

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children in kindergarten to grade 3 (p.20). It appears that most programs are short-lived, often school based and predominantly designed for parents of children in the early years of school (P-3). It was found that programs were generally initiated by a teacher in the school and were dependent upon that teacher's ongoing involvement. When the teacher leaves, it was not uncommon for the program to end.

There is a noticeable decrease in parent education programs and literacy interventions beyond the early years. Few parent programs, according to Wasik (2004), address the needs of children in the primary grades and beyond. There is considerable emphasis on programs conducted for families from low socio-economic backgrounds and/or ESL families.

When it comes to the involvement of fathers in the learning of children, there are even fewer studies. While there is a considerable body of research on the effects of literacy interventions with mothers of young children (Ortiz, 1994, 2004), studies of the impact of literacy programs with fathers is generally neglected. Ortiz 2004 points out that parent involvement is an important goal of early childhood education programs, but parents often refers to mothers.

U-CAN Read: Literacy Intervention for Years 3-10 (UCR)

UCR was established to address the needs of struggling readers by educating parents in the use of effective reading and writing strategies accompanied by the use of technology. Parents participate in a series of six, two-hour workshops. The workshops are followed by an Individual Assistance Program (IAP). The IAPs are conducted in collaboration with a literacy advisor and parents and students work together for one hour a week for up to twelve weeks.

Guiding principles

U-CAN READ is based on the following guiding principles:

Collaboration

Unlike other intervention programs where parents drop their children off to be tutored or they watch passively while tutors instruct their children, U-CAN READ empowers parents to be active participants in their children's literacy learning. Parents, children and a literacy advisor engage collaboratively in literacy activities. This could include shared reading or writing. The intention is to create a community of readers and writers rather than have the child be "the object" of intervention.

Independence

U-CAN READ encourages independence by giving children

- choice of reading material, electronic and/or hard copies
- access to a range of literacy strategies including shared, paired, echo, or NIM reading
- free choice of writing topics including timed writing experiences, dialogue journals made up of ongoing written dialogues with a literacy advisor, and publishing opportunities such as uploading work to the Kindle
- borrowing rights to an extensive library of current and interesting books as well as e-books, iPads and iPods.

High interest and fun

U-CAN Read promotes a love of reading by making available high interest and diverse literature. The aim is to introduce the parent to stress-free strategies so that reading time is an enjoyable encounter. Children choose what they read. Initially, parents are instructed to restrict the reading sessions to ten minutes – ten anxiety-free minutes of fun. As one father stated in his post IAP survey, “Ten minutes a day. Can’t stress that enough. This seemed crucial.” By limiting the time, it has been found that the children begin to ask for more time rather than continue to draw of their avoidance strategies of the past.

Parents support independence at home by taking children to local libraries, school libraries, book shops, and garage sales to choose their books. Parents are asked to look for ways to generate a family community of readers by turning the television off, providing bedside reading lights, book cases and sharing what they love to read. Krashen (2004) states that no single literacy activity has a more positive effect on students’ comprehension, vocabulary knowledge, spelling, writing ability and overall academic achievement than free voluntary reading.

Meeting individual needs

On acceptance into UCR, a battery of assessments is conducted. Assessments include miscue analysis, spelling tests, writing samples (timed free writing), word identification tests, attitudinal surveys, standardized reading tests including PM BenchMark Reading Assessment. IAP sessions are planned individually to specifically target the needs of each child. Classroom teachers of children in the program are contacted prior to and throughout the IAP to discuss the child’s progress. During IAP sessions, the literacy advisors model strategies to the parent and child so that the strategies can continue to be reinforced at home.

Fostering confidence and motivation

UCR caters for children in years 3-10, consequently, a lack of confidence and low self esteem is not uncommon. Consistently, more than 20% of children enter UCR defining themselves as “not good” at reading. Most have experienced other interventions and many have had years of failure in school. U-CAN READ endeavors to promote a sense of confidence by providing scaffolded experiences that encourage risk taking and engagement in purposeful activities.

Providing opportunities for reflection

Reflecting on literacy strategies and behaviors occurs both within the seminar series and the IAP’s. Throughout the seminars, parents are asked to reflect on their changing perceptions of reading and the success/failures they experience on a weekly basis. At the final seminar parents are asked to reflect and document the “best” advice they would give a parent of a struggling reader. It is common for parents to reflect on how their fear and expectations impact negatively on their children’s prior experiences of reading.

METHODOLOGY

This paper reports the findings of UCR research conducted over a three year period with 283 parents. Multiple sources of data are drawn upon to gain an understanding of the effectiveness of the intervention in improving literacy outcomes for struggling readers, gain the perspectives of parents and teachers, and the impact of the intervention in changing students’ attitudes and motivation to read.

At the commencement of the parent seminars, parents complete a survey to determine their expectations of the program, establish their attitudes to reading, identify their children's needs and outline the history of their children's struggle with reading. At the conclusion of the parent seminars, parents complete a post survey where they record changes in reading routines, habits, expectations and attitudes since starting the seminars. They also identify the benefits of the program and strategies they found most useful. At the conclusion of the IAPs, parents complete a final survey. They note changes in their children's reading attitude, reading habits, noticeable improvements or lack of improvement. In addition, parents identify the most salient advice they would give another parent with a child struggling with reading. Parents attending the seminars as couples have the option of completing the surveys together or individually.

Parents and children recognize that there is less anxiety around reading.

Parents feel stressed and anxious when they begin the UCR. Many parents had tried a range of interventions including private tutoring, tests for hearing and eye dysfunctions, speech pathology and dyslexic clinics. Over three years, 50-60% of every cohort had sought assistance from a learning support teacher in the school. Approximately 10% of each cohort had sought assistance from other therapists and private tutors.

From a parent's perspective, there is concern and "panic" that their children are falling behind at school. Parents are often distressed that their children cannot read home readers. To combat the problem, some families moved schools, for example, from a larger school to smaller schools or changed schools in preference for one that used a different reading approach. Most parents stated that they read to or with their children each night. Parents had many expectations for their children at the beginning of the UCR and the fear that they were powerless to help was often expressed. The majority of parents acknowledged that they do not know how to help their children with reading and are willing to do what it takes to find a solution.

At the conclusion of the five parent seminars, parents stated that their homes were now calmer and relaxed around homework time and it was not such a struggle to get their children to read. 35% of parents specifically mentioned that the "stress" had been reduced. Parents claimed that having access to different ways of reading, for example echo reading, paired reading, neurological impress method (NIM) was effective. They stated that they now read a variety of texts including signposts, comics and information on the internet. Parents noted that the relaxed attitude had helped improve relationships with their children. Some parents spoke about rebuilding their bond. Others mentioned that they no longer lay awake worrying about their children's progress and there had been growth in their own confidence to help.

The impact on the family dynamic was mentioned frequently. 92% of parents commented that there have been benefits to the family. In most households, reading had become a family event rather than the struggle of the past. For example, the words of one parent are echoed in many. "My eldest son (16 years) also enjoys hearing the stories. It has turned into a family event." Another parent claimed "There is a goal that we are working towards and the program has bonded us together."

In the final reflection seminar, parents were excited to share how reading had changed for them. Letting go of unrealistic and limiting parent expectations and listening to and respecting their children's expectations helped many parents. Parents commented that they now enjoy the time spent reading with their children. As one parent pointed out:

Let your children choose and guide the way. You have to remember it is about your children, not you. They need to be happy doing what they are doing, not because you want them to do it.

Instilling a desire to read

In the initial surveys, parents expressed their desire for their children to be motivated and enthusiastic about reading. They were keen to have strategies to help their children to be independent and they wanted to know how to foster a love of reading.

After five weeks of the parent seminars, parents noted that their children were choosing their books and asking their parents to buy books. Parents became confident in fostering independence with their children. They gave their children opportunities to choose the books to read. Parents stated they had become flexible about where and when the reading occurred. A number of families joined their local libraries and visited regularly, allowing their children to make their own borrowing choices.

In the final reflection seminar, parents commented that letting their children take initiative was instrumental for their children's reading enjoyment. They realized that they had to relinquish power over reading choice and assign greater responsibility to the child when it came to reading time. Parents also commented that they were now more knowledgeable about understanding reading miscues and that they were more conscious of interrupting the reading flow to make corrections. They encourage their child's independence and trust them to "work" out unfamiliar words using the prompts they had learned.

Lightening up

At the beginning of the program, many parents state that they are powerless to help. Reading together was not enjoyable and whole family suffered. They would fight and argue over reading with their children and worry that the child was 'falling behind' at school.

In the post seminar surveys, over 70% of parents made a note of the 'fun' and 'enjoyment' they were now having when reading. This was noticeably the biggest change experienced by parents as a result of the parent seminars.

My son reads more and is getting more enjoyment from it, making it less of a chore for him AND ME!

Reading has become something we are both starting to enjoy without him becoming frustrated, upset and giving up – walking away. We haven't had tears in weeks!

"Reading is fun" – This idea really struck a chord with me. I have tried to embrace this idea and apply it with my son.

Many parents commented in the reflection seminar that reading at home used to be a "battle" and often "traumatic". Having completed the seminars, the parents now noted that reading had changed and now was a pleasurable activity, often initiated by the child.

John is more relaxed about 'having a go' at reading something he hasn't read before.

We have found more enjoyment. Reading is now less stressful.

We have new techniques, like reading on & not getting hung up on individual words or names – reading is no longer like pulling teeth!

Promoting confidence and motivation

At the beginning of the program, the majority of parents stated that they wanted to help their children gain confidence in reading. They were keen to understand how they could help increase

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their child's confidence and self esteem around reading. They wanted their children to 'catch up' with their peers, while increasing confidence in their reading ability. They gave many reasons for their children's lack of confidence including unsatisfactory school experiences, repeating a grade, learning difficulties, and inappropriate teaching methodologies. After five weeks of the parent seminars, parents commented that their children were beginning to increase in confidence when reading. It was noted that the children were taking chances and attempting difficult books. Parents commented that their children were now attempting to read books that they never would have previously. Parents believed that their relaxed attitudes helped their children to relax, enjoy the reading and begin to see themselves as successful readers.

His confidence in tackling reading is increasing and we think he has improved in reading.

For the first time, Tim has identified himself as a reader.

Parents' advice to other parents

The majority of parents claimed that the best piece of advice they would give to another parent was to set the child up for success using book orientations. Parents also believed that allowing the children to choose their own book was an extremely successful strategy. For some, the relaxed and fun attitude to reading was the key and for others, it understood the reading process.

Parents also saw the value in not interrupting their child's reading and stressed the value of enjoying the story and spending time with their child. Using strategies such as paired reading and NIM were two of the strategies that 33% parents listed as being important to develop 'reading for meaning'. Helping children understand that reading is for meaning was a positive strategy used by the parents.

Improved reading outcomes

In the last three years, 283 children completed UCR. In 2009 in Cohort One, Developmental Resource Assessment for Teachers (DART) was used for reading assessment as a measure of reading comprehension. There were limitations with DART. The test was excessively time consuming to administer and it was overwhelming to students who already lacked confidence and motivation. It was decided to change to PM Benchmark at the end of 2009 because ACT teachers were familiar with the test and it was easier to administer and less daunting to already struggling readers.

When it comes to spelling, the children enrolled in UCR make an average gain of 11.3 months in spelling age according to the South Australian Spelling Assessment. Although not directly a spelling program, the children are encouraged to proofread and edit their texts and spend at least ten to fifteen minutes writing in each IAP session. The children are taught to 'read like a writer' increasing their word consciousness and awareness of interesting words, phrases and spelling patterns.

UCR does not teach words in isolation. However, the DOLCH word list was used to assess students' knowledge of high frequency sight words. From this assessment, students improved on average thirty-two words between the pre and post tests conducted with cohorts over three years.

Writing improvement

In session 1 of the IAP, children complete unrestricted writing for a five minute creating a writing sample to be compared pre and post IAPs. At the post IAP, children writing longer pieces with increased levels of detail. At the post IAP, children also edit their writing by correcting punctuation and circling misspelled words. Few children are confident to do this at the time of the pre test. Over the course of the IAPs noticeable improvements are observed including:

- Growing confidence and increased willingness to participate. Most of the students entering the program were reluctant writers who wrote short pieces with little attention to detail, and limited use of sentence structure and punctuation.
- Greater risk taking. Children wrote freely and with less anxiety about spelling in the first instance. Many students relaxed and wrote their ideas more freely knowing they could edit at a later stage
- Children experienced a number of different text types and although not all writing pieces were taken through to publishing, many pieces were published.

CONCLUSION

Parents at UCR make a difference to the effectiveness of the reading intervention and the ease with which their children achieve success. By alleviating parent stress and anxiety and by giving them access to a range of well-researched and beneficial reading strategies, they were equipped to assist their children. The collaborative nature of the intervention offers parents and children a level of support previously non-existent. The children are introduced to quality and high interest literature in electronic and print form. A network of support that includes the children's classroom teachers ensures consistent and ongoing support is available at home and in the classroom. It is apparent that when everyone works together for the benefit of the struggling reader, the joy and passion of reading is restored and success is imminent.

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Investigating Academic Literacy Practices in English Language: The Case of Malaysia

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ABSTRACT

This article discusses the findings of a study that examines and identifies academic literacy practices in English language among Malaysian bilingual learners in higher education. It focuses on a group of undergraduate students learning content subjects in English where English is not their first language. This article specifically explores the language-related problems that learners encounter as they participate in the class activities. Data were collected using focus group interviews, individual interviews, classroom observations and document analysis. Preliminary findings of the study indicate that learners tend to use Bahasa Malaysia to help them comprehend and produce text in English. The students also report that discussions and exercises in class are very important in their learning experience. This article suggests that teachers need to use more content-based activities in their teaching in order to induce English language use among Malaysian bilingual learners.

Keywords: Academic literacies, literacy practices, English language learning, higher education, Malaysia

INTRODUCTION

The use of English language in Higher Education context is predominant across the academic domain. Majority of the textbooks, reference materials, journal articles and learning cases are written in English. This is also happening in Malaysia. Undergraduate students at the tertiary level in Malaysia are expected to read quite a number of books and references that are mainly in written English. This creates problems to students whose native language is not English.

This investigation is situated in a multi-lingual Malaysia and seeks to understand the learning experience of a group of undergraduate students learning content subjects in English. The root of the study stems from continuous observations on the problem of low literacy attainment in English language among Malaysian undergraduate students. It is observed that, even after a series of language courses at the university, some of these students still find it difficult to achieve the target level of English proficiency, that is to be able to read, write and communicate effectively in English in their academic tasks as well as meeting job requirements at the workplace (Ismail, 2008; Sarudin et al., 2008).

This paper presents preliminary findings of a doctoral study in progress. Using a qualitative case study approach, the main objective of the study is to explore and examine the ways multilingual/bilingual English language learners perceive and respond to literacy practices in English language in their academic interactions. Situated in two content courses that use English as its medium of instruction, the study investigates the literacy practices among undergraduate students in a Business faculty in one government-funded university.

The use of qualitative design in the study on academic literacy practices in higher learning is in line with the current trend that acknowledges literacy as social practice (Coiro et al., 2009; Baynham & Prinsloo, 2009; Ivanic et al., 2009). Using the theory of academic literacies (Lea, 2008) and learners as participants in their communities of practice (Lave & Wenger, 1991), this study intends to provide descriptive evidence of the academic literacy practices that is still lacking in the research on ELT in Malaysia.

OF LITERACY EVENTS AND PRACTICES

Central to the theoretical framings of the present study is the concept of literacy practices and literacy events (Barton & Hamilton, 2000). Literacy practices do not only mean reading and writing habits but the broader social and cultural context (Street, 1993) that provides for such habits to develop, to be sustained, and to flourish even in a new linguistic environment (Purcell-Gates, 2007). The theory is developed to account for the considerable body of evidence that suggest literacy is best examined through looking at its social practices (Street, 2007; Purcell-Gates, 2007; Baynham & Prinsloo, 2009). This literature views literacy as ‘multiple’ and ‘social’ and best understood in its contexts of use. Using this lens, literacy is seen as more than a collection of technical, a-contextual skills, but rather as mediating people's lives, reflecting social and historical practices (Brandt & Clinton, 2002) and is shaped by deeply held ideological positions.

ACADEMIC LITERACIES

Leki (2007) defines academic literacies as “membership in communities of academic readers and writers”. She further relates academic literacies to the activity of interpretation and production of academic and discipline-based text often within important social contexts such as group-work project or written report, and relies profoundly on students’ experience with text. Koo defines academic literacy as “the various ways of meaning-making in terms of thinking, ways of meaning, reading, speaking, listening and writing which are valued in the academic setting” (2008, p.54). It is important to acknowledge that “participants from different cultural, experiences and backgrounds may have differing interpretations of what it means to know, to communicate, to be relevant, appropriate, brief or clear with regard to knowledge production in English” (Koo, *ibid*). Therefore, by examining situated literacy practices through socio-cultural construct, the current research would be able to identify and reconstruct the *dominant* and *vernacular* literacy practices of these multilingual learners.

The notion of academic literacies has been developed from the area of New Literacies Studies (NLS). The term “academic literacies” refers to the diverse and multiple literacies found in academic contexts such as different genres and styles associated with specific disciplines and subject matter courses. In addition, focussing on the plurality of literacies means recognizing the diversity of reading and writing practices for different purposes and within different cultural values and practices (Ivanic et al., 2009; Martin-Jones & Jones, 2000). In addition, the use of plural form is also indicative: to signal a departure from the traditional singular ‘literacy’ that is associated with

people's ability to read and write in a particular language and largely situated within a print-dominated culture (Ivanic et al., 2009).

In short, the present study agrees with academic literacies perspective that treats reading and writing as social practices that vary within context, culture and genre (Barton & Hamilton, 2000; Bayhamn & Prinsloo, 2009) and that of the literacy practices of academic disciplines can be viewed as varied social practices associated with different communities (Lea, 2008).

THE SETTING: MALAYSIA AS A MULTILINGUAL COMMUNITY

Malaysia is a multiethnic, multilingual community. Bahasa Malaysia (BM) is the country's national language and is used throughout the primary and secondary education as the main medium of instruction. Vernacular schools such as Chinese and Tamil schools are allowed to use their ethnic languages as the language instruction as a mean to sustain diversity of languages and cultures. At the tertiary level, however, Bahasa Malaysia and English language are used as the medium of instructions.

Common languages spoken in Malaysia can be loosely categorized according to the three main ethnic communities here. Bahasa Melayu, or Spoken Malay are widely used among the Malay community while varieties of languages or dialects spoken by the Chinese community include, among many, Mandarin, Cantonese, Hakka and Teochew. The Indian community, on the other hand, could be speaking their ethnic varieties such as Tamil, Malayalam and Telegu. Almost all Malaysians have a certain degree of proficiency in the spoken Malay and it is the lingua franca used in daily interactions among members from different ethnic groups.

English shares the status of the national second language 'in terms of its importance in the educational system and international relations, and it is second only to Bahasa Malaysia' (Omar, 1983, p.230). English language is taught as a subject in schools and tested in the school and national examinations. However, exposures to the language and the proficiency level are markedly different between urban-rural divide and economic divide. In fact, research on English language learning in Malaysia suggests that English is not the second language to most Malaysians (Che Musa, Koo & Azman, 2012).

CONTEXT OF THE STUDY

The findings discussed in this paper is part of a doctoral study that seeks to investigate the ways undergraduate English language learners experience and respond to literacy practices in English language in learning their content subjects. In particular, the study seeks to explain the ways English language is used in the context of learning content subjects.

The study was conducted in a government-aided university where the use of Bahasa Malaysia (BM) was stipulated as its official medium of instruction. In line with the university's mission to elevate the stature of the national language as "*bahasa ilmu*" or the language of learning, the university has placed higher importance on the use of Bahasa Malaysia in all its academic interactions. As such, majority of the courses at the university are taught in Bahasa. Thus in this setting, on the one hand, lectures are delivered in Bahasa. On the other hand, textbook, reference materials and teaching slides are in English as most reference materials for higher education are written English. Given the background, the setting offers a good case study of researching English literacy practices in an environment where literacy in the national language is highly valued. It presents an opportunity of looking at English literacy as an additive to literacy in the learners' first language.

METHODOLOGY

12 second-year undergraduate students took part in the study. Of the twelve, five are male students while the other seven are female students. 11 of the participants are Malays with one Chinese male student. The students had gone through their first year study learning content subjects in Bahasa Malaysia. Some of the textbooks used in the first-year classes were in English and they also had to do presentations in English. At the time of this study, the students were in their second year and were learning a minimum of two content subjects in English. A small number of courses were also partially taught in English as the lecturers believe of the immediate need to induce students to be more competent in English. As the students were in their 2nd year, they only had one more year to go before they graduate.

The primary means of data collection used was focus group interviews. There were 7 group interviews conducted with each session lasted between 45 minutes to one hour. Interviews with the class lecturers, class observations and document analysis provided additional supportive data. Students' interviews were conducted in Bahasa Malaysia as the main aim of this study to do an in-depth, comprehensive examination of the practices, thus using a language 'that can best explained the story' is appropriate. The interview schedule consists of open-ended questions regarding activities, concerns and challenges they face in learning content courses in English.

Data were analyzed using coding procedures as suggested by Saldana (2009). The procedures involved descriptive coding in first cycle coding and followed by focussed coding in the second cycle. The objective of the coding procedures is 'to pull the data together' to present themes and concepts relevant to the data. To ensure participants' confidentiality, all names used in the discussion of findings are pseudonyms.

DISCUSSION OF FINDINGS

There are three significant themes that capture the nature of academic literacy practices in the English language among the participants in this study.

1. The use of bilingual practices as resources for learning
2. Lectures serve as the main source of input for learning
3. Class interaction promotes academic engagement.

The use of bilingual practices as resources for learning

The findings of the study reveal that there is a tendency among the participants to rely on the use of Bahasa Malaysia to support their learning in English. At the time this study commenced, the students were in their second year. They had to sign up for two compulsory courses which were the core subjects for their degree. The medium of instruction of both courses was English. Teaching slides, notes and course textbooks were in English. The main objectives of the courses were to expose students to models, concepts and principles of business communication and international business. At the end of the semester, students were expected to be knowledgeable with relevant theories, skills and fundamentals to communicate and conduct business effectively with the international community.

Lectures were given in English and teaching slides used for both courses were also in English. Students commented that it was not a straightforward transition for them as they had been learning and listening to lectures in BM when they were in the first year. They related the experience of

reading or referring back their school or college notes when the first year lecture notes were in English. In some ways, the use of BM, which in many cases, the students' first language (L1), was dominant in their learning practices. Therefore, when the students had to learn the content courses in English in their second year, they encountered some language problems.

Extract 1:

"The class was not easy to follow...maybe because in English.." Farah.

"...sometimes lecturer also feels sorry for students and use simple English....to make understand...but that also not easy [for us]", Mimi.

"...the sound [pronunciation] ...i don't understand", Suraya.

Almost everyone in the study spoke of the difficulty they faced when they had to learn the content subjects in English. The biggest challenge they faced was listening to lectures delivered in English. Though they were fairly aware that lectures tried to use simple English while teaching, the students commented that the level of English used was of a higher standard than what they could cope up with.

The participants also pointed out that they did not understand some of the vocabularies used in the lectures, particularly specialized terms and genre-specific vocabularies. Listening to lectures in English was challenging as they were not familiar with the sound or pronunciation of the word. The students remarked that they faced some degree of difficulty to handle unfamiliar words and lengthy explanations.

"...sometimes the words are difficult.. to understand, especially the terms ...", Aisyah.

A closer look at the data suggests that the main cause of difficulty in listening to the lectures in English could be attributed to students' limited vocabulary knowledge. As they were not familiar with the words used or how they were pronounced, the students found the lecture incomprehensible. This finding corresponds with studies by Muhammad (2007) and Pandian (2005) which highlighted that most university students had poor vocabulary knowledge and were not able to read academic text efficiently.

Another main concern regarding challenges in listening to lectures in English was that students were unable to respond to teacher's questions. When asked why they were a bit passive when teacher asked them questions, they admitted that they needed time to process the questions and to formulate sentences in English. The students claimed that sometimes they already had the answer in their head, but the answer was in BM and they needed more time to construct sentences and to think of the English words to be used. They assert that it was common for them to translate the questions into BM and then find the answers English.

Apart from 'mentally' translating spoken English to BM, a number of participants reported that they also used translation in writing, especially when they prepared their written assignments. They would first write the sentences in Malay and then translate them to English. Some of the students reported that they used Google Translate to help them. However, they did not 'lift' or use the whole sentence as suggested by the program.

"I don't use all ... just some words.and phrases. I cannot use the whole sentence because the meaning becomes funny", Farid

However, after going through classes in English for a semester, the students reported that the problem gradually minimizes. By the time we spoke to them again at the end of their second year, the students felt that they were better able to understand lectures in English and speaking to the lecturers in English were not so frightening anymore.

Lectures serve as the main source of input for learning

Comments gathered from the students' interviews showed that lectures were an important event in their learning.

Extract 2

"Lectures are important. I come to class because I want to listen to lectures", Farhan

"Class lectures are important [to help me to comprehend the lessons], as compared to just reading the slides only", Yana.

"Coming to class] is more important [then reading on my own]. To me, whether I can understand or not understand the lecture is not an issue ..but I have to come to class because there is always a new lesson we can learn", Salleh

Coming to class and listening to lectures were important as teachers would give new input during class lectures. Though they could download lecture notes from the university's online learning portal, students felt strongly towards the need to come to class. As shown in Extract 2, the motivation to come to class was highly by the need to listen to the input from the lecturers.

They were quite excited when they referred to a class that they had 'learnt a lot'. Expressions like 'the class is fun', 'class is interesting' were used to describe a good class. They felt that they had 'learnt a lot' when they could take down notes and lectures were easy to follow.

"Yes..., today's class is good, clear...compared to last week ...maybe because the lecture is more organized. Can take down more notes, can follow...", Farhan

The students also felt that they would 'lose out' if they didn't go to lectures. Even though they might not be able to understand the whole lesson, coming to class was still necessary. They related that it was a loss for them if they missed a class.

"I feel I miss something if I don't go to class. I think even though we are not ready, [but] if we go to class, I think we can understand 50% of the content", Salleh

Lectures were helpful in a number of ways. Yana reflected that input from lectures were important as it helped her to get a general picture of the topic they were learning about. Lessons were easier to comprehend and can be retained longer when she could connect the teacher's explanations with the main topics or themes that they were learning. Ain and Farid also agreed that input that they got from class lecture was very helpful when they were doing revision. *"When I do revision, I remember what the teacher has taught us during class and this helps me to understand the reading."*(Ain). Furthermore, from time to time, teachers would explain the specific terms or concepts that were used in the textbook and the students found this exercise beneficial for their learning.

In addition, the practice of asking back and questioning the expert knowledge is deemed inappropriate. Suraya and Mimi came to class because they wanted to listen to the lectures and take notes. The fact that they rarely asked questions or that they didn't even know what to ask to

the teacher was a disturbing feature of literacy practices in this site. Keat, another participant in the study, further disclosed that he felt he was interrupting the teacher if he asked questions to her. The comments given by the students demonstrate that in this site, the accepted norm was for the students to listen and take down notes of what the teacher said or explained. Power is most visible in the forms of 'expert' knowledge that students had to learn and master.

Literacy practices are shaped by particular social activities and contexts of which they occur (Barton & Hamilton, 2000). In this academic domain, the teacher as the expert knowledge acts as the authority that coordinates and manages the event. She directs the class and determines the access to the event. Students speak when they are invited to share their opinions. Literacy practices are patterned by social institutions and power relationship and by having the appropriate literacy skills, these learners will be able to participate and take charge of their learning more meaningfully.

It is important to highlight that the practices observed here are conducted in English; a secondary discourse to the students' medium of communication. Limited proficiency in English language could be one of the reasons that contribute to the restricted participations among the participants. Though at some points the students acknowledge that English is neutral in their learning repertoire, their limited ability to use the language has, in some ways, inhibit their full participation.

Class interaction promotes academic engagement

Another important element in the class lecture is dialogic interactions among text, the teacher and the learners. Interactions that took place during class lectures can be categorized into two. First, the interactions refer to oral interaction between the teacher and the learners as they discuss the texts. Learners reported that they enjoyed the opportunity to orally interact with the teacher when the teacher asked questions. From time to time, teacher would throw questions as prompts and the class was asked to give examples, reasons, clarification or relate current issues to the topic. When teacher asked questions, the learners expressed that they immediately did a mental work-out searching for the answer. Teacher questions made them think on their feet. The following remarks were shared by the students during the interview sessions.

Extract 3

"It makes you think on your feet" – Yana

"I have to quickly think of the answer before the lecturer calls out my name"-Farah

"When she asked us, I quickly asked myself, what is the answer? I need to know the answer!"- Farid

Oral interactions between the teacher and the learners were important as they provided opportunities for participation and engagement with the learning input. When learners participated in the learning process, they would easily become engaged with the learning, making learning personally meaningful to them. As shared by Farah,

I like Business Communication class because I like the way she [lecturer] asks questions. It makes me think and I don't feel sleepy when I think. Furthermore, I have to use English in that class, and this indirectly helps me to learn English.

The finding corresponds with social aspects of learning as stated by Barton et al. (2007) and Wenger's communities of practice (1998). Social interactions are viewed by both learners and teachers as fundamental to the provision of learning opportunities (Barton et al., 2007). The learners agreed that *"classes are better when teacher interacts with us"* and that they did not *"feel bored when there were a lot of interactions during class"*.

Besides the oral interaction between the teacher and learners, a more complex interaction that was observed in this classroom event was the dialogic interactions between texts and learners' background knowledge. This was evident when the students were asked to discuss current issues or to give examples related to the teaching points of the day. As expressed by Nor, when delivering a lecture, lecturers usually gave examples which were taken from real, authentic issues happening around the world and these examples were helpful to help her understand the learning. Salleh agreed that knowledge about current and past happenings were important as they helped to concretize the abstract theories. The emphasis given by the lecturers on current issues indirectly had made him read newspapers more these days as he became more aware of the connections between learning in the classroom and what was happening outside of the classroom. *"Sometimes I remember Dr. Z's face when I read newspapers and that makes me want read at least the big titles of day!"*. Farid further elaborated that, unlike schools, lectures at times were not so straightforward and the lecturers would move back and forth from slides to slides. Students had to cleverly tag along and navigate their thinking in order to comprehend the lesson.

In addition to bringing in their background knowledge into the classroom, students also had to process texts in the form of teacher's oral text, written text as well as visual text simultaneously while listening to the lecture. These different modes of text complement one another and students had to be skilful to mediate information from these various modes. Findings from data indicated that students were already accustomed to multimodal modes of information and regarded multiple forms of texts as common and neutral to their classroom practices. Key teaching points were presented on PowerPoint slides and the lecturers would give oral elaboration to supplement printed texts on the slides. While listening to the oral elaboration, students took down notes and did markings in their textbook. This dialogic interaction among these modes took place almost mechanical and as such, through repeated practice of doing and engaging in the dialogic act, the students had become active and expert users of multimodal texts. The interplay between these modes is shown in the diagram below.

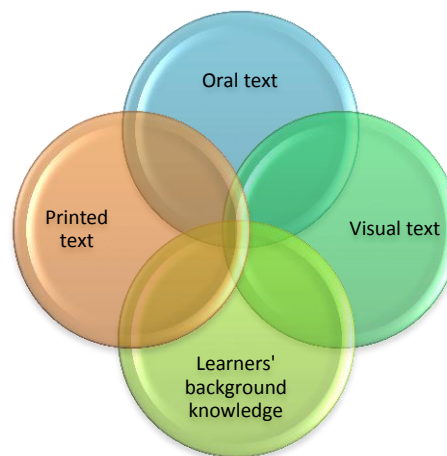


Figure 1. Different modes of text in a class lecture

CONCLUSION

This paper aims to offer a brief overview on the academic literacy practices in English language at the tertiary level. The discussion presented in this paper highlights the complex nature of learning in

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English among non-native English language learners. The findings discussed in this paper put forward important pedagogical implications in teaching content courses in English.

1. The use of bilingual practices as resources for learning is evident. The findings indicate that students tend to rely on Bahasa Malaysia to help them comprehend their learning. The root of the problem could be linked to students' limited English proficiency level and thus providing support in terms of identifying students' threshold level could help.
2. The literacy practices discussed in the paper is illustrative of the 'autonomous view of literacy' (Street 1993). Lectures serve as the main source of input for learning and teachers are seen as 'expert knowledge'. In the context of higher education in the 21st century, this view of literacy is restrictive and limiting.
3. Learning as a social practice allows students to engage and bring in their personal experiences to make meaningful acquisition. Findings in this study show that engaging in the academic interactions with teachers and peers is an important learning element.

Literacy in English language, especially among undergraduate students remains central to tertiary education. We need a workforce that is able to use English effectively in their fields of work, and therefore, the call to incorporate English in learning content subjects is imperative. As the main aim of this doctoral study is to examine the issue of low literacy attainment in English language among undergraduate students, the findings are significant in providing baseline information to overcome the problem. Language can play a critical role in enabling students to reach deeper levels of comprehension and literacy acquisition. To address the language related problem highlighted in this paper, the university has to design or strategize a more inclusive, learning-by-doing language enhancement programme to support the learner's language ability.

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Effectiveness of the Review Center for Teacher Education in a State University of the Philippines

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ABSTRACT

This study analyzed the effectiveness of the Review Center for Teacher Education of the Nueva Vizcaya State University. Phase I aimed to describe the extent of effectiveness of the review program in terms of content, methodology, review materials, resource speaker, duration, venue and facilities, and review management; determine the areas or topics that need to be further clarified; determine the problems that the reviewees encountered during the review; and determine suggested changes/innovations to improve the review program. For Phase II, the study aimed to determine the performance of the Center through comparison of proportion of passers among the reviewees from the non-reviewees; and comparison of the LET performance rating of those who attended the review from those who have not attended the review. Descriptive-comparative survey method was utilized. The result revealed that the overall assessment of the respondents on the effectiveness of the review program was moderately high; the review materials used were the most effective of all the areas of the review program while the least effective was the duration of the review program; most respondents/reviewees found difficulty and needed further explanation in Mathematics under General Education, and Philosophical Foundations of Education under Professional Education; there was much problem on the ventilation and room space of the review hall and on lecturers/resource speakers who just read the handouts; and the venue of the review program should be wide enough to accommodate all the reviewees and should have enough ventilation. The Center produced a bigger proportion of passers among reviewees than the non-reviewees in general education, professional education, and in the over-all performance of both elementary and secondary levels. The LET performance rating of the reviewees was significantly higher than the non-reviewees in general education, professional education, specialization components, and over-all for elementary and secondary levels.

Keywords: LET performance, effectiveness, review program, reviewees, non-reviewees, elementary level, secondary level

INTRODUCTION

With the desire to improve licensure passing percentages, the different colleges of the University used to conduct review classes among their graduates. Eventually, review fees were collected to

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finance said activities which made the activities self-liquidating, then became college income-generating projects without neglecting its prime objective.

Due to the decreasing government subsidy to State Universities and Colleges, the review classes were institutionalized and thus the Review Center was created in 2006 upon the revision of Organizational Management Structure when NVSU attained its university hood in 2004.

Since the establishment of the Review Center for Teacher Education in 2006, as its aim to improve the quality of review under the CHED policies and standards, the Center complied with Republic Act No. 7722, otherwise known as the "Higher Education Act of 1994" and the provisions of Executive Order No. 566 directing the Commission on Higher Education to regulate the establishment and operation of review centers. Thus, the Center applied in 2007 and was given authority to operate with Permit No. 037, s. 2008 effective May 5, 2008 which allows its operation within four years and is renewable after its tenure.

The Center caters not only to NVSU graduates but also from other schools. This is the only Review Center in Nueva Vizcaya that conducts review for Teacher Education under CHED.

Since the Review Center's establishment in 2006, it is the Center's aim to improve review management practices as well as policies to extend better services to clientele. Thus, this study primarily determined the effectiveness of the Review Center for Teacher Education through an evaluation to determine the extent of its strengths and its weaknesses -- to make future reviews more responsive to reviewees' needs.

BACKGROUND

Fanstrup (2003), Executive Director of the International Reading Association, chaired a Task Force on Program Review. The goals of the program review redesign being considered by the Task Force include: maintaining the focus on the subject content preparation, containing to rely on the expertise of specialists, containing use of specialized professional association standards, making reporting and recognition decision more consistent across more program areas, and asking for using candidate performance evidence in a conference.

Navalta, et.al (2006) stated in their study on the "Effectiveness of the LET Review Program" that there is a significant difference on the LET performance between those who enrolled and did not enroll the review program, and that those who enrolled in the review program performed better than those who did not.

In another study (Sarte, et. al, 2007) on the impact of the 2007 NVSU LET Review Program in NVSU, Bayombong, Nueva Vizcaya, it was found that: among the different aspects of the review program, "Review Materials" had the highest mean assessment as regards to effectiveness while "methodology" was lowest in rank.

Among the topics that need further clarification, "Philosophical Foundation of Education" ranks number 1. Among the problems encountered by the reviewees during the review program, "Inconsistency of answers" ranks number 1.

Ranking number 1 among the reviewees' suggestions to improve the review program was "more review materials" and "lecturers should further discuss topics".

There is no significant relationship between gender and the respondents' evaluation on 'Content', 'Methodology', 'Review Materials', 'Resource Speakers', 'Duration', 'Venue and Facilities', 'Review Management' and overall assessment.

Conceptual Framework of the Study

There is a need to determine the effectiveness of review program through an evaluation to determine its strengths and weaknesses.

Thus, this study looked into the content, methodology, review materials, resource speaker, duration, venue and facilities, and review management as determinants of effectiveness ; areas or topics that need to be clarified; problems that the reviewees encountered during the review; and suggested changes/innovations to improve the review program. Other factor included in the study is the LET performance of reviewees and non-reviewees in the two LET components for elementary level: general education and professional education and over-all performance; and the three components for secondary level: the general education, professional education, specialization and the over-all performance. The conceptual paradigm of the study is presented in figure below.

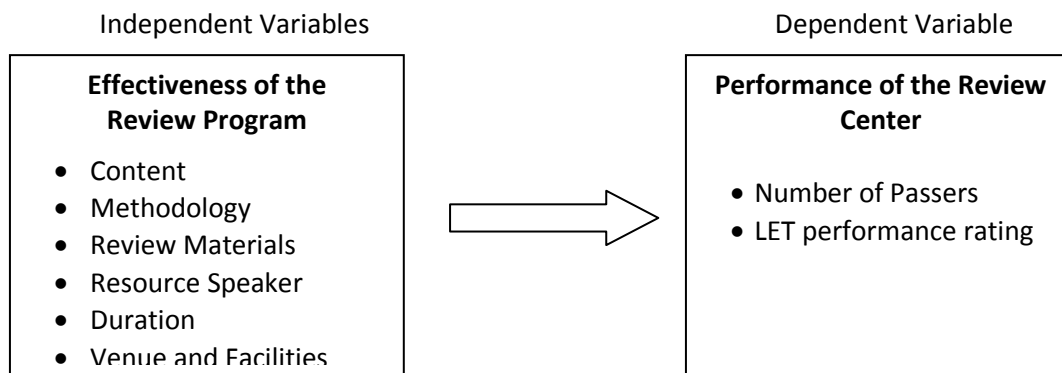


Figure 1. The conceptual paradigm of the study

Research design

This study used descriptive survey to determine the extent of effectiveness of the LET Review Program for Phase I. For Phase II, comparative analysis was utilized to determine the difference in LET performance of reviewees and non-reviewees in the three components: General Education, Professional Education, Specialization, and overall in the case of secondary level and General Education, Professional Education and over-all for elementary level. Document analysis was utilized to determine the LET results.

Research instrument

The Review Program Evaluation Form was used to gather data to determine the extent of effectiveness of the Review Program for Teacher Education. It was based on the Instrument used by Sarte, et. al (2007) which was content validated by experts.

DATA ANALYSIS

To describe the extent of effectiveness of the review program in terms of content, methodology, review materials, resource speaker, duration, venue and facilities, and review management, mean and rank were used. To describe the respondents' perception on the effectiveness of the Review Program, the following rating intervals and corresponding descriptions were used:

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4.20 – 5.00	High	2.60 – 3.39	Average
3.40 – 4.19	Moderately High	1.80 – 2.59	Moderately Low
		1.00 – 1.79	Low

To determine the areas or topics that need to be further clarified, the problems that the reviewees encountered during the review, and the suggested changes or innovations to improve the review program, the open ended answers were grouped, and frequency count as well as rank were arrived at.

To compare the proportion of passers among the reviewees and non-reviewees in the three components of LET and overall, chi-square was used. To test the difference in LET performance of reviewees and non-reviewees in the three LET components and overall, t-test was utilized.

RESULTS AND DISCUSSIONS

Extent of Effectiveness of the Review Program Contents

The respondents' perception on the effectiveness of the contents of the review program is presented in Table 1.

Table 1 shows that the overall assessment on the contents of the review has a mean score of 4.19 defined as moderately high. The contents of the review program such as: comprehensiveness of the subject coverage has a mean score of 4.35 defined as 'high'; topics' relevance in relation to reviewees' academic performance has the highest mean rating of 4.41 described as 'high'; manageability of scope has mean rating of 4.00 described as 'moderately high'; and well-expounded topic contents has the lowest mean rating of 3.98 defined as 'moderately high'.

The result implies that the reviewees find the content to be comprehensive and relevant. On the other hand, they consider scope and explanations to be wanting; however, it is expected to be such since the class is just a review.

Table 1. *Overall assessment on the contents of the Review Program*

Criteria	Mean	Description
1. Comprehensiveness of the subject coverage.	4.35	High
2. Topics' Relevance in relation to reviewees' academic performance	4.41	High
3. Manageability of scope (not too limited or too broad) Moderately	4.00	High
4. Well-expounded topic contents	3.98	Moderately High
Overall Mean	4.19	Moderately High

The qualitative descriptions of each of the criteria agree with the findings of Sarte, et. al (2007) on the review program of 2007; however, the overall assessment was higher (high) than the present study (moderately high).

METHODOLOGY

The respondents' perception on the effectiveness of the methodology of the review program is presented in Table 2.

Table 2. *General assessment of the respondents on the methodology of the Review Program*

Criteria	Mean	Description
1. Competency of selected resource speakers' delivery system	4.07	Moderately High
2. Effective use of visual aids	4.45	High
3. Comprehensive use of practical and work-related examples	4.24	High
4. Opportunity for private study	3.99	Moderately High
5. Group dynamics	3.63	Moderately High
6. Clarity and effectiveness of instructional method/s used	4.16	Moderately High
Overall Mean	4.09	Moderately High

Table 2 states that the methodology of the review program has a general mean of 4.09 defined as 'moderately high'. The different methodologies of the review program are the following: competency of selected resource speakers' delivery system has a mean score of 4.07 described as 'moderately high'; effectiveness of visual aids has the highest mean rating of 4.45 defined as 'high'; comprehensive use of practical and work-related examples has a mean score of 4.24 defined as 'high'; Opportunity for private study has a mean score of 3.99 described as 'moderately high'; group dynamics has the lowest mean score of 3.63 defined as 'moderately high'; and clarity and effectiveness of instructional method/s used has a mean rating of 4.16 defined as 'moderately high'.

The findings show that as to the use of methodology, the use of visual aids which is the highest, and of examples are high; however, the reviewees perceive that lecturers' competency on the delivery of the topic, the clarity and effectiveness of the methodology, opportunity for group study and for group dynamics which is the lowest, are found to be wanting.

There is a little difference on the findings of Sarte, et. al (2007) since all of the criteria were perceived to be moderately high. There is an improvement on the use of visual aids and of examples in the current review class being studied.

Review Materials

The respondents' perception on the effectiveness of the review materials of the review program is presented in Table 3.

Table 3. *Respondents' evaluation on the review materials*

Criteria	Mean	Description
1. Adequacy of handouts	4.43	High
2. Adequacy of materials	4.40	High
3. Adequacy of audio and visual aids	4.52	High
4. Completeness of review kits	4.12	Moderately High
Overall Mean	4.37	High

Table 3 indicates that the respondents rated the review materials 4.37 defined as 'high' or 'highly effective'. The 'adequacy of handouts' has a mean rating of 4.43 defined as 'high'. The 'adequacy of materials' has a mean score of 4.40 described as 'high' while 'adequacy of audio and visual aids' has the highest mean rating, 4.52 defined as 'high'. The 'completeness of review kits' has the lowest mean rating of 4.12 described as 'moderately high'.

The findings reveal that only one criterion was perceived to be moderately high, while the rest are high. The item that got the highest rating is on the adequacy of audio and visual aids while the lowest is on completeness of review kit.

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As regards the adequacy of review materials and handouts, the findings agree with that of Sarte, et. al (2007) which is high. The use of teaching aids improved since it is now perceived to be high; however, the completeness of review kits had become moderately high.

Resource Speakers

The respondents' perception on the effectiveness of the lecturers of the review program is presented in Table 4.

Table 4. *Respondents' evaluation on the lecturers of the Review Program*

Criteria	Mean	Description
1. Knowledge on the subject matter	4.44	High
2. Well-planned/organized topic development	4.24	High
3. Method/s and communication skills in topic's delivery system	4.20	High
4. Ability to relate topic to actual work situation	4.22	High
5. Ability to create a conducive learning atmosphere	4.06	Moderately High
6. Effectiveness in using audio and visual / instructional materials	4.49	High
7. Ability to encourage learner's active participation/ involvement	4.11	Moderately High
8. Conference room management abilities	4.07	Moderately High
9. Ability to create a conducive facilities-learner's relationship	4.06	Moderately High
10. Speakers' voice modulation	4.24	High
Overall Mean	4.21	High

The lecturers' 'knowledge on the subject matter' has a mean rating of 4.44 defined as 'highly effective'. 'Well-planned/organized topic development' is rated 4.24 defined as 'high' and the 'method/s and communication skills' of lecturers has a mean score of 4.24 which means that its effectiveness is 'high'. The lecturers' 'ability to relate topic to actual work situation', 'effectiveness in using audio and visual/instructional materials', and 'voice modulation' were described as 'high' having mean ratings of 4.22, 4.49 and 4.24 respectively.

The lecturers' 'ability to create a conducive learning atmosphere', 'ability to encourage learner's active participation/ involvement', and 'ability to create a conducive facilities-learner's relationship' were described as 'moderately high' in effectiveness having mean scores of 4.06, 4.07 and 4.06 respectively. The overall assessment of the respondents on the effectiveness of review program's 'resource speakers' is 'high' with a mean score of 4.21.

The results show that lecturers are effective with the use of instructional materials which got the highest mark, followed by the knowledge of the subject matter. The lowest on the other hand is the ability to create a conducive facilities-learner's relationship.

The findings on the effective use of instructional materials all agree in the current review class being studied. It surpassed the rating in the study of Sarte, et. al (2007) since knowledge of the subject matter got the highest in the study.

Both studies agree that the speakers are generally rated as highly effective.

Duration

The respondents' perception on the effectiveness of the duration of the review program is presented in Table 5.

Table 5. *Respondents' assessment on the duration of the Review Program*

Criteria	Mean	Description
– Adequacy of time for all activities	3.82	Moderately High
– Adequacy of time allocation for all sessions	3.87	Moderately High
– Well-balanced distribution of session time	4.14	Moderately High
Overall Mean	3.95	Moderately High

The respondents' assessment on the duration of the review program is 'moderately high' having a mean rating of 3.95. In terms of the review program's 'adequacy of time for all activities', the respondents assessed it as 'moderately high' in its effectiveness having a mean rating of 3.82. The respondents also gauged the review program's 'adequacy of time allocation for all sessions' as 'moderately high' having 3.87 as its mean score. The respondents gave 'moderately high' effectiveness on the review program's 'well-balanced distribution of session time' having a mean rating of 4.14.

The findings reveal that all the criteria are found to be moderately high with time allocation for all sessions as the lowest in rating. This is understandable since the review is not as long as the offering of subjects in getting degree courses. Only, the distribution of session time had become moderately high as compared with the study of Sarte, et. al (2007) which is high.

Venue and Facilities

The respondents' perception on the effectiveness of the venue and facilities of the review program is presented in Table 6.

Table 6. *Evaluation on the venue and facilities of the Review Program*

Criteria	Mean	Description
1. Sufficiency of materials and equipment	4.27	High
2. Sufficiency of conference room space for the participants' number	3.76	Moderately High
3. Availability of serviceable audio and video equipment	4.37	High
4. Sufficiency of ventilation in the conference hall	3.78	Moderately High
5. Conduciveness of learning atmosphere	3.95	Moderately High
6. Proximity of conference room	3.97	Moderately High
7. Accessibility/Proximity from main road	4.08	Moderately High
Overall Mean	4.03	Moderately High

The respondents evaluated the effectiveness of the review program in accordance to venue and facilities as 'moderately high' with a mean score of 4.03. The 'sufficiency of materials and equipment' has 'high' effectiveness with a mean score of 4.27 and the 'availability of serviceable audio and video equipment' is 'highly effective' having a mean score of 4.37. The 'sufficiency of conference room space for the participants' number', 'sufficiency of ventilation in the conference hall', 'conduciveness of learning atmosphere', 'proximity of conference room', and

'accessibility/proximity from main road' were evaluated as 'moderately high' having mean scores of 3.76, 3.78, 3.95, 3.97, and 4.08, respectively.

The results reveal that only on materials and on audio and video equipment which were rated high. The rest were rated moderately high. This is in contrary with the findings of Sarte, et. al (2007) that all except on audio and video equipment were rated high. This could be due to the increase in enrolment such that the venue had become crowded. The use of generator due to transformer failure made the condition worse.

Management of the Review Program

The respondents' perception on the effectiveness of the management of the review program is presented in Table 7.

Table 7. *Evaluation on the management of the Review Program*

Criteria	Mean	Description
1. Orientation and climate setting	4.22	High
2. Coordination among review staff	4.37	High
3. Coordination among participants and staff	4.27	High
4. Session management/session flow and facilitation	4.22	High
5. Flexibility of review schedule	4.34	High
6. Meeting of participants needs	4.18	Moderately High
7. Consideration of participants' suggestions	4.25	High
8. Well-arranged topic sequencing	4.16	Moderately High
9. Promptness of session's beginning and ending	4.21	High
Overall Mean	4.25	High

The respondents gauged the effectiveness of the management of the review program as 'highly effective' having a mean rating of 4.25. The following criteria under the management of review program were described as 'highly effective': 'orientation and climate setting' (4.22), 'coordination among review staff' (4.37), 'coordination among participants and staff' (4.27), 'session management/session flow and facilitation' (4.22), 'flexibility of review schedule' (4.34), 'consideration of participants' suggestions' (4.25), and, 'promptness of session's beginning and ending' (4.21). The respondents measured the effectiveness of 'meeting participants' needs' and 'well-arranged topic sequencing' as 'moderately high', having mean scores of 4.18 and 4.16 respectively. Findings reveal that coordination among review staff got the highest yet previously it was rated moderately high. Topic sequencing got the lowest which is still the same with that of last year. This could be explained by the adjustments of lecturers' schedule, thus the sequencing gets disarranged. Generally, the management improved since the rating has become high as compared with last year as moderately high (Sarte, et. at, 2007).

Overall Assessment of the Review Program

The respondents' perception on the overall effectiveness of the review program is presented in Table 8.

Table 8. *Respondents' overall assessment of the Review Program*

Areas	Mean	Rank	Description
Content	4.24	3	High
Methodology	4.09	5	Moderately High

Review Materials	4.37	1	High
Resource Speakers	4.21	4	High
Duration	3.95	7	Moderately High
Venue and Facilities	4.03	6	Moderately High
Management of the Review Program	4.25	2	High
Overall Assessment	4.16		Moderately High

The following areas of the review program were described as 'highly effective': 'content' (4.24), 'review materials' (4.37), 'resource speakers' (4.21), and 'management of the review program' (4.25) while the following areas were described as 'moderately high' in effectiveness: 'methodology' (4.09), 'duration' (3.95), and, 'venue and facilities' (4.03).

When ranked according to effectiveness, the 'materials' of the review program ranked first with mean rating of 4.37, followed by the following: 'management of the review program' with mean score of 4.25; 'content' with a mean score of 4.24; 'resource speakers' having a mean score of 4.21; 'methodology' with a mean rating of 4.09; 'venue and facilities' with a mean score of 4.03; and lastly, 'duration' having a mean score of 3.95. The general assessment of the review program is 'moderately high' having general mean rating of 4.16.

As compared with that of last year (Sarte, et. al, 2007), review materials had the same rank, 1. The second last year was venue and facilities but it has become the 6th in the present study. Both studies got content as rank 3. The 2nd in the present study is management of the review as compared with last year as rank 4.

Areas or Topics that Need to be Further Clarified

Table 9 presents the subject areas/topics in the LET Review program that need to be further clarified. Table 9 shows that most of the respondents found difficulty in Mathematics (60) under the General Education and followed by Philosophical Foundations of Education (35) under the Professional Education. Twenty-three (23) respondents stated that they needed more explanations/clarifications on Physics, which is under General Education subjects.

Seventeen (17) respondents also stated that they needed to learn more on the Measurement and Evaluation. Twelve (12) respondents expressed that they needed to acquire more knowledge on the Professional Education subjects (uncategorized).

Eight (8) respondents wanted to gain more knowledge in Chemistry and other Science and Technology subjects while seven (7) respondents need more clarification on Economics with Taxation and Land Reform. As regards Philippine Constitution, six (6) found difficulty, while five (5) needed to attain more knowledge on Professional Code of Ethics. Four (4) respondents found difficulty in Historical Foundations of Education, Biology, Filipino, Grammar and Language, and Social Sciences.

One (1) respondent each needed clarification on the following subjects: Guidance and Counseling, Principles and Methods of Teaching, Psychological Foundations of Education, Research, Sociology, Global Peace, Human Rights, Uncategorized General Education Subjects.

Table 9. *Subject areas/topics in the LET Review Program that need to be further clarified*

Subject Area / Topics	n	Rank
<i>Professional Education Subjects</i>		
Guidance and Counseling	1	23
Historical Foundations of Education	4	15

Measurement and Evaluation	17	4
Philosophical Foundations of Education	35	2
Principles and Methods of Teaching	1	23
Professional Code of Ethics	5	10
Psychological Foundations of Education	1	23
Research	1	23
Sociology and Culture	1	23
Social Philosophy	2	17
Teaching Strategies	3	16
Uncategorized/Others	12	5
<i>General Education Subjects</i>		
Biology	4	15
Chemistry	8	6.5
Economics with Taxation and Land Reform	7	8
Filipino	4	15
Global Peace	1	23
Grammar and Language	4	15
Human Rights	1	23
Mathematics	60	1
Philippine Constitution	6	9
Physics	23	3
Science and Technology	8	6.5
Social Sciences	4	15
<i>Uncategorized/Others</i>	1	23
<i>Specialization</i>		
Physical Education, Health and Music (PEHM)	1	23
Industrial Education	1	23
Entrepreneurship	1	23

In the Major Field of Specialization, one (1) respondent each needed more knowledge in the following subjects: Physical Education, Health and Music, Industrial Education and Entrepreneurship. The findings reveal that generally, there was a need for more clarification in Mathematics as well as in Philosophical Foundations of Education. Both subjects are highly cognitive; moreover, both require addressing also into the affective domain of the learners. In the recent study (Sarte, et. al, 2007), the same subjects got the highest ranking, but Philosophical Foundations was the highest, and Mathematics was next.

Problems Encountered by the Respondents during the Review

Table 10 presents the problems encountered by the reviewees.

On the problems encountered by the respondents during the review program, 'ventilation' (34) was the topmost problem followed by over crowdedness/inadequate venue space for reviewees (31). Twenty-eight (28) respondents had stated that some lecturers were just reading the handouts/review materials. Fifteen (15) respondents had problems on 'contradicting answers/inconsistency of answers in the pre-board exams', while fourteen (14) stated that the time allotment for each subject was not enough. Eleven (11) respondents found problem in the 'classroom atmosphere/setting' like space of the venue and lightings inside the review hall. Six (6) respondents

had problems on the noisiness and six (6) respondents stated a problem on late giving of handouts. Four (4) respondents said that the CR is smelly and found problem with the canteen. Three (3) respondents found insufficiency of chairs inside the review hall. Two (2) stated that there were boring/not lively lecturers. One (1) respondent found problems on 'review schedule that falls on Saturdays and Sundays and lecturers who come late during their scheduled time.

Table 10: *Problems Encountered by the Respondents during the Review*

Problems	n	Rank
Ventilation	34	1
Over crowdedness/inadequate venue space for reviewees	31	2
Contradicting/inconsistency of answers in the pre-board exams	15	4
Lecturers who just read the handouts	28	3
Smelly CR	4	8
Time allotment for each subject (not enough)	14	5
Noisy	6	7.5
Late handouts	6	7.5
Insufficient chairs	3	9
Boring lecturers	2	10
Classroom atmosphere/setting (space and lights)	11	6
Review schedule that falls on Saturdays and Sundays	1	11.5
Canteen	4	8
Late lecturers	1	11.5

The top most problems which are on ventilation and on overcrowdedness are due to increase in enrolment and such that the venue had become crowded. The failure of the transformer during the period of the review program made the condition worse. The third problem is on lecturers who just read the handouts.

Changes/Improvement suggested by the Respondents

Table 11 shows the changes/improvement suggested by the reviewees for the review program.

Fifteen (15) respondents suggested that the review hall/venue should be wider or more spacious. Ten (10) respondents recommended that the review program management should hire lecturers who are more knowledgeable/ expert in their field. For the time allotment of subjects, six (6) respondents proposed that there should be additional time for every subject/lecture, and six (6) put forward that the review management to put in more electric fans in the review hall in the absence of air-conditioning units. Three (3) respondents suggested that the management should provide handouts on time, invite speakers from other schools and the lecturers/speakers should be more energetic.

At least one (1) respondent proposed the following changes/improvement: more teachers from the college of teacher education, more editors to lessen errors on the review materials, avoid mannerism, schedule should be on weekdays not on weekends, give more examples, give more topics in science subjects, and more conducive learning atmosphere.

Table 11. *Changes/Improvement suggested by the respondents for the Review Program*

Suggested Changes/Improvement	n	Rank
Wider Room/Venue Space	15	1
Provide electric fans in absence of air-conditioning units	6	3.5

Provide generator in the absence of electricity	2	8.5
More legible/readable handouts	1	13.5
Hire lecturers who are more knowledgeable/expert in their field	10	2
Provide handouts on time	3	6
Additional time for every lecture/subject	6	3.5
Consistency of all subject areas	2	8.5
Invite speakers from other schools	3	6
More energetic speakers	3	6
More teachers from the College of Teacher Education	1	13.5
More editors to lessen the errors on the review materials	1	13.5
Avoid mannerism	1	13.5
Schedule should be on weekdays not on weekends	1	13.5
Give more examples	1	13.5
Give more topics in science subjects	1	13.5
More conducive learning atmosphere	1	13.5

From the given suggestions, the reviewees propose for the use of a wider venue. Moreover, they recommend hiring lecturers who are more knowledgeable/expert in their field.

Performance of the Review Center

Elementary level

Table 12 shows the level of performance of reviewees and non-reviewees in the LET components and over-all performance of elementary graduates.

Table 12. *Level of performance of reviewees and non-reviewees in the LET components and overall from the elementary level*

LET Performance of Elementary Level		General Education		Professional Education		Over-all	
		Reviewees	Non-reviewees	Reviewees	Non-reviewees	Reviewees	Non-reviewees
Passed	80-above	27 (37%)	7 (12%)	26 (36%)	5 (9%)	24 (33%)	3 (5%)
	75-79	35 (48%)	22 (39%)	31 (42%)	24 (42%)	35 (48%)	26 (36%)
Failed	Below 75	11 (15%)	28 (49%)	16 (22%)	28 (49%)	14 (19%)	28 (38%)
Critical value		5.9915		5.9915		5.9915	
Chi-square Test Stat		20.4809		16.6728		20.6718	
p-value		0.0000		0.0000		0.0000	

Table 12 shows that in terms of general education, proportion is 85% among the reviewees while 51% among the non-reviewees. The proportion of passers among the reviewees is significantly higher than the proportion of passers among the non-reviewees as indicated by the χ^2 value of 20.48 together which is higher than the critical value of 5.99. In professional education, the proportion of passers among the reviewees is 78% which is higher than the proportion of passers among the non-reviewees which is 51%. This result was based on the χ^2 value of 16.67 together which is higher than the critical value of 5.99. In terms of over-all performance, bigger proportion of passers was observed among the reviewees than the proportion of passers among the non-reviewees. This conclusion was based on the χ^2 value of 20.67 which is higher than the critical value of 5.99.

Secondary level

Table 13 shows the level of performance of reviewees and non-reviewees in the LET components and over-all performance of secondary graduates.

Table 13. *Level of performance of reviewees and non-reviewees in the LET components and over-all from the secondary level*

LET Performance of Secondary Level		General Education		Professional Education		Specialization		Over-all	
		Reviewees	Non-reviewees	Reviewees	Non-Reviewees	Reviewees	Non-reviewees	Reviewees	Non-reviewees
Passed	80-above	10 (14%)	4 (4%)	10 (14%)	4 (4%)	23 (32%)	8 (7%)	11 (15%)	1 (0.9%)
	75-79	28 (38%)	25 (23%)	31 (42%)	19 (17%)	43 (59%)	51 (47%)	41 (56%)	31 (29%)
Failed	Below 75	35 (48%)	79 (73%)	31 (42%)	85 (79%)	7 (9%)	49 (45%)	20 (27%)	76 (70%)
Critical value		5.991		5.991		5.991		5.991	
Chi-square Test Stat		13.459		274.364		35.789		36.655	
p-value		0.001		0.000		0.000		0.000	

In terms of general education, 52% of the reviewees passed the general education component which is higher in terms of proportion of passers among the non-reviewees with only 27%. In professional education, 56% of the reviewees passed the professional education component which is higher in terms of proportion of passers among non-reviewees with only 21%. For specialization course, 91% of the reviewees passed the specialization component which is very much higher than the proportion of passers among the non-reviewees with only 54%. In terms of over-all performance, 71% of the reviewees passed the LET which is higher than the 30% proportion of passers among the non-reviewees. It could be inferred further that the Center could contribute to the high passing rate of those who enrolled in the review program. Likewise, the Review Center could guarantee the reviewees of a passing mark especially to the major component of the secondary level.

LET Performance Rating

The difference on LET performance of reviewees and non-reviewees from the elementary level in the LET components and over-all performance is indicated in Table 14.

Elementary level

Table 14. *Difference on LET performance of reviewees and non-reviewees in the two components and over-all performance of graduates in the elementary level*

LET Performance of Graduates in the Elementary level	Reviewees			Non-reviewees			t-value	Sig
	N	Mean	SD	N	Mean	SD		
General Education	73	77.00	6.45	57	71.33	7.84	4.414	<0.001

Professional Educ.	73	76.93	6.73	57	69.05	9.90	5.512	<0.001
Over-all Performance	73	76.96	6.12	57	69.96	8.55	5.219	<0.001

As seen in Table 14, the performance of the respondents in general education, professional education and over-all performance is significantly different as shown by the t-value of 4.414, 5.512 and 5.219, respectively and significant value of 0.001. The data connote that elementary graduates who are reviewees have higher rating than those who did not attend the review classes.

Secondary level

The difference on LET performance of the reviewees and non-reviewees from the secondary level in the LET components and over-all is shown in Table 15.

Table 15: *Difference on LET performance of reviewees and non-reviewees in the three components and over-all performance of graduates in the secondary level*

LET Performance of Graduates in the Secondary level	Reviewees			Non-reviewees			t-value	Sig
	N	Mean	SD	N	Mean	SD		
General Education	72	72.93	7.04	108	66.33	8.88	5.539	<0.001
Professional Educ.	72	72.42	8.20	108	65.23	9.81	5.32	<0.001
Specialization	72	77.86	5.37	108	71.53	7.76	6.471	<0.001
Over-all Performance	72	74.69	6.16	108	67.97	7.50	6.561	<0.001

As shown in Table 15, the t-value of 5.539, 5.32, 6.471 and 6.561 in General Education, Professional Education, Specialization, and over-all performance, respectively and the significance value of 0.0001 suggest that there is a significant difference on means on the LET performance of the graduates of secondary education. Findings show that those who are enrolled in the review center have higher rating than those who did not attend the review.

RECOMMENDATIONS

From the conclusions, the following are recommended: if the number of enrollees/reviewees cannot be accommodated due to room space, two review batches may be offered, or secure a bigger review hall; in the absence of electrical power, high capacity generator should be provided in order that ventilation and lighting of the review hall not to be affected; the resource speakers should further discuss their lecture so that the reviewees will grasp more knowledge of the subject matter; the review experts, through the University Professional and Technical Services should undergo accreditation; and/or should be offered with in-service training on the use of varied teaching strategies and modern technology; and future researches should be conducted to: analyze the results of pre-board tests; correlate pre-board tests results with LET performance of the reviewees; employ qualitative methodologies; and include review programs for Licensure Examination for Agriculturists, Foresters, Agricultural Engineers, , Civil Engineers and Doctor of Veterinary Medicine.

CONCLUSION

Based on the outcome of this study, the following are inferred: the overall assessment of the respondents on the review program is moderately high in effectiveness; the review materials used in the review program is the most effective of all the areas of the review program while the least effective is the duration of review program; most respondents/reviewees find difficulty and need further explanation in Mathematics under the General Education and in Philosophical Foundations

Conference proceeding

International Conference: Innovative Research in a Changing and Challenging World of Education under the Professional Education; there is much problem on the ventilation and room space of the review hall and on lecturers/resource speakers who just read the handouts; the venue of the review program should be wide enough to accommodate all the reviewees and should have enough ventilation; those who attended the review have higher proportion of passers in General Education, Professional Education, Specialization, and overall; and those who are enrolled in the Review Center have higher rating than those who did not attend the review.

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A Multilingual Approach to Languages and Literacy Education: What Can Synthesizing Theories, Research and Practice Achieve?

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ABSTRACT

This paper reports on seven years of collaborative research with the Department of Education and Child Development. It has been carried out in twelve primary schools using six languages. The longitudinal study examines the impact of a multilingual literacy approach as it has been applied in the teaching of French, German, Indonesian, Italian, Japanese and Spanish across twelve different school settings in South Australia.

The move to introduce the study of additional languages in Australian primary schools has yet to establish wide-ranging, on-going student engagement and often fails to progress students beyond simple pragmatic language use. In general, students are not leaving primary schools with a desire to continue languages learning.

It is argued a new approach that integrates languages in daily classroom literacy practices can redress this situation: a multilingual literacy approach. The theoretical framework that drives this approach draws form from the notions of universality and transfer that are established in the literature from applied linguistics and cognitive neurosciences to classroom pedagogy. This literature also supports the notion that phonological skills are the most significant predictor of reading success in and across languages. Results from this longitudinal study demonstrate that when the aforementioned theoretical notions bridge the research-practice divide and are adopted into daily classroom teaching and learning activities, there is a qualitative and quantitative improvement in student literacy learning. This paper will discuss the interactive mechanisms, or principles that enabled these notions to be translated for practice, implemented across languages and their ongoing impact on teaching, learning and research.

NB: the use of the term literacy will be limited to those skills that enable the performance of tasks in and across the language modes – speaking, listening and responding, producing text and using text.

Keywords: Biolinguistics, literacy, mixed-methods, multilingualism, professional learning, transfer, translanguaging, triangulation.

INTRODUCTION

This longitudinal study is characterised by a complex imbricated set of relationships between a range of pedagogues, students and administrators from a wide range of primary school settings and across a diverse range of languages. It draws upon a broad base of theoretical notions, hypotheses and published literature in the formation of the teaching approach, the selection of tasks, the design and implementation of the study (professional learning program) and in the development of a multi-strategy approach to data collection, analysis and articulation. It simultaneously takes form from while also reflecting the complex, messy and context-laden nature of education and educational organisations. Indeed, an overarching goal of this study was to capture these complexities in a naturalistic manner without excluding any data that could result from the use of only one theoretical or methodological framework. It was both pragmatic and eclectic.

The first section provides a discussion of the theoretical notions and hypotheses that underpin the devised multilingual literacy (MLL) approach and an overview of the core principles and tasks that drive this curriculum-based approach to languages and literacy education. The following sections outline the inherent principles within as well as the process of designing and implementing the investigative vehicle of the study: the project specific two-year professional learning (PL) program.

The final two sections examine the integrative approach devised for data collection, management and analysis and a discussion of the key findings from the study.

THEORIES OF LANGUAGES LEARNING

Contemporary research into the nature of human languages, how they are acquired and used has been especially focused on issues of typology. This emphasis has produced a wealth of data and theories that have helped to identify specific elements of languages. This investigative framework has encouraged classroom pedagogues, schools and entire systems to undertake the teaching and learning of each language as a unique enterprise. As a result, there has been a wealth of curriculum frameworks, pedagogical frameworks and classroom materials developed for the teaching and learning of specific languages in isolation from each other.

This typological focus in the literature from the language sciences has overshadowed investigations into a perspective that views all human languages as the biological product of (or constrained by) the uniquely human capacity for communication (Poeppel and Embick 2005).

A biological investigation into language must seem paradoxical as it is so widely assumed that languages consist of arbitrary, cultural conventions. Wittgenstein and his followers speak of the word game, thus likening languages to the arbitrary set of rules encountered in parlor games and sports... The rules of natural languages do bear some superficial resemblance to the rules of a game, but I hope to make it obvious in the following chapters that there are major and fundamental differences between rules of languages and rules of games. The former are biologically determined; the latter are arbitrary. (Lenneberg, 1967, p. 2)

In a recent article by Kemmerer (2012) he argues that typological generalizations occur in the vast majority of all studied human languages: for example, SOV occurs in about 48% of these languages while SVO occurs in around 41%. Notably, the subject is prominent and establishes the basis of agreement between the verb and the object due to the logic of the causal chain being expressed which is arguably a reason why languages naturally gravitate towards these two possible sequences even in the absence of 'language contact'. Furthermore, the argument offered for this 'natural'

occurrence is that Broca's area, one of the human brain's major computational hubs for language "*is integrally involved in representing, at a relatively abstract level of analysis, the sequential and hierarchical organization of goal-directed bodily movements, not only when they are performed and perceived in the real world, but also when they are conceptualized and symbolically expressed as transitive clauses*" (Kemmerer, 2012, p.51). Biology provides a foundation for both human behavior and its symbolic expression.

The body of research that underpins this notion is drawn from the field of generative linguistics, in particular, the work of Noam Chomsky and others engaged in the biolinguistics enterprises who are continuing to develop the theory of Universal Grammar (UG). This theory points to the limits of variation in human language systems, to those core principles that underpin the various structures and forms of structure dependence that are universally evident in human language systems: linearity, discreteness, recursion, dependence and locality. These characteristics are considered to be universal, or applicable to all languages; "*Nowadays, linguists are convinced that as far as syntax is concerned, all the grammars in the world are just variations on a universal mould*" (Moro, 2008, p.99).

Yet it is surface *variations* that often become the basis for the isolation of languages curricula and programs in schools. Is isolation necessary? Does this benefit the learner? Is there a basis for varying degrees of integration across languages curricula? Could this be educationally beneficial? Linguistic variations are often complex "... *no one ever imagines or feels that the syntax of English and that of Japanese can be reduced to the same universal mould with minimal variation*" (Moro, 2008, p.100). And yet the argument put forward by the evidence is exactly that. A parallel can be made with classical music, consider Bach's (1741) *Goldberg Variations* (BWV 988). To a non-expert musician the underlying universal pattern (bass line) to Bach's set of thirty variations of an aria for harpsichord would be extremely hard to discern.

There has been a relative dearth of published investigations into universal properties of human communication and in particular, the implications that such properties could have on teaching and learning frameworks, methodologies, materials and educational outcomes.

Identifying, understanding and utilizing both universal properties and the parameters of their usage within different linguistic systems have been a core basis for the development of the approach being discussed in this article: a multilingual literacy approach.

The other notion that was fundamental to the development of the MLL approach is language transfer. This idea has a long history in second language research but "*(d)espite its centrality, however, there is little agreement as to what constitutes transfer, partially because of the constantly shifting views of second-language learning – what is learned and how it is learned*" (Koda & Zehler, 2008, p.70). Recent syntheses of research on second-language literacy development suggest a broadly accepted definition of transfer to be the ability to learn new language and literacy skills by drawing on the previously acquired resources (August & Shanahan, 2006; Riches & Genesee, 2006). In these newer conceptualizations, the investigative focus has moved to identifying the cognitive and linguistic resources available to second language learners when learning the new language as well as developing literacy skills in that language(s) rather than viewing prior language learning as either a negative or positive influence.

Investigations into cross-linguistic relationships in first and second language literacy skill development have shown that phonological awareness skills are positively correlated across languages (Cisero & Royer, 1995; Comeau, Cormier & Grandmaison, et al., 1999; Geva, Yaghoub-Zadeh & Schuster, 2000; Lindsey, Manis, & Bailey, 2003). Geva and Verhoeven (2000, p. 265)

concluded that “*L1-L2 transfer at the level of underlying component skills such as phonological awareness relates to word recognition and spelling*”. Similarly, Proctor, August, and Carlo et al., (2006) found a “compelling relationship” between the first and second language of students in their investigation into reading comprehension. Language specific knowledge, orthographic distance and fluency also play a role in second language reading performance (Sparks et al., 2009).

In the contemporary literature there now exists two abiding frameworks for understanding language transfer (Genesee, Geva, Dressler & Kamil, 2006), linguistic interdependence (Coady, 1997; Cummins, 1979; Diaz & Klingler, 1991; Verhoeven, 1994) and contrastive analysis (Conner, 1996; Ellis, 1994; Lado, 1957; Odlin, 1989). Both of these frameworks provided tools for pedagogical considerations within this multilingual literacy approach as they were directly concerned with analyzing the nature of language learning, language processing and language operating principles.

The first framework, linguistic interdependence, evolved out of Cummins’ hypothesis on common underlying proficiencies, language and interdependence thresholds (1979, 1984). Its development was also aided by Sparks and Ganschow’s linguistic coding differences hypothesis (1991, 1993, 1995). The core tenet of this framework is the belief that all languages are interdependent in a learner’s brain: that is, linguistic communication relies upon common underlying proficiencies that reside in a neurobiological processing system from which all languages operate and that the specific neurological tissues employed to subserve these acts are notably consistent across people, cultures and language codes. Exactly what these common underlying proficiencies are remains unclear (e.g. Edelsky et al, 1983; Genesee, Lindholm-Leary, Saunders & Christian, 2006; MacSwan & Rolstad, 2005), but this study interpreted them to mean language-operating proficiencies, as opposed to other specific knowledge systems or general cognitive abilities.

The second framework, contrastive analysis, also maintains a central concern with commonalities between languages (universal principles), but in this case the core focus is upon structural similarities between languages (UG) rather than skills (operations). Within this perspective, considerations of universality are foremost: what structural (e.g. phonological, syntactic, semantic) similarities and differences exist between the languages (Odlin, 1989), that can either assist or hinder the learning of the languages through an analytic process of comparing and contrasting.

Most of the literature in the field of language transfer can now be viewed from within one or both of these frameworks (Melby-Lervåg, Lervåg, 2011). The notion of transferable or general language operating skills and understandings that is a central concern of these frameworks was also central to the multilingual literacy approach being reported on here. However, the investigative focus was upon how such frameworks could be used in classroom praxis as a heuristic for languages and literacy learning rather than an examination of the magnitude of language transfer within any specific language domain. Understanding “... *cross-linguistic influence will help us to grasp the nature of bilingualism and how learning two (or more) languages deviates from learning only one*” (Melby-Lervåg, Lervåg, 2011, p114).

The evolving argument that arose from the ongoing review of published literature was that learners of a new language have to extract words and rules from exposure to speech, with meaning related serially, and extract sounds and structure from exposure to print, with meanings related as components (Halliday & Webster, 2009). In doing so it is possible that learners may be advantaged by approaches that draw upon the innate, universal structure of languages (UG) and innate (language) learning processes that can be built upon using the language interdependence and contrastive analysis frameworks. Fodor (2001, pp.107-108) made an interesting insight on this relationship: “*Chomsky can with perfect coherence claim that innate, domain specific [constraints]*

mediate language acquisition, while remaining entirely agnostic about the domain specificity of language acquisition mechanisms". In other words, it is logically possible to combine innate, language-specific constraints (or parameters) with general, universal language properties and learning mechanisms.

Fodor's observation was particularly salient; it suggested the possibility of a universally applicable approach to the teaching and learning of languages whilst simultaneously attending to specific variations between language systems.

In sum, the multilingual literacy approach that lay at the heart of the investigative study being reported on here was advanced on the basis of six general principles:

1. The notion of universal schedules, identifiable and usable for languages and literacy learning and teaching – e.g. the common developmental and common underlying proficiency aspects of language, language learning, and language use, underlies the teaching approach
2. In combination with the principle of universality in language structures (UG), there is a possibility for developmental scaffolding of language and literacy learning tasks, offering collaborative programming opportunities both within and between languages beginning with phonemic awareness and phonological skills – in-step planning
3. Systematic assessments, including criterion-referenced diagnostic assessments tied to the multilingual programs
4. A naturalist-immersion classroom environment for language development opportunities that is progressively developed – the use of translanguaging methods (mixed production)
5. The development of a metalanguage for comparing and contrasting the language systems
6. The use of a task analysis process (components of literacy and language acts) for selecting activities in line with the aforementioned principles and that satisfy the purposes, outcomes and control of cognitive loading within the multilingual teaching programs

In accord with this last principle, the range of teaching and learning activities that were specifically devised and / or modified to support implementation of the multilingual literacy approach and related curriculum in this study can be summarised as follows:

1. Activities to build oral language patterns
2. Activities for awareness of sounds and systematic phonics
3. Activities and games to continue to develop and reinforce phonological aspects and vocabulary
4. Activities that foster the development of a metalanguage (decontextualised) for analysing differences and similarities in language systems
5. Activities that develop awareness of the languages' Grapho-Phonological Correspondence principle(s)
6. Integrated, developmentally sequenced use of these activities across languages: translanguaging

RESEARCHING THE SYNTHESIS OF THEORY AND PRACTICE

The overall model of professional learning and curriculum development employed in the research was based upon a 'rational' approach as exemplified by Taba (1962) and Wheeler (1967).

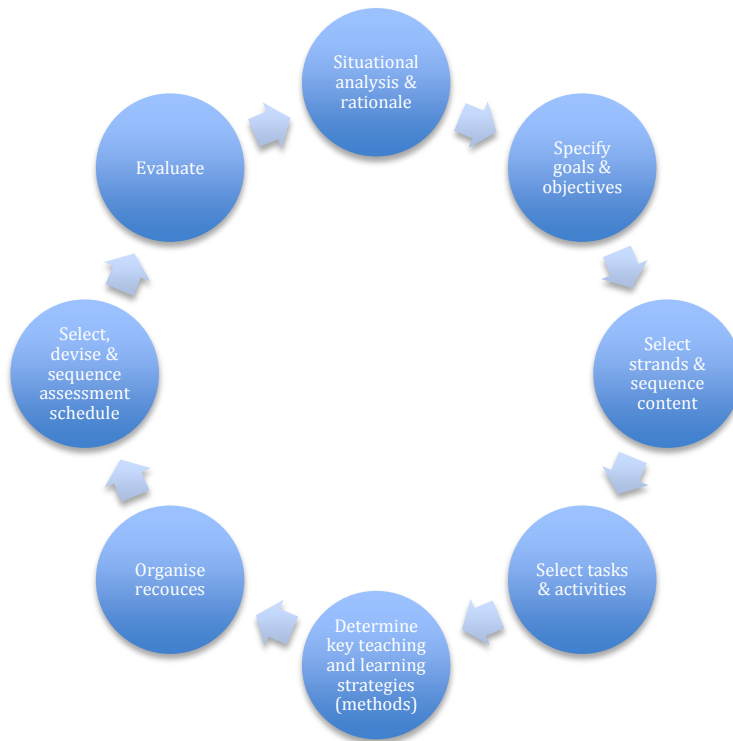


Figure 1. 'Rational' approach (Taba, 1962; Wheeler, 1967)

The initial, overarching consideration for the professional learning program that was to disseminate the multilingual literacy approach was to grasp and respond to the nature of organizational change inherent to the participating primary schools. While the broader research project aimed to investigate the effectiveness and generalisability of the MLL approach, this task could not be undertaken without affecting, and being affected by, the nature and processes of the setting in which the tasks were being undertaken: the primary schools. Understanding, responding to and accounting for the nature and process of change inherent to each school site was a necessary part of the planning and implementation of the acts introduced through the professional learning program and in accurately accounting for their outcomes (the final data analysis: key findings). The logic is apparent: school-based activities do not occur in a laboratory environment, thus it was necessary to devise strategies that could support and guide the teachers in managing the forces at work in and on their schools; to recognize the effect of those forces on their engagement with and implementation of project activities and to modify the project activities as a result of those forces.

All organizations are like the landscape: complex and varied. The view of organizations that was adopted in devising the change strategies was based on experience of working in various organizations and in particular, educational organizations: primary schools. The custom of viewing organizations in the literature in terms of either classical theory, humanistic theory or system theory was deemed inadequate for understanding and driving the process of organizational change requisite for this research endeavor. A new paradigm was sought.

Initially, this paradigm was provided by contingency theory and the work of Burns and Stalker (1961). Contingency theory provides an eclectic position from which to view organizational behavior – that is, in a given situation schools may choose solutions based on any number of theoretical or practical models (resources) that they have at their disposal.

But this window for looking at the world of educational organizations also has its limitations, or frame, which itself can create blind-spots for the researcher. Again, it was through an integration of views, or organizational theories, that a framework for understanding and then guiding the development of strategies for supporting the process of organizational renewal at each specific site was able to be adopted.

Mintzberg (1991) was not satisfied with a purely ‘contingency theoreticians’ view and went on to clarify which strategies he believes are best for developing an organization, what makes an organization outstanding when it counts, and what it takes to maintain and perpetuate an organization that is already functioning well. This is an overwhelmingly ‘rational’ model of the forces that affect organizational change or renewal.

In adopting this rational stance, however, Mintzberg leaves very little room for a symbolic perspective of the schools, curriculum (or pedagogical) renewal and those constellations of forces that can lead to ‘good’ educational organizations (loosely described here as those that are successful at continually identifying and achieving their goals). The St Gallen Group (Gomez and Zimmermann, 1992) developed a ‘management theory’ that includes a symbolic perspective. When their symbolic view is integrated with that of Mintzberg a broader or panoramic window is created through which the schools and their inherent change processes can be viewed.

There were four readily identifiable forces in each of the schools that had a bearing on the processes of change, and on this research: individual teachers (internal), principals (school administration - internal), the Department of Education and Child Development (system – external) and the researcher (University – external). These were the forces of change that were identified as having the greatest bearing on the outcomes of the research.

An overarching consideration in the development and delivery of the strategies to support individual teachers in this project was provided by House, in Dalin (2005):

In his studies, House found that personal friendship and personal contacts were both indispensable factors in the spread of new ideas within the school systems. He also feels that this spread is contingent on cultural factors: from the transportation system to membership in committees; but he still regards personal contact as being of foremost importance. In a phrase for which he is noted: ‘... to control who meets who is to control innovation!’ (p. 140)

Unfortunately, many studies have shown that the voice of individual teachers is seldom heard in their own school, diminishing their potential as agents of change (Dalin, 2005). This highlights a fundamental phenomenon of educational organizations: there are few incentives to learn from one another. Drawing upon these conclusions, the following principles guided the development and delivery of each of the PL program’s plenary days and school visits:

1. information must be relevant and translated for practice
2. the transfer of knowledge must be personalized and accompanied by sufficient personal-professional contact and support in the implementation phase
3. the school and local community need to be supported in assuming a positive disposition toward school improvement along with a workplace culture that is characterized by administrative support, collegial co-operation, and problem-solving behavior

In 1990, Louis and Miles sought to uncover how processes of school change take place under very different and often difficult conditions. The following five principles, described in their subsequent publication as being of critical importance to school-level change, guided the nature of interactions between the University and each school team throughout the PL program:

1. Clarity: new knowledge must be comprehensible and clear, not vague and confusing
2. Relevance: new knowledge must be seen as meaningful for everyday school life and not irrelevant, inapplicable or impracticable
3. Workable: it must be possible to illustrate the knowledge in terms of specific acts. Teachers must know what they are doing to get there
4. Will: new knowledge must develop the motivation, the interest, and the will to do something with it
5. Skills: each individual teacher (or principal - administrator) must be equipped with the necessary skills to support and implement new practices

In every political system the government is faced with hard choices with respect to its centralized role. The education authorities must first and foremost consider the distinctive character of teaching. The task of the 'system' is to set the stage for a creative local process. This fits well with public choice theory that has been pervasive across OECD countries in recent decades. Moreover, it is representative of the character of the educational system in which this study occurred: centralized management in a decentralized system.

A memorandum of agreement was developed and agreed upon between the Department of Education and Child Development and the Flinders University School of Education for the purpose of developing, delivering, monitoring and evaluating a two-year professional learning program in support of the stated goal of investigating the potential of a multilingual literacy approach. This was the fundamental vehicle, or strategy, for working with the system in support of the school-based investigations: it outlined resources, responsibilities and above all, a clearly articulated commitment to the site-specific processes of change.

In one sense, this professional learning program can be considered an externally initiated change process (reform), although earlier trials had led to some clearly articulated demand for further development, trialing and implementational support by teachers and principals. Strategies that were imbedded into the memorandum of agreement process and subsequent articulation of the professional learning program can be said to be clearly in line with the following principles that were also identified by Dalin (2005, p. 252) as a basis for effective external and systemic strategies for supporting change within educational organizations:

1. Without support, teachers will only see problems
2. With support, and with ample-opportunity for in-service training, the mood will change
3. Success requires renewal at the local school level. For change to be sustainable, systematic work at each school must be carried out over a period of several years. Leadership and co-operation is required
4. Reforms require changes in school culture. This will take place provided the reform is organised as a learning process (an opportunity for the development of a professional learning community)

5. Reforms require system modifications. For reforms to succeed, one must work with all the components at the same time
6. Results depend on the execution: on the way the stage is set for learning and collaboration throughout the entire system

The application of these principles to the initial development and ongoing, recursive elaboration of the PL program led to the following notable results:

- All teachers were alerted to a broader understanding of language, languages acquisition and literacy development. Of particular note was an increased understanding of sub-component knowledge and skills involved in the effective use of the macro modes of language and how these can help identify at risk learners, the causes of learning difficulties, and for the sequencing of teaching and learning activities generally
- All teachers developed an understanding of the core notions underpinning the MLL approach and the implications of these for their teaching and learning programs: universality and cross-linguistic transfer
- All teachers reflected on their existing literacy teaching methods and began to employ a new or modified pedagogy (flashcards, explicit phonics instruction, comparative analysis, translanguaging)
- Classroom teachers began incorporating the use of the L2 in their daily classroom activities (greetings, instructions, spelling, handwriting, reading)
- Languages and classroom teachers began to collaboratively plan for literacy development; in-step planning processes supporting areas such as vocabulary development, sequencing of (sub-component) tasks and activities to scaffold learning
- New literacy resources were developed to support these integrated programs (phonics and vocabulary sets – functional / formulaic, thematic / task and high frequency, IWB-based alphabet / phonics and simple phrase books in L2s)
- Assessments were developed to monitor student progress across languages (criterion-referenced assessments in L2)
- English was used by L2 teachers as the language of instruction when introducing new and complex material (around 10%) while the L2 was used by classroom teachers for everyday activities, objects and interactions in and outside of classrooms

Data Sources and Logic of Inquiry

Finding out what worked, how and why was a key task for the investigation. It required teachers researching their own practices where pedagogy was the object of study. The data collected through the PL program included facts and observations.

To understand which acts worked, how and why required a broad view of the schools. This meant that all facts and observations about the teaching and learning processes and contexts needed to be considered from the outset. The participating teachers were all required to keep journals in which they were asked to note significant learning events for themselves, and significant teaching and learning events for their students, colleagues or school communities. They were not further directed in what they might choose to record. To understand the effects of the MLL approach on student learning also required the collection of extensive and detailed student data that was drawn from

both standardized, normed student assessments as well as valid, standardized and criterion-referenced assessments. Reducing and refining the data required the use of very different processes of analysis, integration and ultimately triangulation.

Integrative research is referred to as a 'third wave' that moves past paradigm wars between quantitative and qualitative purists (Johnson & Onwuegbuzie, 2004). As a research framework it can be likened to mixed methods approaches where the goal is to draw from the strengths and minimize the weaknesses of both. It sits in harmony with contingency theory owing to its capacity to capture the dynamic, pluralistic forces and characteristics of human thought and behavior by dispensing with dogmatism and embracing pragmatism. This philosophical approach sits squarely on the work of classical pragmatists (e.g., Charles Sanders Peirce, William James and John Dewey); the bottom line is "... that research approaches should be mixed in ways that offer the best opportunities for answering important research questions" (Johnson & Onwuegbuzie, 2004, p. 16).

Although pragmatism has its limitations and shortcomings its general characteristics enabled an unconstrained view of the acts under investigation. This stance also allowed for potential limitations in the legitimacy and applicability of findings to be addressed, for example: theory-laden perceptions (influence of background knowledge, beliefs and experiences); underdetermination of theory by evidence (more than one theory can fit the evidence); the exclusion of auxiliary assumptions (the Duhem-Quine thesis); the problem of induction (the future may not resemble the past); and the ignoring of both the social and value-laden nature of inquiry (Johnson & Onwuegbuzie, 2004).

The integrative research process progressed through a number of stages. It was cyclical, recursive, and interactional as exemplified in the following figure (see also: Johnson & Onwuegbuzie, 2004, pp. 21-23):

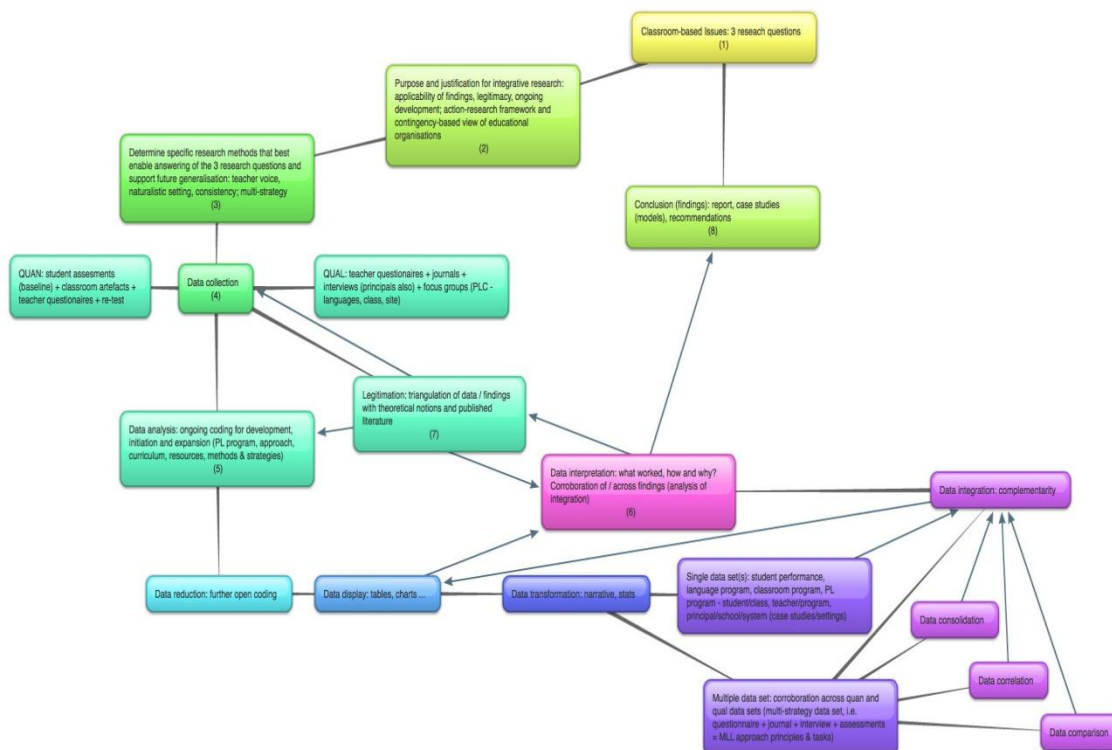


Figure 2. Stages of integrative research process (see also: Johnson & Onwuegbuzie, 2004, pp. 21-23)

Legitimacy and reliability was established through a process of triangulation, or corroboration (the logic of deduction) with established theoretical positions applied across multiple classroom contexts: through an ongoing process of generalisation (see also: McKay, 2006; Tashakkori and Teddlie, 2003). This also involved considerations of design quality and interpretive rigor. The former notion refers to the standards used for the evaluation and selection of the research tools and strategies, while the latter pertains to the standards and process for determining legitimacy.

In terms of design quality, the following principles served to guide the development, selection and use of the data collection tools and strategies: within-design consistency, design suitability, design fidelity, and analytic adequacy. These principles or considerations were particularly salient in the development of the standardized, criterion-referenced assessments for the range of additional languages being taught in the participating schools.

Consideration of interpretative rigor was aided by Teddlie and Tashakkori's (2003) conceptualisation of inference quality. They identified four (non-exhaustive and not mutually exclusive) criteria for ensuring and evaluating interpretative rigor (inference quality): within-design consistency (procedural consistency in designing and delivering the data collection tools), conceptual consistency (inferential consistency across the data sets and with established theory), interpretive agreement (across different people; pedagogues, researchers), and interpretive distinctiveness (rival explanations have been considered and ruled out).

The cycle of data analysis began with a process of open coding. It was an inductive process of actively seeking patterns based upon: similarity, difference, frequency, sequence, correspondence and causation. It occurred throughout the PL program supporting its ongoing development, initiation or modification of activities and expansion of activities.

At the end of the PL program open coding was conducted on all data provided by the teachers. Each sub-set of data (teacher reflective journals, student assessments and participant interviews) then underwent the same process of analysis before being integrated into one multi-data set for interpretation.

In triangulating these findings with the published theories that were employed in the development of this MLL approach it becomes possible to deduce why it was a success and it also adds more weight, or legitimacy to those theories and this study's conclusions. This deductive reasoning supports the process of abduction: in establishing the best explanation for the outcomes of the study.

RESULTS

The key findings of the study support the argument that this MLL approach can advance the development of integrated languages programs that will generate measurable literacy outcomes.

Key Findings:

1. 100% satisfaction was reported by all participants (73% excellent, 23% very good, 4% good)
2. Measurable literacy outcomes in all languages and all school settings were reported
3. Languages programs are now being integrated into site literacy plans and into daily classroom programs

4. Languages teachers and classroom teachers are planning collaboratively for student literacy development
5. Classroom teachers have been modelling effective learning strategies when using the target language alongside their students in daily interactions
6. Knowledge of the target language has supported understanding of English grammar, phonics, spelling and reading to a rate that is equivalent to or greater than the normed average
7. Languages programs are able to support students who are struggling with English literacy development
8. Student literacy development in the target languages was enhanced through an explicit, systematic, developmental approach to the teaching and learning cycle that provided ample opportunities for multi-sensory practice beginning with phonemic awareness and phonological knowledge and skills
9. Communicative fluency in the target languages was accelerated when built upon a foundation of functional / formulaic, task / thematic and high frequency vocabulary (both written and spoken)
10. Metalinguistic understanding of languages was advanced when the initial language of instruction for new and complex material was the same as the students' home language (approx. 10%)

Discussion of the Key Findings (from induction and deduction to abduction)

The MLL approach was based upon the fundamental observation, or idea, those the developmental process by which human beings acquires languages and develop the literate skills for their varied use is readily predictable: it is universal. Hence, the MLL approach calls for universal, developmental schedules for the teaching and learning of languages and literacy. Such schedules were employed throughout the study and the significant attainment of students' language and literacy skills reported by the participating teachers can be considered to be supportive of the following MLL principles:

1. All languages follow universal developmental schedules beginning with oral language, phonemic awareness and phonological skills
2. Literacy development is enhanced through in-step (collaborative) planning between L1 and L2 teachers in the primary years
3. A naturalist-immersion environment – the use of translanguaging (mixed production) supports the development of L2

The second observation, or idea, was that once knowledge or skill for using a language has been obtained then that is an available resource for the teaching and learning of another: cross-linguistic transfer. Thus, the MLL approach was built upon: a task analytic approach to the selection and sequencing of activities for languages and literacy learning; in-step collaborative planning across L1 and L2 programs; the use of translanguaging and the development of a metalanguage for comparing and contrasting linguistic features and processes. These were developed and employed in all schools participating in the study and can be said to have underpinned the significant development of language and literacy skills reported through the collection of formative and summative student data. These underpin the remaining three MLL principles:

- 4 Systematic student assessments should always be used to evaluate student learning
5. The development of a metalanguage for contrastive analysis
6. The use of a task analysis process for selecting activities (components of literacy and language acts)

What was clear from the initial analysis of the teacher reflective journals was that teachers did not adopt the general principles and tasks at a uniform rate, at the same time or to the same extent. They all had their own unique pedagogic frameworks that had a bearing on these matters. At this early stage it can be argued that this is one of the most significant factors leading to the observed variations in outcomes.

Similarly, the amount of time that each school timetable had available for the L2 program, the available teaching space, support of the school leadership, the amount of time that each teacher was in class, any PL session(s) a teacher may have missed, the degree of structural similarity between English and the target languages, availability of suitable resources for implementing the suggested activities, and finally, the background and abilities of the students and their families potentially impacted upon the variations in outcomes also.

CONCLUSION

A preliminary basis for understanding the reported outcomes from the study has been established using cogent argument. Through triangulation with published literature a beginning framework for interpreting the reported variance in learning outcomes has been established. This will be discussed in detail in the case studies to follow. Undertaking this process of triangulation has the additional advantage of providing increased legitimacy to the underlying theoretical notions as well as the findings and conclusions drawn.

The study brought together a range of established theories into an effective approach to integrated languages and literacy programs; it demonstrated the use and value of integrating research methods to best answer important educational questions and it provided an innovative model for the trialling and dissemination of theoretical notions and established research through the collaborative, project-specific professional learning program.

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Learning and Living: The Challenges Facing Chinese Students in the Australian Context

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ABSTRACT

This paper examines the stressors that Chinese international students face while studying in Australian universities. Three main factors hinder their effective studying and living in Australia. They are linguistic, social and learning style factors. Among these, linguistic factor plays the most significant part in determining the success or otherwise of their academic as well as social and emotional wellbeing. Lacking of sufficient language skills will impact on staff-students interaction, peer-cooperation, and intercultural acculturation.

Chinese students bring to a new cultural environment their cultural background which is so deep-rooted in their identities and personalities that the intercultural acculturation process can be impeded. This could lead to their preference for co-existence with other fellow students for interpersonal comfort and personal security. Others may take a different view point by considering the problems as needed challenges to improve their social and academic lives. There are implications for academic staff, university administrators and community leaders for enhancing Chinese international students' achievements in Australia, socially and academically.

Keywords: Stressor, interaction, Chinese international student, language insufficiency.

INTRODUCTION

Since 1970, a policy, set up by Chinese Central Government, has strongly advocated enhancement academics interaction between Chinese scholars and western staffs in order to develop national economy and technology, which has directly led to the increase of interaction between Chinese and western scholars in education (Lampton, Madancy, & Williams, 1986). According to the recent statistics of Education Office, Embassy of the People's Republic of China in Australia (2007), there were 90,287 Chinese mainland students enrolled in Australia institutions in 2006, which took up 23.5 percent of all international students in Australia. The numbers increased by 10.5 percent compared with those in 2005, which became the largest international group followed by Indians. In the recent five years, the number has increased to more than 100,000 Chinese mainland students. Among the Chinese international population in Australia, more than 40,000 students study in New South Wales, about 26,000 in Victoria and Tasmania and approximate 24,000 in other states of Australia. In this large group, more than half of Chinese International students came to Australia to

pursue higher education (Doctors, masters and undergraduates) and only 13 percent aim to receive vocational education in Australia. Hence, the largest Chinese group in Australia is represented by the students in higher institutions, which is worthy of investigating and doing research on this group (Education Office, 2007).

BACKGROUND

Under the Australian educational system, Chinese international students face a great challenges and potential cultural conflict as there is a huge gap between two countries, such as language, culture, political ideology and social framework. Particularly, lacking sufficient language skills impedes the intercultural acculturation and thus makes Chinese students feel confused to adapt to the new environment (Klein, Miller, & Alexander, 1981). The findings in the previous research (Kirby, Woodhouse, & Ma, 1999) show that language competence is commonly accepted as one of the most difficult items for international students in Australian universities. Yang and Glum (1994) believe that the larger the gaps in the intercultural environment, the more difficult the international students will find out to survive in the society. Therefore, it seems that in Australia culture, Chinese international students should need longer time to get used to it in contrast to other European and American international students. In addition, Yang and Glum (1994) finds out that international students who come from Africa and the third World countries have felt more stressful in academic learning.

After reviewing the recent literature, although some researchers note the stress of overseas students in Australian universities (Burns, 1991; Choi, 1997; Mullins, Quintrell, & Murphy, 1995; Yanhong Li & Kaye, 1998), it is clear that there is still a paucity of literature focused on the academic stressors of Chinese international students in Australia. Hence, this research explores the stressors of the largest international student group seems essential and significant. The specific questions needed to be researched in this paper are:

- Which is the strongest academic stressor among Chinese international students in Australia?
- What factors result in this strongest academic stressor for Chinese international students in Australia?
- What improvements can be made to help Chinese international students overcome hurdles to 'fit in' the new life?

RESEARCH METHDOLOGY

This research adopts a qualitative approach using semi structured-interviews, which are more flexible and can get more effective information from participants. Meanwhile, the students could learn from their past experience after the interview (Mill, 2001). A total of 19 Chinese international students studying in Australian universities participated in the research, whose ages range from 22-30 and majors are Law, Education, Biochemistry, Engineering, Sociology and Chemistry and Environment and Arts. All of them are Master and PhD students. Length of studying in Australia varied from four months to 12 years (See Table 1). The time allocated for the interview is two hours and the digital recorder is used for each interviewee. Qualitative analysis is used by the method of Miles and Huberman (1994). In terms of the privacy of the interviewees in this research, Chinese students' names are replaced by students' numbers, which have been ranged from No. 1 to No.19 according to the order of each interviewee.

Table 1. *The participants*

Student Number	Gender	Degree	Major	The time students have been in AUS.	Age
1	Female	MA.	Law	Two years	25
2	Female	MA.	Education	Seven Months	24
3	Male	PhD	Chemistry	One Year	26
4	Male	PhD	Biochemistry	Two years	27
5	Female	PhD	Environment	Four Months	26
6	Female	MA.	Arts	Four Months	22
7	Male	PhD	Engineering	One year	25
8	Male	MA	Sociology	Twelve years	30
9	Male	PhD	Chemistry	Six Months	25
10	Male	PhD	Arts	Five Months	26
11	Male	PhD	Engineering	Two years	28
12	Male	PhD	Law	Four years	29
13	Male	PhD	Engineering	Three years	30
14	Male	MA	Biochemistry	Six Months	23
15	Male	PhD	Engineering	Two years	28
16	Male	PhD	Engineering	One year	28
17	Female	PhD	Biochemistry	Four Months	29
18	Male	MA	Education	One year	24
19	Male	PhD	Biochemistry	Five years	27

RESEARCH FINDINGS

Based on the data collected from the semi structured-interviews, it is apparent to discover that there are three sources of academic stressors. These are: the interaction between Chinese students and academic staff, the academic achievement and the issues associated with the language barrier. The researcher only gives depth exploration of the stressors coming from language barrier in this paper. All the participants have agreed that the language barrier is the most important factor which would influence their learning and living in Australia. Specifically, lacking language skills troubles students in interacting with professors and peers in university, lacking confidence in autonomous learning and being involved in an intercultural environment.

Interaction between professors and Chinese international students

A positive relationship between teachers and students has a significant influence on students, in particular, international students, to achieve their goals and learning outcomes (Jones & Jones, 1981). The research shows that language efficiency directly results in the interaction between academic staff and Chinese international students in Australia universities. In order to avoid embracement and shyness in classroom, most Chinese international students would not like to speak English frequently in universities. It is even worse that some PhD candidates are feel shameful to communicate with their supervisors just because of being afraid of being found of poor spoken English. Hence, it is not surprisingly to see that the poor interaction between staff and Chinese international students due to lack of communication in English. The following transcript of the answers has been obtained from No.3 student in table 1.

Although I have been in Queensland University for a year, I usually feel so anxious and nervous while talking with my supervisors. Because of my poor spoken English, the professors

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always get lost in my meaning. What is more, I often fail in understanding some jokes or slangs when talking with them (academic staff). Hence, worries and anxiety during talk make me become timid, which leads to more errors in my experiments. In order to avoid exposure of my poor spoken English, I try my best to shorten the time of discussion with supervisors and group members.

Another example comes from student No. 12. The following transcript has been outlined by the researcher.

Before I came to Queensland University, I have been in National University of Singapore for two years- Master study. Singapore, a place where is full of Asians, students do not need to speak English at all because most of them are Chinese offspring. Therefore, when I came to Australia in 2007, I found my academic writing was poor for so many grammar mistakes and misspellings, which surprised my supervisor team and they even thought that I would be a loser in my Doctor study here. At present, I could not imagine how I suffered in my first year in the university.

Besides the spoken and written English insufficiency, another student, No.6 said that she was frustrated when reading texts due to a lack of English vocabulary and some unhelpful reading habits. Consequently, she felt it had significantly influenced her academic performance when she was required to join in group discussion in the classroom. The feedback has been got from some researcher's questions.

Q1 What do you think is the most important stressor source in your MA study?

A1 I think it is my English ability, I mean I am not good at reading most time.

Q2 What aspects do you think is the stumbling block in English reading?

A2 Well, it must be short of English vocabulary. I do not like reciting words, which makes me reading books after class very ineffectively.

Q3 How or what method do you often use for reading academic books after class?

A3 That is really hard for me! I often read those books line by line because there are many news words. When I meet them, I would stop reading and pick up electronic dictionary to look them up, which costs me a lot of time every day. But the worse thing is that I often forget those words in less than a week so that I have to do it repeatedly.

Q4 What is the chain action of failing in reading effectively after class?

A4 I feel so ashamed when the academic staff calls me to answer questions because I could not understand totally what the book wants to tell me. Consequently, in the group discussion, I could not do a well-organized presentation. Hence, day by day, the group members and staffs would not like to discuss problems with me, which results in a vicious cycle.

Those examples above show that English insufficiency becomes the most important obstacle for them to communicate effectively with their professors and group peers. In addition, inadequate spoken English, writing and reading skills prevent them from making great academic achievement in Australia.

Autonomous learning and teacher's instruction in Australia universities

For it is known to us all that the autonomous learning has been a popular pedagogical approach in western academic world over the last 20 years. Many scholars in the literatures have illustrated its benefits (Brookes & Grundy, 1988; Dam, 1995; Dickinson, 1987, 1995; Ellis & Sinclair, 1989; Esch, 1994; H Holec, 1981, 1988; Wenden & Rubin, 1987; Willing, 1989). Holec (1981) believes that students should take responsibility of their own learning by determining the objectives, defining the contents and progressions, selecting methods and techniques to be used, monitoring the procedures of acquisition and evaluating what has been acquired. It presupposes a positive attitude to the purpose, content and process of learning (Little, 1996). The learner is perceived as a decision-maker who will develop the capacity for choosing available tools and resources to fulfill their tasks in hand (Dickinson, 1995; H. Holec, 1985; Little, 1991). Therefore, developing positive attitudes towards learner autonomy are regarded as crucial to the success of the development of learner autonomy, and is an essential goal of any courses. Meanwhile, teacher's instruction cannot be ignored since cultivating learners autonomy does not mean total self-learning at home. Therefore, in this circumstance, Chinese international students, particularly, those who have never studied in other western countries will feel puzzled and bewildered. As the interview went further and more detailed, the responses from the participants highlighted English language insufficiency, which was the main reason to confuse them conducting learning autonomy. The following response is from student No1.

When I studied in China, teaching materials and outlets were prepared by the teachers before class. What the students should do is to attend classes on time, sitting in the classroom quietly and listening to the lecturers. In China, the measurement for a good student is to finish assignment on time, get a high score in exams and obey schools rules. Inside and outside classroom, fixed timetables have pushed students to receive information and acquire knowledge passively. When students come back to home, they should finish the assignments and hand in to teachers on time. Hence, when I took my first year MA study in Australia, I felt so miserable because the staff in the university would force me to study in class. Studying time is more flexible in Australian universities and most students want to share information by group discussion and on-line learning. Every week, we have several hours for tutorial work and professors only guide us to think and acquire knowledge instead of imparting it to students. After class, students can assign their learning time for each unit, decide what learning materials they need for experiments and have access to join in more extracurricular activities. However, due to my English insufficiency, I could not quite understand the teachers' instruction. Consequently, most time I fail in monitoring my learning process and evaluating my learning outcomes. As time goes by, I gradually lose confidence in autonomous learning in student's center.

Another example is from student No.8, who often misunderstands the instruction of university staff.

Although I have been in Tasmania for more than ten years, I first came here only for making a fortune so I did not like other international students who have got band 6 in IELTS. In those years working, almost my peers came from China. Therefore, even now my English skill is still enough for daily use. Frankly, I did not consider seriously going back to university until 2010 because of encouragement and support from my former friends and family members. However, I found it was too hard for me to be involved in the university study nowadays. Compared with my Bachelor study in China, UTAS creates a more opening environment for students. For example, students could search for information online or in learning hub for projects under professor and some staff's instruction. Moreover, students could choose the

elective units which they think is beneficial for them in future career; while in China, university staff's instruction is more like a rule, which students should never break it and must be loyal to it or professors would think such students are "bad students". Hence, with an age a little bit more than 30 this year and English insufficiency, I feel uncertain if I could finish my MA.

Besides two typical examples above, No.5, No. 18 and No.19 students gave similar feedback. They thought that poor English skills indeed made them lost in the loose learning environment in Australia universities and it seemed difficult for them to obtain positive views from professors in their academic performance. Hence, not surprisingly, negatives attitudes towards learning came out naturally during learning process for these Chinese international students.

Adaption to the intercultural environment

Australia is short for The Commonwealth of Australia, with a population of about 20,518,600, among which approximate 70 percent of people is English and Irish offspring, 18 percent is other Europeans' later generation and about 6 percent comes from Asian blood (Education Office, 2006). In Australia, although people come from different countries, the government advocates that everyone and each family should preserve their own religion beliefs, which shows respect and equality to the whole (Education Office, 2006). In Australian universities, intercultural environment hinders Chinese international students to be involved in the learning due to their disadvantages of English. The following examples are from No.2 and No.7 students.

I think I am very shy to speak in front of other students and professors in the tutorial class because I have been got used to keep silent in Chinese schools and universities. Although, a lot of classmates and staffs tried to encourage me to speak more, I am still afraid of talking and doing presentation in front of them. Consequently, I usually sit in the back row, avoiding to been seen by professors. At the end of the first semester, most students did not remember my name and sometimes they refused to let me join in the study group. Even worse was that I could not understand some discussions between professors and classmates in class since the topic sometimes was about the religious issues. Take Christian for example, in China, most students are forbidden to talk religion in class and little knowledge could be got from families and schools. Hence, when they talk about Bible and church, I do not know what to follow.

Student No.2

My problem is the language insufficiency leads me to have a feeling of unease while exploring in the research and experiments in the lab. In China, most professors would not ask any student questions directly because Chinese culture is euphemistic; while in Australia, if I could not express explicitly what I am short of at hand, the academic staff would be angry. Once, I was required to use a statistical method in my research project, but I did not tell him my shortage directly instead of asking him several questions. A week later, when professors asked me if the project went well I used broken English to express that I was not good at using that research method. After knowing it, the professors felt so stunned and angry. They thought that I should have mentioned it before otherwise they would not waste so much time on me.

Student No.7

From these students' feedback, it is obvious to find out that language barrier indeed plays a vital role to hinder them to be assimilated into Australia culture. Chinese students could not shrug off the effects of Confucius whose values, beliefs and educational philosophy have been rooted in Chinese students' mind from childhood to adulthood (Bond, 1991; Gao & Ting-Toomey, 1998; Watkins &

Biggs, 1996; Yao, 2000). Confucian teaching stresses the “Three Principle Relationship”, which explains explicitly the relationships between the subject and the sovereign, the son and the father and the wife and the husband, among which the sovereign, the father and the husband are superior to the subject, the son and the wife (Wang, 1998). Thus, in Chinese educational environment, the relation between students and teachers is regarded as authoritative parents and obedient children, both of whose responsibility cannot be overstepped or they would be defined as “out of practice” (Cortazzi & Jin, 1996). Therefore, proposing effective suggestions to help Chinese students to melt in new environment is essential and necessary

FUTURE RESEARCH DIRECTIONS OR RECOMMENDATIONS

As a large number of Chinese international students face the language problems of learning and living in Australia, suggestions focused on reforming Chinese traditional Exam-orientation English teaching and learning are proposed here, together with further exploration on TOEFL and IELTS language training in China, which needs further researching. In this paper, almost all participants had a qualification of sufficient language standard before enrolling. However, the reality is that they still regard English is the barrier for communicating and academics. . To explore more on it, as mentioned above, one of the main reasons is that Confucian heritage of teaching and learning, but examinations, syllabus and materials production, teaching methodologies are called for reforming. Particularly, exam-orientation English teaching model brings potential negative influence on Chinese international students.

As we know, exams are very important in the Chinese context, which has been shown the high demand in Chinese educational system. For example, the Senior and Junior High Entrance Exam, the National University Entrance Exam, College English Bands3-6, and TOEFL and IELTS. Although western universities require a minimum language test score before accepting international students, which aims to break language barriers, a large quantity of TOEFL and IELTS training schools are set up to help Chinese students who want to pursue their further studies in western world to pass the exams (Cortazzi & Jin, 1996). During the language training, what the students learn is the skills of getting a “satisfied score” in the exams instead of being taught how to practice and acquire communicative skills. Consequently, problems of faculty-student interaction and misunderstanding of intercultural and academic learning issues will arise naturally. Many scholars note that communicative competence should arouse more awareness for language teachers for its importance in teaching culture (Buttjes & Byram, 1990; Kramarsch, 1995; Tickoo, 1995). In addition, Zarate (1993) believes that knowing how to relate to otherness is the essence of intercultural competence. Hence, teachers in IELTS and TOEFL language training schools in China should introduce culture as part of teaching task language instead of only teaching skills to make score satisfaction. Certainly, the assessment of TOEFL and IELTS tests also need further researching. TOEFL and IELTS tests are regarded as two widely authorized English language tests for non-native speakers who are eager to enter universities in United State and Australia universities (Feast, 2002), which both focus on four items as well, listening, speaking, reading and writing. However, because some test materials used come out every several months, Chinese international students could forecast and prepare qualified answers in advance. Although since April 1995, all test materials have been withdrawn in a year and more new versions in IELTS tests have been out for candidates, the estimation in writing and speaking module still exist (Charge & Taylor, 1996).

On the other hand, for Chinese international students, how to foster a good learning habit and to enhance autonomous learning ability, from traditional teacher-centered to student-centered, should be taken into account. First, Chinese international students should realize acquiring knowledge is

not only from classroom teachers but also from on-line resource, library resource, peer's discussion and self-learning. Specifically, "a doubtful attitude" is necessary while learning and teaching, which promotes students' English learning ability. With a doubtful attitude, students could explore more out of class, which enhances intrinsic motivation. And it will come up and work on individuals to enhance English learning ability (Freedman & Philips, 1985). Second, facilitating self-learning ability to adapt to Australian university academic environment is another necessity for Chinese international student at this stage. Developing learners' autonomy benefits students a great deal, such as stimulating learning motivation, monitoring their own learning and adopting freedom of teaching materials, teaching process and activities (Powell, 1981). Meanwhile, learning autonomy, as learning and teaching strategy, enhances students' learning abilities to master knowledge actively rather than passively and physically. Lastly, there is a close relationship between students' confidence and learning autonomy ability. It shows that if academic achievements come from independent work by a means of self-learning, the excitement and a sense of pride can increase students' confidence in future learning, which also results in facilitating a strong will, creativity and enormous hungry for knowledge.

CONCLUSION

For the sake of learning advanced high technology from western countries, studying abroad indeed broadens Chinese international students' minds and provides more learning and working opportunities for them, but it is undeniable that more potential issues arise in terms of lacking language skills, which impedes Chinese international students to adapt to a new life in Australian universities. These problems, not only in university learning but also in a social cultural environment, caused anxiety and unsafely for Chinese international students. As Zimmermann (1996) points out one of the main factors on whether international students can be successful in their academic study is decided by a sense of cultural identification and a sense of belonging. It further claims that if the students cannot use English properly to interact with people, they definitely lose in interaction with staff and professors. This paper shows Chinese international students' language insufficiency just occurs in a failure of interaction between students and staff in Australia universities, rational instructions of self-learning strategies and in intercultural acculturation.

The academic stressors have shown the conflicts of Chinese culture and Australian culture. The cultural shock thus speeds up reflection of education reform. In this research paper, the findings display that lacking qualified English skills prevent Chinese international students from successful interaction between faculty and students, adapting to new academic learning environment and understanding intercultural context, which are caused by Chinese traditional Confucian ideology, current exam-orientation teaching model and ignorance of culture input into language teaching materials. Particularly, those who teach language courses such as TOFEL IELTS in China are only for economic purpose instead of facilitating language practices to students. Hence, several suggestions are proposed in order to improve both English teaching and learning in future and aim to make Chinese international students realize that learning a language cannot accomplish at one stroke, if those only pursue a high score in TOFEL and IELTS, it certainly violates the nature of language learning.

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The Improvement of the English Reading Ability by Using Extra Exercises of Technology Computer Students at Rajamangala University of Technology Srivijaya Songkhla

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ABSTRACT

The research was to improve the ability in English reading of Technology Computer students in a whole picture and in each student's ability by using extra exercise. The subjects were 34 part time students from Technology Computer Department at Rajamangala University of Technology Srivijaya Songkhla. A Pre-test was used after the subjects studied reading strategy: reading for topic, main idea, using context clues and reading comprehension. The score of each student from the Pre-test was arranged from the highest to the lowest, divided subjects by using a percentile: a good, a moderate and a poor group. Extra exercises were given to those. At the end of the first semester, subjects took a Post-test. The data were analyzed in terms of Mean (\bar{X}), Standard Deviation and t-test. Comparing the score from the Pre-test and the Post-test found that the mean score from the Post test (20.79) was higher than the Pre-test (16.32). The score of a good students group was higher than the Pre-test. That is 22.64 per 21.8. The Post-test's score in a moderate group was better with the mean score 19.86 and 15.79. For a poor group, the mean of the Post-test was 20.00 which was higher than the Pre-test (11.22).

Keywords: Improvement, English Reading Ability, Extra Exercises, Technology Computer Students, Srivijaya Songkhla.

INTRODUCTION

English is a foreign language which works as an important tool for students to study or find useful information from textbooks, articles and media on the Internet. As these resources to help students gain more knowledge are mostly in English. Therefore, students need to be competent in English language skills at a level that they can use them as they want. Moreover, if students want to have a further education, their abilities in using English must meet the requirements of each institution or university that they want to study. (Suwannee Phunprug and Munlika Mahapoonthong, 2007).

English also has an important role for Technology Computer students who must use English to read information or receive important news from the computer screen. These students not only use English to solve problems with their computers when they are broken but also to search information from the internet or read the texts that they search. Therefore, just only study in the class is not enough to help students be successful readers in English. From Law of Exercise, it believes that if we have time to practice doing something more and more, we will be expert in it. In contrast, if we don't take time to do it, we won't be good at it. (Thorndike, 2010) Hence, extra reading exercises are helpful to help students improve their reading skills in English.

PURPOSE OF THE STUDY

To compare the ability in English reading as a whole and by the ability of each students before and after using extra exercise.

CONTEXT OF THE STUDY

The research was conducted during the first semester of academic year 2010. The population were 69 students from faculty of engineering at rajamangala university of technology srivijaya songkhla who took an English reading skill course. The population consist of 35 students from civil department and 34 students from technology computer department. By using specific random sampling, the subjects were 34 students from technology computer department. The instruments for collecting data were a pre-test and a post-test.

LITERATURE REVIEW

Reading has an important role for persons who need reading to find knowledge from texts, articles and media. Moreover, reading is a tool to help interested person to success in his/her career that is he/she can use the knowledge from reading to develop his/her work. Reading also helps readers to be careful, thoughtful and clever persons. Readers will gain useful experience from their reading. Reading also helps reader to know cultural heritage, development of political, religious and social history etc. In global communication, reading teachers should know the appropriate strategies and provide more chances for students to practice in order to help them achieve more understanding in reading comprehension especially in English which is used as international language.

Supaporn Yimwilai studied the ability and problems in reading English of Doctorage's degree students at Srinakarinwirot University. The results showed that students had the abilities in reading at a moderate level. The problems in reading that they got were reading for topic and reading for main idea. Moreover, the results from the study showed that students didn't read and rarely spent their time in reading English. (Supaporn, 2008).

Suwannee Phunprug and Munlika Mahapoonthong (2007) studied the abilities, problems and needs in using English of Master and Doctorage's degree students at King Mongkut's University of Technology North Bangkok. The results from the research indicated that both level of the students have the abilities in reading at lower than a standard. Students can't answer questions about reading comprehension or making conclusion. To answer these questions students must know about structure, vocabulary and detail of reading passages.

Kuntika Langprayoon and Budsaba Tanthong (2008) studied the needs for reading strategies of graduate students at Kasetsart University. The results showed that students mostly needs making

interpretations, translating, analyzing fact and opinion, paraphrasing, skimming, finding main ideas, making inference, making an outline, using background knowledge, scanning and prediction respectively. Vocabulary building such as choosing proper words, using affixes, using conjunctions context clues and dictionaries were also important.

Supaporn Yimwilai (2008) studied reading abilities and problems of English-major students, Faculty of Humanities, Srinakarinwirot University. The research found that the major problems for the students were finding topics and main ideas. Furthermore, reading for details, references, vocabulary and purpose were also problems for them.

It can be seen that reading skill still be problems for students in all level. Teachers have an important role to enhance students' awareness of the important of reading strategies. Just only study

in the class and do exercise may not enough to solve the problems, how do we help students master knowledge of reading. The concept of self-study or extra reading exercise will be useful for students to practice doing exercise wherever and whenever or how often that they want. This will help students gain more confident and skillful in reading and learning outcomes will be better. Gardner and Miller (1999) stated that learners need to be aware of their role in the decision making process. They must have responsibility to reach the goals in their study which are relevant to their needs and wants. Therefore, extra exercises in reading were provided to Technology Computer Students in order to improve their abilities in reading skills.

METHODS

This study was conducted during the first semester of academic year 2010. The subjects were 34 part time students, from Technology Computer Department at Rajamangala University of Technology Srivijaya, Songkhla, who enrolled in an English Reading Skill Course. Extra exercises about read strategies were constructed. The content included reading for topic, reading for main idea, using context clue and reading comprehension. Next, the pre-test consisted of four parts with the above content was constructed in multiple choice with 30 items. The Pre-test was used after the subjects studied about reading strategy. The score of each student from the Pre-test was arranged from the highest score to the lowest score. From this, the subjects were divided into three groups by using a percentile: a good students group, a moderate students group and a poor students group. Extra exercises with the above content were given to those three groups of students. At the end of the first semester, the Pre-test was used again as a Post-test to test the three groups of the students. The from the two test (Pre-test and Post-test) were analyzed in terms of Mean (), Standard Deviation and T-test data.

RESULTS

Practicing is really important for students. It will help them get more knowledge and confident in their study. The results of this study show a positive effect in using extra exercises in the English Reading Skill Course. The results are shown in the tables below.

Table 1. *The Division of the students into three groups from a Pre-test's score*

Group of the students	Range of mark	Number of the students	Percentage
Good (>P75)	> 19	11	32.4
Moderate (P25-P75)	13 - 19	14	41.2

Poor (<P25)	< 13	9	26.5
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According to the scores from the Pre-Test the students are divided into 3 groups by using a Percentile: a good, a moderate and a poor student group. The Percentile of a good group is more than 75 (more than 19 marks). A moderate group gets 25- 75 (between 13-19 marks) and for a poor group, the Percentile is less than 25 (less than 13 marks). The result shows that most of the students are in a moderate group (41.2 %) follow with a good group (32.4 %) and a poor group (26.5) respectively.

Table 2. *Mean Standard Deviation and t-test from the Pre-test and the Post-test*

Test	n	\bar{x}	SD	t -test	Sig
The Pre-test	34	16.32	4.326	5.488	0.000**
The Post-test	34	20.79	3.859		

Table 2 shows that students have the mean score in the Post-test higher than the Pre-test. The difference of the two scores were analyzed by t-test were significantly different at the 0.01.

Table 3. *Mean Standard Deviation and t-test from the Pre-test and the Post-test of a good student group*

Test	n	\bar{x}	SD	t -test	Sig
The Pre-test	11	21.18	2.523	2.451	0.034*
The Post-test	11	22.64	2.248		

The results from Table 3 indicates that the good student group has a mean score in the Post-test higher than the Pre-test. The difference of the two scores were analyzed by t-test were significantly different at the 0.05.

Table 4. *Mean Standard Deviation and t-test from the Pre-test and the Post-test of a moderate group*

Test	n	\bar{x}	SD	t -test	Sig
The Pre-test	14	15.79	1.578	3.413	0.005**
The Post-test	14	19.86	4.204		

Table 4 shows a good students group has a mean score in the Post-test higher than the Pre-test. The t-test was significantly different at the 0.01.

Table 5. *Mean Standard Deviation and t-test from the Pre-test and the Post-test of a poor group*

Test	n	\bar{x}	SD	t -test	Sig
The Pre-test	9	11.22	1.716	5.590	0.001**
The Post-test	9	20.00	4.416		

The results from Table 5 indicate that a poor student group has a mean score in the Post-test higher than the Pre-test. The difference of the two scores were analyzed by t-test were significantly different at the 0.01.

DISCUSSION

The results of the study indicates an overall positive impact in using extra exercises to improve students' abilities in reading for topic, reading for main idea, using context clue and reading

comprehension. As a whole picture the score in the Post-test is higher than the Pre-test. Moreover, the obtained score in the Post-test from 3 groups of students also higher than the Pre-test. These results reflect that extra exercises can help to improve students' abilities in English reading.

CONCLUSION

English has an important role in our global community because it works as a central language for all nations. Therefore, for students whose mother language is not English, it is necessary to teach strategies that will help in overall comprehension and fluency. Reading is one of the four skills that students can do independently to gain more knowledge from sources that they read. Also reading will help students achieve their goals more quickly. This study illustrates that extra exercises can help students improve their reading abilities by giving more opportunities for students to drill or practice. This will improve students' confidence and fluency in using English.

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Compliment Responses in Italian and German

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ABSTRACT

Using a conversation analytic methodology, the paper compares Italian and German compliment responses given in informal situations, among university students and friends. The study includes some statistics on the data analyzed. The findings reveal that both Italian and German native speakers frequently accept compliments. Compliment rejections are rare in both Italian and German interactions. The two language and cultural groups differ in the frequency of the single compliment response strategies. Italians prefer to reply to compliments thanking the interlocutor, while the German corpus analyzed includes many samples, in which the complimented person tests the truthfulness of the speech act and the sincerity of the compliment giver by means of direct questions. Furthermore, in both participant groups, the selection of the compliment response type is influenced by the complimented attribute. In Italian data compliments on physical appearance and possessions are often directly accepted, whereas positive evaluations of character traits and skills favor the displaying of *Limited Acceptance* or *Non-Acceptance* responses. In contrast, in the German corpus, compliments on character aspects are accepted more frequently than the ones on appearance, possessions or personal abilities.

Keywords: Compliment responses, intercultural communication, contrastive pragmatics, conversational analysis.

INTRODUCTION

The aim of this paper is the analysis and comparison of compliment responses (CRs) in Italian and German conversations. The data were taken from a corpus of audio-taped face-to-face interactions between close friends or university colleagues in Italy and Germany. The samples are examined according to a framework of CRs categorization I postulated applying and developing past taxonomies and classifications such as Frescura (1996) and Golato (2002, 2005).

The study opens with a definition and a description of the act of complimenting. Compliments are examined in conversational sequences as speech acts normally involving two or more turns: the formulation of the compliment itself and the CR, i.e. the reaction of the complimented person. In its second part the paper focuses on the description of the methodology for the data collection and on the corpus analysis. Italian and German data are examined and compared according to their distribution in the four broad typologies I postulated for the present study (Direct Acceptance; Limited Acceptance; Non-Acceptance; Ignoring), as well as in the subcategories, such as Thanking, Minimization, Lateral Deflection of the Topic and so on. Furthermore, I observe the influence of the

kind of complimented attribute (physical appearance, owned object, character, ability) on the selection of CR typology. In the last section, I summarize the results of the empirical study in terms of strategy use and frequency in responding to compliments in Italian and German interactions.

For the punctual description of the samples, I refer to recent studies about conversational analysis (e.g., above all, Deppermann, 2007), whereas for the study of the different functions of compliments I briefly mention the Politeness-Theory of Brown & Levinson (1987), as well as Leech's (1983) Politeness Maxims. The samples are transcribed using the GAT2-transcription notation (Selting et al., 2009), since these notations are well suited to capture characteristics of speech delivery, pauses, overlaps, loudness, which are relevant in the analysis of complimenting. The transcription includes the language (IT for Italian segments and DT for German ones), the gender and the age of the complimented persons. In each example I will use C to indicate the complimented participant and G for the compliment giver. If other participants take part in the interaction, they will be indicated with A and B. For every example, I will underline the CR and I will propose the English translation without using the same transcription notations of the original samples.

Italian and German CRs are selected for the present cross-cultural study for different reasons. First, although a body of knowledge exists on the formulation of compliments in different languages (Wolfson, 1981; Manes, 1983; Barnlund, 1985; Yang, 1987; Nelson, El Bakary, & Al-Batal, 1996; Cordella, Large, & Pardo, 1995; Mulo-Farenkia, 2005; Grein, 2008), fewer researches have compared the responses to compliments in different cultures (Herbert, 1989; Chen, 1993; Nelson, Al-Batal, & Echols, 1996; Mironovschi, 2009). As a second reason, many studies have been conducted on the speech act of complimenting in English, Chinese, Japanese, Arabic, Russian, Polish, while very few have investigated CRs in Italian and German; additionally, none of the existing studies so far has focused on the comparison of complimenting behavior in these two different speaker groups.

BACKGROUND

The speech act of complimenting

Definition and functions

Compliments have been said to be a 'verbal present' consisting in the expression of personal admiration, in the positive evaluation of a specific item/trait (Kerbrat-Orecchioni, 1987). Wierzbicka (1987) describes the speech act of complimenting and identifies its semantic components as follows:

I perceive something good about your Y

I want to say something good about you because of that

I say: (something good about X and X's Y)

I feel something good about thinking about it

I say this because I meant to cause you to know that I am thinking something good about you

I assume that you will feel something good because of that. (p. 201)

The definition highlights the necessary existence of a person whom the compliment giver addresses the compliment to. Other studies essentially argue along the same line as Wierzbicka (1987) and underline the presence of a listener, whose characteristics, possessions or abilities are appreciated. This aspect is pointed out by Holmes (1988) who defines the compliment as:

a speech act which explicitly or implicitly attributes credit to someone other than the speaker, usually the person addressed, for some “good” (possession, characteristics, skill, etc.) which is positively valued by the speaker and the hearer. Compliments normally attributed the value “good” to the addressee, and even when a compliment apparently refers to a third person, it may well be indirectly complimenting the addressee. (p. 446)

Holmes’ definition identifies another important element of the speech act of complimenting: the topic. Complimentable values, such as appearance (apparel, hair-do) or possessions (home, furniture, and car), greatly vary across cultures: compliment topics are, in fact, closely related to a variety of cultural norms of societies. According to Cheng (2003), for example, Chinese speakers give more compliments on skills and abilities, whereas the most popular topics in Egyptian interactions are appearance natural attributes, such as the color of one’s eyes or the hair (Nelson, El Bakary, & Al-Batal, 1996). Bettoni (2006) pointed out that in western speech communities – on which also the present study focuses – physical appearance, clothing, personal qualities, abilities and possessions are normally praised.

More in general, compliments fall into two major categories with respect to the topic: ‘exteriority’ including participants’ external characteristics and their possessions and ‘performance’, i.e. talents and abilities (Probst, 2003). Moreover, compliments can comment a trait referred to positive personality characteristics. Hence, we can identify four main compliment attributes I will name as follows (see also Manes, 1983):

- Physical appearance (natural attractiveness/physical aspects as results of deliberate efforts),
- Owned object,
- Character,
- Ability (practical and intellectual).

The choice of complimented topics is characterized by repetitiveness and regularity. Manes & Wolfson’s (1980) findings reveal that the overwhelming majority of compliments place positive value upon objects or traits which are new, temporary and which are the results of one’s effort (e.g., new pair of shoes, hair-dye, make-up). In contrast, intimate characteristics or taboo situations are rarely mentioned topics. The reference to quite ‘neutral’ and inoffensive items contributes to reinforce the fatic function of the speech act, as Probst (2003) outlines:

Es wird [...] eher ein ‘neutrales’, unverfängliches Thema gewählt, das genauso wie die formelhafte Struktur den phatischen Charakter des Sprechaktes unterstützt. Phatische Gesprächselemente dienen im Allgemeinen als ‚soziale Schmierstoffe‘, die von der inhaltlichen Ebene aus betrachtet, keine große Bedeutung haben. (p. 5) (‘Like the formal structure, speakers select a quite ‘neutral’, inoffensive issue, which supports the fatic character of the speech act. In general, fatic elements of the discourse serve as *social lubricants*, which have not a wide meaning’).

Probst’s (2003) statement reveals the relevance of the act of complimenting from the socio-linguistic point of view and its main function as a «social lubricant» (Wolfson, 1983, P. 89). Compliments are expressions of cognitive judgments and perceptions (in this regard Johnson & Roen, 1992, P.31 talks about the ‘ideational’ function). However, their primary function is to show approval and admiration toward the listener, to make him/her feel good and so to create, negotiate and consolidate the solidarity between interlocutors in the interaction (Herbert, 1990; Holmes, 1988).

As a *social accelerator* (Johnson & Roen, 1992, p. 31), as a means to reduce the distance with the interlocutor, the compliment is to be defined as a *positive politeness* strategy, according to the model of Brown and Levinson (1987).

The social function of complimenting is evident in different conversational contexts, particularly when compliments are combined with dispreferred actions (Levinson, 1983), such as refusals of offers and invitations. In this regard, my Italian and German corpora show some interesting examples:

- (1) ((*At dinner*))
- 01 C: gibts noch (.) willstu du noch n [stück]?
there's more would you like another piece?
- 02 G: [nee:] danke;
no thanks
- 03 das war aber !LE!cker
anyway it was tasty
- (DT/Man/25)

In (1) the compliment (*das war aber !LE!cker*) follows a dispreferred action, i.e. the declination of an offer. The negative particle *nee*: is immediately followed by a thanking (*danke*). As a second step, the speaker G formulates a compliment on the food prepared by C and marks prosodically his positive evaluation (*!LE!cker*). In this case, the compliment has the function to mitigate an offer rejection, i.e. a speech act that damages the hearer's positive face.

Furthermore, compliments involve other functions. In some cultural contexts, the complimenting is used as an information seeking means. That is frequent, for instance, in Poland (Jaworski, 1995): giving a positive evaluation Polish speaker often wants to have information about the complimented item (e.g. the price of the object, the place where it was bought and so on). Even if it is marginal in my data, this function can be found out in some interactions in both languages. There are cases, in which the reply to the compliment is not considered exhaustive by the compliment giver, who starts a new turn asking more information about the complimented attribute:

- ((*Aperitif with friends*))
- 01 G: ma che bella sta MA:glia
what a nice pullover
- 02 C: GRAzie.
thanks.
- 03 G: dove l'hai presa?
where did you buy it?
- 04 C: a barcello:na eh lo scorso anno [quando]
in barcellona eh last year when
- 05 G: [VEro] lì si compra bene,
yes there you can buy well,
- 06 l'ho ehm l'ho visto anch'io
I have ehm I have seen it too
- (IT/Man/27)

In addition, compliments may be interpreted as implicit requests: the speaker's expression of admiration for an object imposes, in general, an obligation on the hearer to offer that object to the interlocutor (Herbert & Straight, 1989). While this function is very rare among western cultures, it is often attested in other languages and cultural groups. Holmes & Brown (1987) notice, for example,

that it comes as no surprise to find that Samoan speakers may respond to a compliment such as “What an unusual necklace. It’s beautiful” with something like “Please take it”.

The first turn: the formulation of the compliment

At the level of the conversational structure, compliments do not occur in particular moments in the interaction, in contrast to other speech acts, such as thanking or greeting. They can open, close a conversation (Manes & Wolfson, 1981) or they may also be embedded in it. Like other speech acts, the complimenting generally involves two or more turn-takings and so it is normally structured in adjacency pairs (Schlegloff & Sacks, 1973). The first part consists in the formulation of the compliment by the compliment giver, while the second turn in the reply of the compliment recipient (Herbert, 1990).

Regarding the first turn, compliments adopt a very narrow range of syntactic and semantic patterns and a very restricted set of lexical items (Knapp, Hopper, & Bell, 1984).

With reference to German language, Golato (2005) argues that the utterance patterns are characterized by a high-frequency used formula <PRO+ist+ADJ (NP)> (“die ist hervorragend die melone”). German compliments include positive adjectives, such as schön (‘nice’) or lecker (‘tasty’), they are often introduced with para-verbal signals expressing the speaker’s appreciation (mmh, oh) or with particles, e.g., übrigens (‘among other things’), which are used as turn initiators (“übrigens, du hast schöne schuhe!”, ‘among other things, you have nice shoes!’). Intensifiers, such as wirklich (‘really’), richtig (‘very’) or total (‘fully’), are also adopted with some frequency.

Concerning the Italian language, studies of the compliment formula do not exist so far. The examination of my samples and an investigation of the examples mentioned in previous works, reveal – like in German – repetitiveness in the syntactic patterns and in the lexical items used in Italian compliments. The majority of compliments are adjectival showing the presence of the positive adjectives bello (‘nice’), bravo (‘good’, ‘clever’), buono (‘tasty’, ‘good’) depending on the praised attribute (appearance, ability, cooking skill). The most common syntactic structures are the following ones: <(intensifier of the illocutionary force)+ADJ+NP> (e.g., “che bello questo telefonino!”, ‘what a nice mobile phone!’; “bel vestito!”, ‘nice dress!’) or <VERB+ADJ+NP> (e.g., “hai un bel paio di scarpe”, ‘you have a nice pair of shoes’). Italian utterance patterns are also characterized by the use of intensifiers, such as proprio or davvero (‘really’) and of superlatives (bellissimo, ‘very nice’; e.g., “hai un bellissimo carattere!”, ‘you have a very good character!’). Like German speakers, Italian participants use para-verbal signals (mmh, oh) opening the complimenting sequence.

The limited number of syntactic formulae and lexical items serve, on the one side, the purpose to make compliments easily identifiable and distinguishable from other acts in the stream of speech and so to avoid misunderstandings in the interaction (Ayaß, 1999). On the other side, the formulaic nature of complimenting has also a function concerning the social relationship between speaker and listener. The use of few standardized structures leads to a linguistic simplification and reduces the distance, which may emerge from participants with different socio-cultural background and linguistic competences. In this way, the act of complimenting performs its primary function, as we noticed above: the creation and consolidation of solidarity between the interlocutors.

The second turn: the compliment response

In contrast to the first turn of the adjacency pair, which has – as seen above – a formulaic nature, the reply to compliments does not show the use of the same constructions but it varies both in its

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 typologies (see below acceptance, rejection, thanking and so on) and in its semantic as well as syntactic structure.

Pomerantz (1978) pointed out the state of *in between-ness* of compliment recipients: CRs pose a dilemma for the complimented person in that they involve two conversational principles:

- Principle I: Agree with the compliment
- Principle II: Avoid self-praise (see also Herbert, 1989)

The two principles stay in potential conflict. If recipients agree with the compliment, they praise themselves and so they violate the second principle. By rejecting the compliment they disagree with their interlocutors and so they violate the first principle. Neither of these alternatives contributes to the social solidarity of the relationship.

Past studies classified CRs as belonging to two categories, *Acceptance* and *Non-Acceptance*, in which some subcategories were identified, such as *Return*, *Deflection*, *Rejection* and so on (Holmes, 1988). Golato (2002) added a third category that includes responses lying between the simple acceptance and the rejection of the compliment. Responses belonging to this solution type respect both principles I described above. An example of these CRs typologies can be seen in the following data-sample taken from Golato (2002):

(1) A: Oh it was just beautiful

B: Well, thank you uh I thought it was quite nice (p. 553)

In this segment the compliment recipient agrees with the positive evaluation of his/her interlocutor and uses an appreciation token (*thank you*). Then he/she gives a second assessment that is scaled down, i.e. that includes evaluative descriptors that are less positive than the ones used in the compliment formula (*quite nice*). The CR shows here features of both acceptance/agreement (see above Principle I) and self-praise avoidance (Principle II).

The CRs classification adopted in the present study is outlined below. It was adapted from previous categorization frameworks (Frescura, 1996; Golato, 2002 and 2005), which were – where necessary – modified and integrated with new CR types (see also Castagneto/Ravetto, in press). It consists of fourteen subcategories which are grouped into four major categories:

Table 1: *Four major categories*

CR type	Example
I. <i>Direct Acceptance</i> (DA)	
1. Thanking	I: What a nice hat! C: Thanks
2. Pleased Acceptance	I: You lost weight C: I know, everybody notices that!
3. Acceptance	I: Your dress is really nice! C: Yes
4. Nonverbal Acceptance	I: You are very kind C: (smiling)
5. Reassignment	I: You are a very good cook! C: You too
II. <i>Limited Acceptance</i> (LA)	
6. Ironic Acceptance	I: You have nice eyes! C: They reflect the color of the sky! Ah ah!
7. Minimization	I: Your bag is nice C: Yeah, pretty nice
8. Deflection	
8a. Lateral Deflection of the Merit	I: Good job! C: Clara helped me
8b. Lateral Deflection of the Quality	I: Your pullover is really nice C: It is warm

8c. Lateral Deflection of the Topic	I: You have nice shoes C: I bought them in Germany
9. Reassurance Request	I: You always have good ideas C: Really?
III. <i>Non-Acceptance</i> (NA)	
10. Reductive Deflection	I: This lasagna is tasty! C: They are insipid!
11. Discredit of the compliment giver	I: What a nice hairstyle! C: You are blind!
12. Discredit of the complimented item/person	I: You cook very well C: I always burn something!
13. Rejection	I: Good, you can explain very well! C: I don't think so
IV. <i>Ignoring</i> (I)	
14. Ignoring	I: Your dress is really nice C: Can you give me my mobile phone?

Following the model proposed by Tran (2007), the CRs strategies are ordered, within each macro-typology, according to their acceptance degree (from the highest to the lowest degree of acceptance).

Regarding the conversational structure, in case of *Rejection*, *Ignoring*, *Thanking* and *Reassignment*, the speech act of complimenting is generally performed in an adjacency pair consisting of two turns. After the reply to the compliment, the interaction can close (the participants do not continue the conversation), the speakers may refer to the previous topic of the conversation that was interrupted by the formulation of the compliment or they can introduce a new topic too (example 1).

(1) ((*At dinner*))

- 01 C: ich war ähm inzwischen mit ähm mit der arBEIt
I was ehm in the meantime
02 beschäf[tigt]
busy with my work
03 G: [ja;]
yeah
04 ich kann mich gu:t vorSTElN (.) ich war so auch.
I can imagine, I was busy too
05 (---)
06 laRIssa (.) du hast aber eine sehr SCHÖne kette.
larissa, you have a very nice necklace
07 C: ich?
I?
08 !DAN!ke
thanks
09 (---)
10 G: un_und biste mit deiner arbeit ähm ENDlich FErTig?
and did you at last finish your work?

(DT/Woman/24)

In (4) the complimenting consists of two turns (lines 6-8): the speaker G appreciates C's nice necklace (*du hast aber eine sehr SCHÖne kette*, 'you have a very nice necklace'). The complimented person replies with *!DAN!ke*. Then the two participants close the sequence of the compliment and refer to a previous topic again, i.e. C's work (*und biste mit deiner arbeit ähm ENDlich FErTig?* 'and did you at last finish your work?').

CRs such as *Deflections* or *Reassurance Request* normally force the compliment giver to react to the complimentee's assertion. In these cases, the speech act of complimenting is performed in more than two turns (see below example 5):

(1) (*Waiting the refectory line*)

- 01 G: annamaria du siehst heute SCHÖN aus.
annamaria, you are nice today
02 ich mag wirklich deine HAARE;
I really like your hair
03 C: meine HAARE (.) waru:m?
my hair, why?
04 G: ich glaub,
I think,
05 sie sind gut blo:nd und SEHR glänzend.
it is right blond and very brilliant
06 (--)
07 C: also (.) was nimmst du?
so, what would you like?

(DT/Woman/23)

Replying to the compliment on her hair (*ich mag wirklich deine HAARE*; 'I really like your hair'), the speaker C selects, in Example (5), the *Reassurance Request* strategy and forces her interlocutor to explain the reasons for the formulation of the compliment (*meine HAARE (.) waru:m?*, 'my hair, why?'). The compliment giver must initiate a new turn (the third turn of the complimenting sequence) in order to support her compliment: the speaker G mentions the aspects of the hair that are in her opinion particularly appreciable, i.e. the color and the brilliancy (*sie sind gut blo:nd und SEHR glänzend*, 'it is right blond and very brilliant'). After this turn-taking the sequence of the complimenting closes and the participants change the conversation topic (*also (.) was nimmst du?*, 'so, what would you like?').

ANALYSIS OF THE DATA

Methodology

The present study examines a corpus of tape-recorded samples and transcriptions of face-to-face interactions. Data are analyzed mainly using a conversation analytic methodology. Golato (2002; 2005) argued that the conversational analysis is well suited for cross-cultural studies of speech acts since it allows the investigation of different facets of the phenomena (e.g. sequential organization, frequency or distribution). With respect to other methods of data collection, such as the *Discourse Completion Task* (DCT), recall protocols or role-plays, the advantage of the conversational analysis lies in the authenticity of data samples since it does not show speakers' intuitions, which are not often reliable, but it represents how speakers are actually reacting in conversations and what they are actually saying (Jucker, 2009).

In my corpus, compliments were voluntary elicited by a speaker, CRs and the following turns were, on the contrary, fully spontaneous. Compliment senders recorded the conversation or they transcribed it shortly after its end. Participants were Italian and German speakers who were similar in age, gender balance, educational background and social status. They all were university undergraduate/graduate students who ranged in age from twenty-two to thirty-three years old.

Interactions took place during activities that the speakers would normally engage in with each other, such as lunches in the cafeteria, studying together, dinners, and get-togethers over drinks and so on.

Regarding the Italian corpus, Italian students gave compliments to their Italian colleagues or friends. German data were collected by Italian students and post-graduate students living and studying in Germany. They have a very good knowledge of the German language (language knowledge level B2-C1 and C1-C2) and they offered compliments to German native speakers in German language.

All participants spoke standard Italian and German and came from North-Western Italy (Piedmont region) and central-Western Germany (Hessen, Baden-Württemberg). In order to obtain comparable samples, for both languages, I tried to collect as homogeneous data as possible, regarding both the complimented item/trait and the gender variation. Compliments concerned every item considered in this study and were formulated both by male and female speakers and addressed both to male and female compliment recipients (the sex of speakers as a probably influencing factor in complimenting behavior will be discussed in future researches. A few studies have investigated this aspect within single languages; see Johnson & Roen, 1992). All in all, the speakers produced 307 compliment sequences for the Italian corpus and 316 samples for the German one.

Data are analyzed qualitatively and quantitatively. In the qualitative analysis, CRs are coded according to strategies selected to reply to compliments. The quantitative analysis aims to evaluate the different frequency in the use of each CR type in the two language groups.

For the categorization of each CR in the taxonomy of CR types I considered the 'dominant' strategy. For instance, for a response to be coded as a *Thanking*, it included only an appreciation token, a statement of appreciation (*grazie, danke*; see below example 6). If additional information, longer explanations or justifications were given together with the *Thanking*, the reply has to be coded as another CR solution type (example 7).

(1) ((*Dinner by Cinzia*))

- 01 G: sara,
sara
02 che BElli sti orecchini.
what nice earrings
03 C: grazie;
thanks

(IT/Woman/26)

Direct Acceptance: Thanking

(2) ((*At university*))

- 01 G: BEllo sto taglio
nice haircut
02 C: grazie ma ma è troppo COrto;
thank you, but it's too short
03 G: ma NO: (.) è particoLAre
no, it's original
04 C: mm troppo scalato ehm l'ho dico sempre al mio parrucchiere
ehm
mm too many layers ehm I always tell that to my hairdresser ehm
05 (.) non tagliare qui corto perché poi mi stanno tutti SU(-)

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 don't cut short here because then it stands all up
 06 VE:di?
 you see?
 (IT/Woman/27)
Non-Acceptance: Reductive Deflection

Corpus analysis

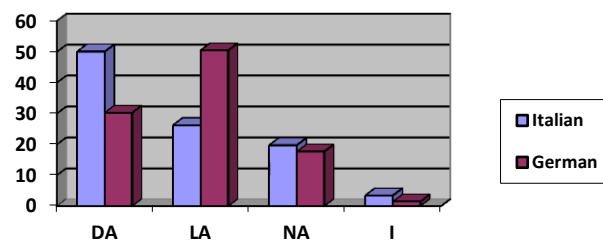
Table 1 provides a summary of the distribution of the 307 Italian CRs and the 316 German CRs among the four broad typologies.

Table 2. *Distribution of CRs among the four macro-typologies for the Italian and German groups*

Macro-Typology	Italian	German
Direct Acceptance	154 (50,16%)	96 (30,37%)
Limited Acceptance	81 (26,38%)	159 (50,31%)
Non-Acceptance	61 (19,86%)	56 (17,72%)
Ignoring	11 (3,58%)	5 (1,58%)
Tot.	307 (100%)	316 (100%)

Italian corpus shows a strong preference for the macro-typology *Direct Acceptance* which accounted for 50.1% (154 samples) of the Italian compliment responses. The use of *Limited Acceptance* is less frequent (81 samples; 26.3%), then we have *Non-Acceptance* (61 samples; 19.8%) followed by *Ignoring* which accounted only for 3.5 per cent (11 samples) of the CRs. In German, most samples are cases of *Limited Acceptance* (159 samples; 50.5%). In 96 interactions (30.3%) compliment recipients accept the compliment directly. *Non-Acceptance* (56 samples; 17.7%) and, in particular, *Ignoring* (5 samples; 1.5%) occur infrequently in German data.

Table 2 is further illustrated by the diagram in Figure (1), which clearly shows the variation in the frequency of each macro-typology in the two language groups.



(DA=Direct Acceptance / LA=Limited Acceptance / NA=Non-Acceptance / I=Ignoring)

Figure 1. *Distribution of CRs among the four macro-typologies for the Italian and German groups*

Figure 1 shows that both Italian and German native speakers do accept compliments rather than reject or ignore them. The main difference between the two languages concerns *Direct Acceptance* and *Limited Acceptance*. The proportion of *Direct Acceptance* strategies is much larger in Italian corpus than in German data. In contrast, compared to Italian native speakers, Germans make a wider use of *Limited Acceptance* CRs.

The high frequency of *Direct Acceptance* in Italian data seems to point out the tendency of Italian speakers to express agreement with their interlocutors and to avoid the disagreement (in

accordance with Leech's Agreement Maxim). Regarding the German data, German native speakers preferably choose CRs of compromise, which express agreement with the interlocutor and avoid the self-praise (in this case both the Agreement Maxim and the Modesty Maxim are fulfilled).

As far as the Italian language is concerned, my results are partially different from the ones summarized in Frescura (1996), who identified a predominant use of *Limited Acceptance*. This difference could be better explained, if we would have more detailed socio-linguistic information about the study of the researcher (age of participants, their relationships, conversational situations and so on).

- (2) Concerning German data, my analysis mainly confirms the findings in Golato (2005), who indicates the inclination of German speakers to accept the positive evaluation of their interlocutors. In contrast, the present results differ from the ones in other studies (e.g., see Mironovschi, 2009) highlighting a frequent refusal of compliments in German conversations. This difference may depend, in my opinion, on the different methodology of data collection. Like Golato (2002; 2005), I examine authentic data coming from real interactions. Mironovschi (2009), as well as other researchers, based their studies mainly on results from questionnaires, which only represent speakers' intuitions and not the real use of speech events. Table 3 summarizes the similarities and differences between the CR types in Italian and German.

Table 3. *Distribution of CR types in Italian and German*

CR types	Italian	German
<i>Direct Acceptance</i>		
– Thanking	48 (15,63%)	42 (13,29%)
– Pleased Acceptance	31 (10,09%)	18 (5,69%)
– Acceptance	36 (11,72%)	14 (4,43%)
– Nonverbal Acceptance	29 (9,44%)	1 (0,31%)
– Reassignment	10 (3,25%)	21 (6,64%)
<i>Limited Acceptance</i>		
– Ironical Acceptance	14 (4,56%)	1 (0,31%)
– Minimization	8 (2,6%)	16 (5,06%)
– (a) Lateral Deflection of the Merit	4 (1,3%)	16 (5,06%)
– (b) Lateral Deflection of the Quality	9 (2,93%)	11 (3,48%)
– (c) Lateral Deflection of the Topic	41 (13,35%)	50 (15,82%)
– Reassurance Request	5 (1,62%)	65 (20,56%)
<i>Non-Acceptance</i>		
– Reductive Deflection	22 (7,16%)	23 (7,27%)
– Discredit of the compliment giver	6 (1,95%)	1 (0,31%)
– Discredit of the complimented item/person	9 (2,93%)	29 (9,17%)
– Rejection	24 (7,81%)	3 (0,94%)
<i>Ignoring</i>		
– Ignoring	11 (3,58%)	5 (1,58%)

As can be gathered from Table 2, Italians and Germans display the same CR types: every strategy is attested, more or less frequently, in each language group. On the other hand, the Table presents

some significant differences between Italian and German speakers with reference to CR type selection.

In Italian data, the most frequent strategies are the *Thanking* (48 samples; 15,6%), the *Lateral Deflection of the Topic* (41 samples; 13,3%) and the *Acceptance* (36 samples; 11,7%), whereas the *Lateral Deflection of the Merit* (4 samples; 1,3%) and the *Reassurance Request* (5 samples; 1,6%) are the least popular CR solution types.

In the case of *Thanking*, the strategy with the maximum degree of acceptance in my categorization framework, the compliment recipient agrees with his/her interlocutor by uttering an appreciation token, mostly *grazie* ('thanks'), without adding further explanations or details about the complimented item:

(1) ((*Meeting with friends*))

- 01 G: ti trovo proprio !BENE! (.) finalmente in FOrrma.
you are looking well, fit at last
02 C: ((sorridente)) grazie (--) allora andia:mo?
((smiling)) thank you, so let's go?

(IT/Man/27)

Direct Acceptance: Thanking

By means of the *Lateral Deflection of the Topic*, speakers give a non-evaluative comment on the complimented item, adding some information or explanations about it. This can be seen in the following example:

(1) ((*Meeting with university colleagues*))

- 01 G: MAMma mia scrivi in tedesco per!FE!tto (.) credo credo che
non
my God, you can perfectly write in German, I think that
02 ci sia niente da correggere;
no correction will be needed
03 C: ma sai perché (.) ho dovuto impararlo bene o male eh dove
do you know why? I had to learn it somehow eh where
04 lavoravo pri:ma c'erano SOlo ehm o almeno io dovevo
gestirmi
I worked before, there only were ehm almost I had to manage
05 solo clienti TEDEschi (.) sai, quando impari un po' di
formule
only German customers, you know, when you learn a few
06 fisse [poi]
fixed formulations then
07 G: [sì:] sì comunque COmplimenti.
yes yes, anyway compliments

(IT/Woman/24)

Limited Acceptance: Lateral Deflection of the Topic

In (9) the compliment recipient C, whose ability to write in German is praised by G (*MAMma mia scrivi in tedesco per!FE!tto*, 'my God, you can perfectly write in German'), replies to the compliment by deflecting the topic away from the positive evaluation and by explaining the reasons of her language skills. The intention of the complimentee to shift the attention to another issue related to

the complimented trait is signalized in the opening of the CR turn by the use of *ma sai perché* ('do you know why'), through which the speaker does not express disagreement with her interlocutor but lets her understand that she wants to add some information or details. In concluding the conversational sequence the compliment sender opens a new turn (see the use of *sì: sì* to open a new turn), reiterates the compliment and scales lightly down the intensity of her previous assessment (*sì: sì comunque COmplimenti*, 'yes yes, anyway compliments').

The third more frequent CR strategy in Italian data is, as Table (2) shows, the *Acceptance*, with which the speaker simply agrees with the compliment assertion without adding more information or expressing satisfaction. In these cases, my sample data attest the use of agreement tokens, such as *sì* ('yes'), or the repetition of the same positive adjective proffered by the compliment sender:

(1) ((*In the train*))

- 01 G: BElla la giacca (.) è nuova?
nice jacket, is it new?
- 02 C: sì comprata IERI.
yes, I bought it yesterday
- 03 F: ((ridendo)) ah col primo stipendio?
((laughing)) ah with your first earnings?
- 04 C: eh CE:rto-
eh of course
- 05 G: BE:lla.
nice
- 06 C: mm mm bella
mm mm nice

(IT/Man/28)

Direct Acceptance: Acceptance

In (10), the complimenter opens the conversational sequence with a positive evaluation of an object owned by his interlocutor (*BElla la giacca*, 'nice jacket'). The compliment is followed by a question about the complimented attribute: *è nuova?* ('is it new?'). C does not address to the compliment but instead to the question (*sì comprata IERI*, 'yes, I bought it yesterday'). At the end of the sequence the speaker G reiterates the compliment marking it prosodically (*BE:lla*, 'nice'). Now the complimentee accepts the compliment through the para-verbal signal *mm mm* and the repetition of the adjective *bella* ('nice') that his interlocutor has already used in the previous turn.

Regarding the CR types adopted in the German corpus, the most frequent reaction to compliments is, as Table (2) illustrates, the *Reassurance Request* (65 samples; 20,5%). Then in 50 cases (15,8%) German native speakers choose the *Lateral Deflection of the Topic* and in 42 interactions (13,2%) the *Thanking*. The tendency of Germans to respond to compliment with a doubting question in order to investigate the sincerity of the compliment giver is mentioned also by Golato (2002). In my data, this is often realized through direct questions, as in example (11) or, less frequently, by the use of interrogative particles, such as *ja?*

(1) ((*Sightseeing in Heidelberg*))

- 01 C: dann haben wir noch zeit das theaterSPIEL heute abend [zu
zu
then we still have time to see the theatre play this evening
- 02 sehn]
- 03 G: [mm ja:]

- mm yes
- 04 C: u_und MO:rgen haben wir frei.
and tomorrow we have free time
- 05 G: TOLL (-) du hast immer sehr GÜte ideen;
great, you always have very good ideas
- 06 C: mm denkstu DAS?
mm do you think that?
- 07 G: JA: jedesmal ein GU:ter vorschlag.
yes, every time a good suggestion
- 08 F: also ABgemacht?
so decided?

(DT/Man/26)

Limited Acceptance: Reassurance Request

In (11) the complimented person replies to the compliment with a question, *denkstu DAS?* ('do you think that?'), in order to provide repetition or expansion of the previous positive evaluation and to request additional reassurance that the compliment was genuine. The reiteration of the compliment by speaker G (*JA: jedesmal ein GU:ter vorschlag*, 'yes, every time a good suggestion') is not followed by any more reactions. In the following turn, a third interlocutor (F) shifts the attention away from the compliment assertion to the previous topic of conversation which was interrupted by the formulation of the compliment.

Through the frequent use of *Reassurance Requests*, German speakers seem to be predominantly concerned with the truthfulness of the speech act and the sincerity of their interlocutors and to be less oriented towards the social function of complimenting (Marandin, 1987; Probst, 2003). This is what Byrnes (1986) notices, with reference, more in general, to the function of the language in German speaking contexts:

In German style there is a greater emphasis on the information-conveying function of language as compared with its social bonding function. Such an orientation is concerned more with facts and truth-values, and in their service seeks, or at least should not shy away from, overt disagreement and confrontation. In fact, disagreement and confrontation are valued, and have become ritualized, in that they are deemed to further the process of establishing truth. (p. 200f.)

The second most frequent CR strategy among German native speakers is the *Lateral Deflection of the Topic*. In these cases, as we already observed in the Italian data, the complimentee gives an explanation about the complimented item; that happens in the following example:

(1) ((*Meeting with Gerald*))

- 01 G: gerald,
gerald
- 02 deine roten SCHUhen,
your red shoes
- 03 wie !SCHÖN!
they are nice!
- 04 C: mm mm ich hab DIE bei_beim c&a gekauft (.) kennstu [WO:??]
mm mm I bought them at c&a, do you know where?
- 05 G: [ja]am
yes at

06 FriedrichsPLAtz.

Friedrichsquare

07 C: geNAU (-) da kannst du sehr GÜNstig kaufn
exactly, you can buy cheap stuff there

(DT/Man/26)

Limited Acceptance: Lateral Deflection of the Topic

In this segment, C accepts the compliment through the para-verbal signal *mm mm* but then he shifts the attention providing a history of the object his interlocutor has been complimented on: he gives information about the place where he bought the appreciated shoes (*ich hab DIE bei_ beim c&a gekauft*, 'I bought them at c&a'). The lateral deflection continues and C poses a question to G (*kennst du WO?*, 'do you know where?'), through which the following turns do not deal with the compliment assertion any more but with the place in which the praised object was bought.

The *Thanking* is attested as a third most frequent CR strategy in the German corpus. Participants utter the two forms *Danke* or *Vielen Dank* sometimes together with para-verbal signals (*ah* or *ach*) expressing surprise and pleasure for hearing the compliment assertion. In many cases, the *Thanking* closes the compliment sequence. Only in few segments the compliment sender repeats or reinforces the positive evaluation after an appreciation token, as seen in the following segment:

(2) ((In the cafeteria))

01 G: dein italienisch ist !SU!per
your Italian is great

02 C: ah DA:nke (-) ich fühle mich sehr geSCHMEIchelt;
ah thanks, I feel very flattered

03 G: ja: besonders die ausSPRAche du hast keinen deutschen
yes, in particular the pronounce, you have no German
[einschla:g]
inflection

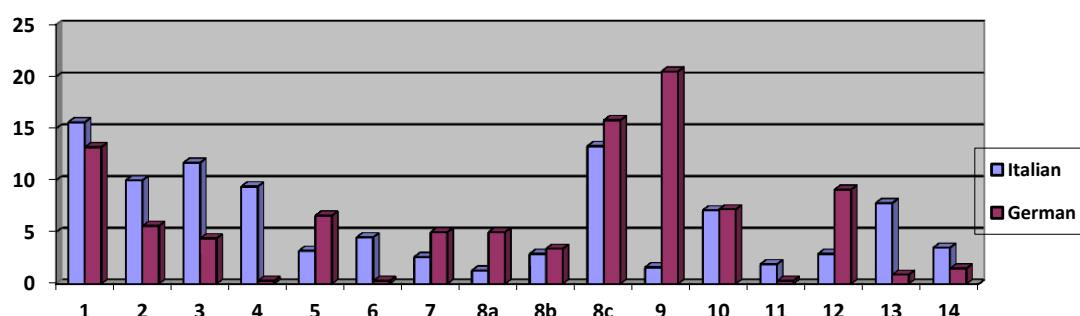
04 C: [!DA!nke;]
thank you

(DT/Woman/25)

Direct Acceptance: Thanking

The CR solution type in (13) is the *Thanking*: the complementee recognizes the status of her interlocutor's previous utterance as a compliment. She introduces her turn with the particle *ah*, followed by *DA:nke* and by an assertion which shows appreciation for the compliment: *ich fühle mich sehr geSCHMEIchelt* ('I feel very flattered'). In this segment the speech act of complimenting consists of more than two turns. After the *Thanking* the compliment givers supports and reinforces the previous compliment and highlights in a new turn the aspects which are particularly positive and appreciable in his interlocutor's linguistic skill. He notices that the complementee speaks Italian with no German inflections (*du hast keine deutschen einschla:g*, 'you have no German inflection'). C reacts to the reiteration of the compliment again with *!DA!nke*. Then the sequence of the compliment closes and the conversation moves to another issue.

Figure 2 clearly illustrates the variation in the frequency of each CR type in the two languages and shows other important contrastive features.



(1=Thanking / 2=Pleased Acceptance / 3=Acceptance / 4=Nonverbal Acceptance / 5=Reassignment / 6=Ironical Acceptance / 7=Minimization / 8a=Lateral Deflection of the Merit / 8b=Lateral Deflection of the Quality / 8c=Lateral Deflection of the Topic / 9= Reassurance Request / 10=Reductive Deflection / 11=Discredit of the compliment giver / 12=Discredit of the complimented item/person / 13=Rejection / 14=Ignoring)

Figure 2. Distribution of CR types for the Italian and German groups

As can be gathered from the diagram, Italian data show a more homogenous distribution of the CR strategies, whereas the German corpus reveals a quite stronger preference for some specific typologies, in particular for the *Reassurance Request* (nr. 9 in the diagram) and the *Lateral Deflection of the Topic* (nr. 8c). The strategies showing a strong difference between the two language groups in terms of frequency are the *Reassurance Request*, widely more attested in German than in Italian and the *Nonverbal Acceptance* (nr. 4). In Italian data this latter strategy is frequently adopted as CR type, while it is almost inexistent in German samples. Hence, German native speakers seem to prefer explicit formulations of their positions towards the compliment assertions, whereas Italians, in some conversational contexts, make use of nonverbal means, such as the smiling (see example 14), which has to be interpreted as an agreement but decreases, at the same time, the complimentary force, since it does not force the complimented person to react verbally to the compliment assertion.

(1) ((Meeting with friends after the summer holidays))

- 01 G: ti trovo be:ne sai?
you look well, do you know?
- 02 (.) sei dimaGRito (-) stai PROprio bene così.
you have lost weight, you look really well
- 03 C: ((sorride))
((smiling))

(IT/Man/27)

Direct Acceptance: Nonverbal Acceptance

In the end, I consider the relation between the type of complimented attribute and the CR strategy selection in the two languages.

Table 3. Distribution of CR types according to the complimented item/trait for the Italian group

CR type	Complimented item/trait			
	Physical Appearance	Owned Object	Character	Ability
1. Thanking	26	11	7	4

	(32,5%)	(14,28%)	(9,21%)	(5,4%)
2. Pleased Acceptance	5 (6,25%)	16 (20,77%)	5 (6,57%)	5 (6,75%)
3. Acceptance	7 (8,75%)	18 (23,37%)	4 (5,26%)	7 (9,45%)
4. Nonverbal Acceptance	15 (18,75%)	-	11 (14,47%)	3 (4,05%)
5. Reassignment	2 (2,5%)	-	2 (2,63%)	6 (8,1%)
<i>Limited Acceptance (LA)</i>				
6. Ironic Acceptance	7 (8,75%)	-	6 (7,89%)	1 (1,35%)
7. Minimization	2 (2,5%)	6 (7,79%)	-	-
8. (a) Lateral Deflection of the Merit	-	2 (2,59%)	-	2 (2,7%)
(b) Lateral Deflection of the Quality	3 (3,75%)	6 (7,79%)	-	-
(c) Lateral Deflection of the Topic	7 (8,75%)	9 (11,68%)	5 (6,57%)	20 (27,02%)
9. Reassurance Request	3 (3,75%)	1 (1,29%)	1 (1,31%)	-
<i>Non-Acceptance (NA)</i>				
10. Reductive Deflection	1 (1,25%)	4 (5,19%)	7 (9,21%)	10 (13,51%)
11. Discredit of the compliment giver	-	2 (2,59%)	4 (5,26%)	-
12. Discredit of the complimented item/person	-	-	5 (6,57%)	4 (5,4%)
13. Rejection	2 (2,5%)	2 (2,59%)	12 (15,78%)	8 (10,81%)
<i>Ignoring (I)</i>				
14. Ignoring	-	-	7 (9,21%)	4 (5,4%)
Tot.	80 (100%)	77 (100%)	76 (100%)	74 (100%)

At first, Table (3) shows that in the Italian corpus each type of complimented items favors the use of a different CR strategy. In case of compliments on 'physical appearance', the most frequent CR type is the *Thanking* (26 samples; 32.5%). If owned objects are praised, Italian speakers prefer to react with an *Acceptance* (18 samples; 23.3%). The *Rejection* with 12 samples (15.7%) and the *Lateral Deflection of the Topic* with 20 samples (27%) are the most frequent CR strategies when 'character' and 'ability' are appreciated.

Moreover, as can be seen in Table (3), Italian native speakers tend to accept more easily compliments on physical characteristics or objects they own. Positive evaluations of character's

traits or of personal abilities seem to be more dangerous for the maintenance of one's *face* and so they are mostly rejected, ignored or accepted by using *Limited Acceptance* response types.

If we compare the findings about the single items with each other, we notice that the *Minimization* (example 15) and the *Lateral Deflection of the Quality* only occur with compliments on appearance and objects. The *Discredit of the complimented item/trait* and the *Ignoring* (example 16) are attested only when 'character' and 'ability' is appreciated.

(1) ((*Graduation Party*))

- 01 G: ehi criSTIna,
ehi cristina,
02 come sei caRIIna stase:ra.
you are pretty this evening
03 F: ne?
isn't she?
04 glielo appena detto anch'io;
I have just told her that
05 C: ma sì (-) mi sono messa abbastanza elegante per ehm per
well, I am quite elegant for ehm for
06 l'OCCAsione ehm sai non mi capita spesso ehm;
the occasion ehm do you know it doesn't happen frequently to me ehm

(IT/Woman/28)

Limited Acceptance: Minimization

(2) ((*By Francesco*))

- 01 G: che BRAVo (-) le hai fatte tu tutte ste foto?
you are great, did you make all these pictures by yourself?
02 C: mm ((*scuotendo il capo*))
mm ((*shaking the head*))
03 G: bravo (.) molto Belle.
good, very nice
04 C: (-) volete vedere il filMA:to ehm l'ultimo del concerto
della
Would you like to see the movie ehm the last one of the concert
05 scorsa doMEnica?
last Sunday?
06 (.) me l'ha ehm l'ho scaricato dal beppe.
it was ehm I downloaded it from Beppe

(IT/Man/26)

Ignoring

Table 4 presents the frequency of each CR strategy according to the complimented item/trait in German data.

Table 4. *Distribution of CR types according the complimented item/trait for the German group*

CR type	Complimented item/trait			
	Physical Appearance	Owned Object	Character	Ability
1. Thanking	6 (7,5%)	5 (6,17%)	21 (28%)	10 (12,5%)
2. Pleased Acceptance	4	6	8	-

	(5%)	(7,4%)	(10,66%)	
3. Acceptance	-	2 (2,46%)	4 (5,33%)	7 (8,75%)
4. Nonverbal Acceptance	-	-	1 (1,33%)	-
5. Reassignment	2 (2,5%)	1 (1,23%)	14 (18,66%)	5 (6,25%)
<i>Limited Acceptance</i>				
6. Ironic Acceptance	-	-	-	1 (1,25%)
7. Minimization	3 (3,75%)	-	5 (6,66%)	8 (10%)
8. (a) Lateral Deflection of the Merit	-	2 (2,46%)	-	14 (17,5%)
(b) Lateral Deflection of the Quality	2 (2,5%)	9 (11,11%)	-	-
(c) Lateral Deflection of the Topic	11 (13,75%)	29 (35,8%)	6 (8%)	4 (5%)
9. Reassurance Request	37 (46,25%)	14 (17,28%)	5 (6,66%)	9 (11,25%)
<i>Non-Acceptance</i>				
10. Reductive Deflection	3 (3,75%)	9 (11,11%)	4 (5,33%)	7 (8,75%)
11. Discredit of the compliment giver	1 (1,25%)	-	-	-
12. Discredit of the complimented item/person	11 (13,75%)	-	4 (5,33%)	14 (17,5%)
13. Rejection	-	2 (2,46%)	-	1 (1,25%)
<i>Ignoring</i>				
14. Ignoring	-	2 (2,46%)	3 (4%)	-
Tot.	80 (100%)	81 (100%)	75 (100%)	80 (100%)

Like Italian speakers, Germans display a different CR strategy depending on the kind of the complimented item. The *Reassurance Request* is often selected as reply to compliments on aspects concerning physical appearance (37 samples; 46.2%). Positive evaluations of objects clearly favor the use of the *Lateral Deflection of the Topic* (29 samples; 35.8%). The *Thanking* is the most frequent CR type when 'character' is appreciated (21 samples; 28%), whereas the attribute 'ability' reveals a high frequency of the CRs *Lateral Deflection of the Merit* (example 17) and *Discredit of the complimented item/person* (both with 14 samples; 17.5%).

(1) ((*Dinner by Lisa*))

01 F: ich hätte gern noch ehm ein_ne ta:[sse]
I'd like another ehm a cup
02 C: [ja:] bitte

- yes, please
- 03 G: das ist richtig LEcker,
it is really tasty
- 04 diese heißschokola:de (.) oder?
this hot chocolate, isn't it?
- 05 F: [mm mm]
mm mm
- 06 C: [oh das] ist n ähm ALtes rezept von meiner SCHWEster;
oh this is an old recipe of my sister
- 07 F: ah ah
ah ah
- 08 C: das ist ein GU:tes mittel auch gegen die: ehm den STRESS
it is a good means also against ehm the stress
(DT/Woman/28)

Limited Acceptance: Lateral Deflection of the Merit

In (17) the speaker G complimented on her interlocutor's ability to prepare a tasty hot chocolate (*das ist richtig LEcker, diese heißschokola:de (.) oder?*, 'it is really tasty, this hot chocolate, isn't it?'). The compliment recipient replies deflecting the merit to another subject, i.e. her sister, who shared the recipe of the appreciated drink: *oh das ist n ähm ALtes rezept von meiner SCHWEster* ('oh this is an old recipe of my sister'). With this assessment, the complimentee decreases the complimentary force through the use of the adjective *ALtes* ('old') that, even prosodically marked, gives a lightly negative meaning in this sequence, downgrades the value of the praised object and discredits the complimentee's ability.

According to the data in Table 4, unlike Italian native speakers, Germans accept appreciations of their character more easily, whereas compliments concerning physical appearance, possessions or skills are directly accepted only in few interactions. In these cases, German speakers prefer to investigate the sincerity of their interlocutors with *Reassurance Requests* (see above) or to select *Limited Acceptance* CR strategies.

The comparison between the items/traits in German data demonstrates other important aspects concerning the displaying of CR types. The *Reassignment* – a *Direct Acceptance* CR – is a frequent reply to compliments on character features (14 samples; 18.6%); on the contrary, this is a very rare and statistically insignificant solution type for the items 'ability' (5 samples; 6.2%), 'physical appearance' (2 samples; 2.5%) and 'owned object' (1 sample; 1.2%). Moreover, like the Italian findings, the *Lateral Deflection of the Quality* is only used in interactions where objects (9 samples; 11.1%) or physical aspects are appreciated (2 samples; 2.5%), while it does not occur as response to compliments on character and abilities. The *Rejection* is a rare CR in German and it is only attested in case of complimented objects and skills. Furthermore, the *Ignoring* is adopted as a compliment reply only with the attributes 'character' (3 samples; 4%) and 'owned object' (2 samples; 2.4%). In these last cases, the complimentee does not react to the compliment at all, neither verbally nor nonverbally, but he/she does not say anything or starts a new turn referring to a previous topic of conversation or introducing a new topic (example 18).

(1) ((*Meeting with PG-colleagues*))

- 01 G: also wie kann ehm [wie?]
well, how ehm how?
- 02 C: [ja] ich zeig dir dann (-) wie das ehm wie

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- yes, I'll show you then how the ehm how
- 03 dieses proGRAmM einzurichten ist.
 this program ist to be installed
- 04 G: vielen DANK (.) du bist sehr hilfsbeREIT;
 Thank you very much, you are very helpful
- 05 (--)
- C: ist mein handy DA:?
 is my mobile there?

(DT/Woman/29)

Ignoring

CONCLUSION

The study has shown similarities and differences between Italian and German regarding CR types selection and frequency, more precisely:

- (a) The two language groups are close to each other in terms of the small proportion of *Non-Acceptance* and *Ignoring* strategies. Both Italians and Germans strongly tend to accept compliments. The study reveals group differences at the level of the use of *Direct* and *Limited Acceptance*. Italians show a strong inclination to *Direct Acceptance* solution types, through which they do not disagree with their interlocutors. Hence, Leech's (1983) *Agreement Maxim* seems to have a powerful influence on Italian participants' choices of CRs. The prevalent macro-typology of CRs in German corpus is the *Limited Acceptance*, which shows Germans' attempt to find a balance between agreeing with the other person and avoiding self-praise. In this way, German native speakers respect not only the *Agreement Maxim* but also the *Modesty Maxim*.
- (b) Both Italian and German data attest the use of each of the fourteen CR types considered in the analysis. The two participant groups differ in the frequency of the single CR strategies. Italians adopt in most cases the *Thanking*, whereas Germans often reply to compliments with a *Reassurance Request*, through which they want to test the truthfulness of the speech act and the sincerity of their interlocutors. The *Lateral Deflection of the Topic* is the second most frequent CR strategy in both languages.
- (c) Considering the occurrence of each CR type in the two corpora, the biggest differences concern above all the *Reassurance Request* and the *Nonverbal Acceptance*. The first strategy is predominant in German data, while it is rarely attested in Italian interactions. The use of nonverbal means is widely more frequent in Italian samples than in German ones.
- (d) In both participants groups we can notice that the selection of the CR type is influenced by the complimented item/trait. If the two languages converge in this general tendency, a more punctual study of the data shows relevant differences. In Italian the attributes 'physical appearance' and 'owned objects' favor the displaying of *Direct Acceptance* CRs, while compliments on character traits and abilities are frequently accepted through *Limited Acceptance* responses or they are rejected at all. In contrast, German participants easily accept positive evaluations of character features. In case of compliments on appearance, possessions or personal skills, Germans prefer to choose *Limited Acceptance* or *Non-Acceptance* CRs types.

The study shows that typical and appropriate replies to compliments can vary across the languages. Apart from some general tendencies, within which Italian and German are similar to each other, with regard to CR type selection and frequency, the two language groups present sensitive differences.

In addition, illustrating the complexity of pragmatic variation, the present research aims to underline the importance of socio-pragmatic competences for EFL learners. As Kasper and Rose (2002) argued, pragmatics is teachable and learnable, and compliments, CRs, as well as other speech acts, are very important in this regard. Students should learn about the range of pragmatic norms, the use of appropriate behavior patterns and the cultural values associated with the foreign language (Holmes & Brown, 1987; Neuland, 2009). To sum up, learners should be aware of the differences in realizing speech acts such as complimenting, complaining, and apologizing in different cultures and languages.

By investigating authentic language data, comparative studies, such as this one, can be adopted in order to introduce to learners the main tendencies in the use of speech acts and to deepen their understanding of the multiple functions of speech events in different language groups.

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Use of Defining Issues Test (DIT) to Assess Children's Social Emotional Competence

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ABSTRACT

This paper reported on the development of a research instrument designed to explore the qualitative aspect of social emotional competencies (SEC) of primary school children in Singapore. This research instrument was based on the Defining Issues Test (DIT) originally developed by Rest (1979), by integrating Kohlberg's dilemma. The adapted DIT instrument focuses specifically on social emotional development by presenting one scenario most likely to be encountered by the children in school. 300 fourth graders responded to the five open-ended questions related to the scenario. Their verbatim written responses were collected to assess their SECs. The findings showed children's responses tended to focus more on responsible decision-making than other SEC constructs. Children generally showed good self-management skills, good relationship management skills, and the ability to empathize the victim.

Keywords: Social emotional learning, social emotional competence, defining issues test, primary school children

INTRODUCTION

Research has repeatedly shown that social emotional learning (SEL) plays a crucial role in children's concurrent and later mental health and well-being, as well as learning and academic success (Bandura, Barbaranelli, Caprara, & Pastorelli, 2001; Peth-Pierce, 2000; Shonkoff & Phillips, 2000; Zins, Weissberg, Wang, & Walberg, 2004). A number of researchers have noted that children with more positive profiles of social emotional competencies (SEC) have not only more success in developing positive attitudes about school and successful early adjustment to school, but also improved achievement (Cohen, 2006; Ladd, Birch, & Buhs, 1999; Zins et al., 2004). Further research also suggests that "classroom social skills may act as academic enablers" (Malecki & Elliott, 2002, p 22). Young children without developmentally appropriate SEC participate less in the classroom, and are less accepted by classmates and teachers. This situation persists into the later elementary years (Raver & Knitzer, 2002). Given these circumstances, it is imperative to have assessment tools to evaluate children's strengths and weaknesses in their social and emotional development so that better improved design, individualized instruction and evaluation programs can be used to foster these competencies (Denham, 2006).

Over the past two decades, dramatic progress has been made in the conceptualization and measurement of young children's SEC. A number of new questionnaire and interview tools have been developed that focus specifically on assessing social-emotional functioning in children of different ages (e.g., infants, toddlers, preschoolers or primary students). Along with advances in conceptual knowledge and measurement approaches, researchers acquire a deeper understanding and appreciation of some inherent challenges when conducting social-emotional or mental health evaluations. The rationale for the current study was thus strongly influenced by recent developments of SEC and the aim was to generate a new measure that would tap children's emotional status from a different perspective. The new approach was aimed at providing a valid means for assessing different aspects of one's SEC, with the hope of demonstrating the importance of integrating knowledge about the individual child's cognitive thinking and social-emotional functioning within the contexts of the child's cultural values and beliefs. We first briefly review commonly employed instruments that assess children's social-emotional development, recognizing the importance of anchoring social-emotional problems within the context of the child's culture. We then describe a promising assessment tool that assesses young children's social-emotional problems and competencies. Finally, we present empirical data using this new approach with Singaporean primary school children. In concluding our proposed new approach, we offer recommendations to encourage applications of the new approach for early detection and intervention efforts and further research.

BACKGROUND

Current approaches to measuring sec

To date, the methodology to measure SEC has pursued two separate but related directions: self-report surveys and third-party behavioral observations. Self-reports are mainly for the purpose of identifying the socially competent vs. incompetent child. The composite score on the scale indicates the level of one's SEC. Popular scales adopted by researchers in different age groups include the Emotional Competence Inventory (Goleman, 1998), the Social Skills Improvement System (SSIS) Rating Scales (Gresham & Elliot, 2008), the Social-Emotional Assets and Resilience Scales (Merrell, 2008) and the Social-Emotional Learning Scale (Coryn, Spybrook, Evergreen, & Blinkiewicz, 2009). Another commonly used method of assessing the social-emotional behavior of young children in naturalistic settings is systematic behavior observation (Lehr, Ysseldyke, & Thurlow, 1987). This is used for specifying certain behaviors that comprise adaptive social functioning in children. Usually teachers, parents or other caregivers record the frequency of the occurrence of certain behavior according to a behavior checklist (e.g., the Child Behavior Checklist; Achenbach & Rescorla, 2000). It is preferred by some researchers as it directly measures the behavior of interest, without imposing artificial test demands to which children are known to be highly reactive and provide data that are less likely to be distorted by the expectations and biases of parents and teachers (Doll & Elliot, 1994).

The utility of self-report surveys is limited in that they only lend themselves to classification by indicating the level of one's social emotional development status, but fail to reveal the specific factors that contribute to it. Observational approach also suffers from the subjective definition of the "socially competent" behaviors to be observed (Foster & Ritchey, 1979). Initial attempts simply defined behaviors *a priori* as theoretically appropriate indices of SEC based on high face validity. This could have missed important behavioral indicators, and even wrong behaviors are selected. Doll and Elliot (1994) noted that at least five observations are required to present children's social behavior

reliably. Further, the focus on *behavior* does not reveal the reasoning behind behavior which presents further challenges when we interpret the data and formulate strategies to address observed problematic behavior. In addition, both surveys and behavioral observations are often framed in a general context, which requires respondents or observers to use heuristic and other decision-making processes to estimate an answer (Tourangeau, 1984). Meanwhile, we must note that multiple dimensions of SEC are not orthogonal and can operate at the same time in one situation. Current ways of analyzing survey and behavior data fail to take this into consideration and hence are unable to present a full story.

Defining Issues Test – A Scenario-based Instrument to Assess SEC

Given the above concerns, surveys and behavioral observations are probably not sufficient as the sole method of assessing one's SEC, although they are particularly useful both for screening and for socially validating behavior change. Defining Issues Test (DIT) offers promise to overcome the concerns and meets the challenge aforementioned to a great extent. Research employing the DIT has been extensive and multifaceted (Nucci, 2002). It originates as an alternative to Kohlberg's semi-structured interview measure of how adolescents and adults come to understand and interpret moral issues, grounded upon Kohlberg's six-stage moral reasoning theory (Rest, 1979). Similar to Kohlberg's moral judgment interview, the DIT assessment process begins with presenting participants with scenarios that involved a moral dilemma (e.g., the story of Heinz and the drug). Typically, participants are asked to rate on a 3-point scale what the protagonist should do and rate on a 5-point scale 12 short issue statements drawn upon Kohlberg's six stages. These ratings are followed by a ranking task wherein the participants are to rank the four items that best reflect their thinking about how the protagonist ought to solve the dilemma (Thoma, 2006).

Scenarios have been used to elicit responses about one's social emotion in at least three studies. Bauminger, Edelsztein, and Morash (2005) used scenarios to tap fourth-to-sixth graders' social information processing skills (SIP). Four social vignettes, which focused on peer entry, provocation by a child, provocation with a child victim, and friendship, were read aloud to the child individually, followed by a series of questions. Children's responses were coded to infer the levels of their SIP skills. In another study by Kam, Greenberg and Kusché (2004), which assessed children's social thinking skills, three different hypothetical vignettes were employed that depicted being teased, being rejected from a group, and having an object taken away by a peer. The children were asked what they thought would happen next in the story, whether they thought they could solve the problem, and what they would do or say in such a situation. Each alternative response given by a child was coded for its level of effectiveness. Scores for each alternative were then summed within each of the three stories and across stories to produce a total effectiveness score. Burgess and colleagues (2006) used five vignettes to measure children's emotional reactions (e.g., How would you feel if this really happened to you?), and coping strategies (e.g., How would you deal with this situation if it happened to you?) in hypothetical situations with a peer or the best friend. For each question, the child was instructed to choose one answer from the situation-specific choices that were provided.

The Present Study

The above studies set examples of the feasibility and effectiveness of using scenarios to elicit children's social emotional responses, yet none tackles children's SEC in multiple dimensions. We designed a DIT especially for assessing children's SEC within the CASEL (2005) framework. The scenario describes a situation very likely to be encountered in school. We intended not to use a Likert-scale to obtain scores as an indicator of children's SEC levels in that children's responses will

be framed by the items to an unknown extent. Rather, we designed five open-ended questions following the scenario in such a way that elicits answers that cover one or all of the core aspects of SEC. Self-awareness assesses one's feelings, interests, values, and strengths; self-management concerns with regulating one's emotions to handle stress, control impulses, and perseverance in overcoming obstacles; social awareness concerns with the ability to take the perspective of and empathize with others; relationship management concerns with establishing and maintaining healthy and rewarding relationships based on cooperation; and responsible decision-making concerns with making decisions based on consideration of ethical standards, safety concerns, appropriate social norms, respect for others, and likely consequences of various actions.

The most prominent difference between DIT for assessing SEC and for moral judgment is the way data are interpreted and coded. In the context of measuring moral development, the DIT requires the respondents to recognize and select issues statements that best reflect their understanding. The selections are then matched to one of the six pre-defined stages of moral development.

Nonetheless, the use of DIT for social emotional development focuses more on the coverage of multiple dimensions, rather than the degree or stage of development, although it is still possible to make a distinction of high versus low SEC learners. A major question about the DIT is whether the information it gathers is sufficiently nuanced to address the subtleties of social emotional research.

This measure overcomes the limitation of not encouraging the respondents to have sufficient time to elaborate their affective responses and the coverage of multi-dimensional of the construct lends itself a more holistic view of one's SEC development. However, because DIT has been used so infrequently as a way to measure SEC, its general reliability and validity have not been thoroughly assessed to date. In the present study, we validated the DIT by asking 300 primary four students to respond to the scenario by answering five relevant questions on paper to see whether the use of DIT is able to elicit valid social emotional responses.

METHOD

Participants and Procedure

Three hundred grade-four students from 12 classes in two primary schools in Singapore took part in the DIT questionnaire (mean age = 9.98 years old; 52.3% boys). The scenarios were presented in printed form, with spaces provided for the participants' written responses to each guiding question. They were encouraged to write as much as possible about how they believed the roles in the scenario might respond to the described situation, and were also asked how they would think, feel or react in a similar situation. Instructions were kept to a minimum in order to ensure that the linguistic flavor and content used by the participants themselves would be retained. Their responses were collected immediately after the DIT was administered during regular class.

DIT Measure

The DIT describes a scenario which happens in a primary school.

Bala and Boon Seng are good friends. They are the shortest boys in class and a much taller boy, Jim, call them "shorty" and sometimes push them. Boon Seng hates that and sometimes yells back at Jim. Today, Jim teased Boon Seng again but Boon Seng yelled, "Stop, you fatso!" and then Jim pushed Boon Seng so hard that his head bumped against the wall. Jim thought nobody saw this, but Bala saw it all from the pillar at a corner. Bala wanted to help Boon Seng but he walked away quietly.

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Five follow-up questions are:

- 1) What would you do if you were called names that you don't like?
- 2) How do you think Boon Seng feels about Bala not helping?
- 3) What would you do if you were Bala at the scene? Why?
- 4) What do you think Bala should do after this incident?
- 5) What can you learn from this scenario?

Data Analysis

The responses to each question were manually coded into different categories and attached with SEC labels (i.e., the five SEC dimensions based on the CASEL framework). To calculate inter-rater agreement for the coding, two raters independently coded the same randomly selected 59.4% of children's responses. Inter-rater agreement was 90.4%. All disagreements were discussed until the raters reached agreement. Percentages were also calculated for each category among the sample. The results were presented in Table 1-5 for each follow-up question.

Results

The scenarios prompted a range of positive and negative cognitive, emotional and behavioral statements that were meaningful to the children themselves. A total of 1491 valid statements were collected from the scenario responses. In general, each follow-up question elicited a variety of responses which covered different dimensions of SEC. This again evidenced the advantage of employing open-ended questions rather than pre-framed options to capture all possible instances of SEC. We categorized children's responses based on the content of each answer. For each question, we counted the number of children (N = 300) whose answers belonged to the specified category and computed it into percentage.

Specifically, in seeking students' responses to name calling in Question 1, students tend to either manage the situation positively by controlling their emotions, e.g., staying calm (6.7%) or react negatively and dwell on their emotions, e.g., feeling sad or depressed (5.7%). The former reflected a higher level of self-management versus a lower level in the latter response. With regards to settling the situation, varying levels of responsible decision-making were observed in students' responses: some students felt the need to settle the situation peacefully (13.0%) or ignore the name-calling (29.7%) while others felt the need to retaliate the matter (8.3%). And over half of the children would choose to seek external help such as adults, teachers, or friends.

When children were asked to be in the shoes of the victim, 84.7% of them were able to understand how the person would feel e.g., sad, disappointed and even angry when treated in this way. This demonstrated a decent level of social awareness. When questioned about what they would do when they saw their friend being bullied, 95% reported a high level of responsible decision-making by helping their friend or using strategies to stop the bully versus ignoring the situation (1.3%) or fighting back (3.0%).

As a sequel to the scenario, the children were asked what they think Bala should do, 27% of the respondents agreed that he should apologize or explain for not helping on the spot after the incident, indicating a high level of relationship management. 38.3% of the children chose active strategies as a way to address the issue (such as reporting to teacher), which also reflected relationship management skills.

The last question was comprehensive yet more open as in what the children learnt from this scenario. Again, the responses ran a large gamut. Roughly 60% mentioned about values they learnt – what friendship means. This showed they were able to make responsible decisions in such situations. 22.7% of the responses were more superficial – they simply learned not to call people names— a way to manage their own behavior (self-management). The rest of the responses were concerned with what do to in this type of situations, including controlling one's emotions, seeking external assistance, and confronting with the situation rather than walking away. These were concerned with relationship management skills.

In summary, nearly half of children's responses reflected responsible decision-making, among which two-thirds reported high levels. This showed that children could react responsibly and make ethical, constructive decisions in such a situation. Yet one-third of the responses showed the lack of ability to weigh the consequence of their choices and as such the decisions did not carry positive values. Children generally showed good self-management skills, by trying to calm down when they were called names or reflecting on their own misbehavior for not helping the victim. Many children reported good relationship management skills, by offering assistance to the victim, yet some chose to walk away and ignore the situation. A majority of children were able to empathize the victim and his friend who saw the scene. This evidenced a high level of social awareness.

DISCUSSION AND CONCLUSION

A major challenge that persists for researchers is determining appropriate methods for measuring the target concept. Existing assessment tools for SEC vary with respect to who provides information about the child (e.g., self, teacher, or parent), the method of assessment employed (e.g., questionnaire, interview or observation), and the timeframe that is covered (e.g., last two weeks, one semester, or last year). They also vary in terms of the type of information that is gathered about one's social-emotional behaviors. For example, problem behavior checklists often have response formats that cross a rating of the frequency of the behavior with a rating of whether the behavior is typical of the child. Although this is sufficient for identifying children at elevated risk, it does not yield information that is sufficient for determining the ways to alleviate the situation. Rather, structured or semi-structured interviews that include specific questions about the onset, offset, frequency, intensity, quality, and context of occurrence are necessary to determine how we can address the observed issues (Carter, Briggs-Gowan, Jones, & Little, 2003).

Our results showed that DIT is an effective modality by which teachers and parents can assess the social emotional development status of children. Although it has traditionally been designed as a cognitive-developmental tool that measures Kohlberg's stage hierarchy, we have successfully transformed it into a powerful tool for SEC measurement. As shown in our data, it did evoke children to make decisions/judgments at the social emotional level. The use of DIT cannot only identify the dimension of one's SEC but also the level (high vs low) on that dimension. Researchers can manipulate the follow-up questions by embedding emphasis on one or more dimensions of SEC in the questions. As our current questions showed, self-awareness was not covered, which can be solved in future revisions.

Admittedly, the conduct of DIT and subsequent data analysis is labour-intensive. As our experience with DIT continues, we are confident that this can be widely used to meet different purposes. Furthermore, no assessment tool can meet all of these needs; it is strongly recommended to use the DIT in concert with other types of assessments, such as survey items, behavioral measurements. The focus on instrument development to measure one's SEC contributes to the literature on research

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 methods in SEL and will facilitate cross-gender/cultural comparisons. Hence, it offers the promise of its application in the field of social emotional learning measuring one's development level.

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The Characteristics of Root Canal Sealer with Bacteria in Dentinal Tubules

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ABSTRACT

Root canal filling materials are believed to play roles in managing endodontic bacteria. It is possible that bacteria remaining in inaccessible area including dentinal tubules may be inactivated or entombed by root canal sealers. Logically, the effect of root canal sealers on bacterial entombment may be influenced by its ability to penetrate into inaccessible areas. This study proposed that well-penetrated sealer may entomb bacteria better than poor- penetrated sealer.

The objective of this study was to observe the characteristics of sealer with different flowability to penetrate the dentinal tubules of infected root dentine. Five millimeters root segments were prepared and infected with *Enterococcus faecalis*. After chemo-mechanically cleaning the root canals up to size 50 file, samples were obturated with gutta percha and one of the sealers: AH plus or ZOE. After the sealers were set, the samples were split for further examination under Scanning Electron Microscope (SEM). The results showed that dentinal tubules were randomly invaded by *Enterococcus faecalis*. The ability of sealers to penetrate into dentinal tubules was observed in both types of sealer, with different extent and pattern. . However, the tubule penetrations into dentinal tubules in both groups are inconsistent. AH plus sealer tags were more homogenous and able to penetrate tubules in a higher number and deeper than ZOE.

Therefore, AH plus sealer appeared to seal the dentinal tubules better than ZOE. This study demonstrated a possible role of the root canal sealer as a physical barrier to block bacteria from dentinal tubules to reenter the root canal space. Applying sealer with superior flow ability may be beneficial to bacterial management. However, further study should be conducted to observe the effect of the sealers to prevent remaining bacteria to reenter root canal space which will provide more comprehensive information in bacterial management.

Keywords: Root canal cement, bacteria, dentinal tubules, *enterococcus faecalis*.

INTRODUCTION

Bacterial infection is the main cause of apical periodontitis. Root canal treatment aims to eliminate bacteria from the root canal to promote healing of apical periodontitis. Although endodontic procedures can reduce large amount of bacteria, these procedures cannot totally eliminate bacteria

from root canals (Bystrom & Sundqvist, 1981, 1983). This may partially cause by bacteria residing in the irregularities of the root canal or in dentinal tubules. These bacteria can survive from mechanical instrumentation and may cause persistent apical periodontitis.

Although bacteria were not completely eliminate from root canal, healing of apical periodontitis was found in some cases that showed positive culture (Sjogren et al., 1997). It is possible that bacteria may be further managed during obscuration procedure. Root filling materials may help reducing bacteria by blocking bacteria from nutrient and reduce spaces for bacterial multiplication. Study showed that root canal sealer is not only fills the space between core material and root canal wall, but also penetrates into dentinal tubules (Mamootil & Messer, 2007; Patel et al., 2007; Vassiliadis et al., 1994). Sealer penetration into the root canal may enhance sealing ability of root filling material, improve retention of root filling material and entomb any residual bacteria within dentinal tubules. However, the presence of bacteria in dentinal tubules may influent sealer penetration. To date, there is no study confirming that sealer can penetrate into dentinal tubules containing bacteria and penetration of root canal sealer can entomb bacteria in dentinal tubules. Therefore, the objective of this study was to observe the characteristics of sealer with different flow ability to penetrate the dentinal tubules of infected dentine.

BACKGROUND

Primary root canal infection consists of multi-species bacteria. Gram negative anaerobes are the most common findings. Bacteria infected the root canal can penetrate deeply into dentinal tubules with average depth of 375 μm (Peters et al., 2001). However, dentinal tubules are invaded by limited bacteria. Among those bacteria that are able to invade dentinal tubules, *Enterococcus Faecalis* is one of interest because it is known to invade dentinal tubules (Love & Jenkinson, 2002; Orstavik et al., 1987) and appears to be associated with persistent apical periodontitis (Molander et al., 1998; Siqueira & Rocas, 2004). Numbers of factor facilitating its persisting in the root canal have been raised including the ability to invade dentinal tubules, ability to tolerate high pH of calcium hydroxide (Evans et al., 2002) and ability to survive in the root canal without nutrients (Sedgley et al., 2005). Therefore, *Enterococcus faecalis* was chosen as the test organism.

As root canal instrumentation and medication cannot totally eliminate bacteria from the root canal system, residual bacteria may be manipulated further during root canal obturation. Root canal obturation is believed to entombed the residual bacteria in the root canals, thus promote healing of apical periodontitis (Siqueira & Rocas, 2008). Many types of root canal sealer and core material were used to fill root canals. Physical properties of root canal sealer such as contact angle influent flow ability of the sealers (Kontakiotis et al., 2007). It is interesting that the difference in flow ability of these sealers will result in difference ability to entomb bacteria in dentinal tubules or not. This study chose 2 types of sealers. AH plus which is an epoxy resin based sealer and CU sealer which is a zinc oxide eugenol based sealer. CU sealer is the most popular sealer used in Thailand. It has an antibacterial effect, cheap and manufacture within country. The disadvantage of this sealer is limited flow ability and easily soluble. While, AH plus has good physical properties such as good flow ability, less soluble than ZOE but less popular than CU sealer. Many studies were conducted to observe the ability of these sealers to penetrate into dentinal tubules and the results showed that AH plus can penetrate deeper into dentinal tubules than ZOE as it was shown in table 1. As it was showed that AH plus has better flow ability than ZOE. However, there is no study compares the ability of sealer to flow in infected dentine.

Study	Experimental design	Type of sealers	Average penetration depth (µm)	Maximum penetration depth (µm)
(Vassiliadis et al., 1994)	In vivo	ZOE	200	900
(Mamootil & Messer, 2007)	In vitro	Epoxy resin	1337	-
	In vitro	ZOE	71	-
	In vivo	Epoxy resin	-	1490
(Patel et al., 2007)	In vitro	ZOE	190.88	142.25
(Ordinola-Zapata et al., 2009)	In vitro	Epoxy resin	237.84	400.39

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Materials and methods

Twenty intact mandibular premolars, extracted for orthodontic reason were included in this study. Root dentine specimens were prepared by removing 3 mm of root apex and coronal parts by using a diamond saw, resulting in dentine cylinders 5 mm in height. The root canals of the specimens were prepared using a #40 Profile taper 0.04 file (Dentsply Maillefer, Ballaigues, Switzerland) to remove the pulp tissue and control the initial size of the root canal. Five ml of 2.5% sodium hypochlorite (NaOCl) was used to irrigate the canal between each increase in file size. The smear layer was removed from the canal wall by rinsing with 5 mL of 17% ethylenediaminetetraacetic acid (EDTA) and with 5 ml of 2.5% NaOCl for 3 minutes each. Finally, the specimens were rinsed with 30 ml distilled water prior to sterilization with gamma irradiation (25 kGy).

Enterococcus faecalis (erythromycin resistant strain, JH2-2 carrying plasmid pGh9:ISS1, derived from the parental strain JH2) (Jacob & Hobbs, 1974) was grown in brain heart infusion broth (BHI) supplemented with erythromycin (6.5 µg/mL). The sterilized specimens were then individually transferred into the test tubes and incubated at 37°C for 4 weeks. During the incubation period, 4.5 ml of the bacterial suspension was replaced with fresh medium every second day. At the end of the incubation period, the specimens were rinsed with 1% phosphate-buffer saline (PBS) and the root canals were prepared with #45 and #50 Profile taper 0.04 files. During preparation, the canals were irrigated with 5ml of 2.5% NaOCl and the smear layer was removed as described. Then the specimens were obturated with two types of sealer.

1. Gutta percha (GP) + AH plus (Dentsply De Trey GmbH, Konstanz, Germany) (n=10)
2. GP+Zinc oxide eugenol (ZOE) (Faculty of Dentistry, Chulalongkorn University, Thailand) (n=10)

Following root canal obturation, the coronal and apical ends of the specimens were sealed with cavitation and incubated in a humidified atmosphere at 37°C for one week to allow the sealer to be set. To observe the characteristics of the sealer tags and bacteria in the dentinal tubules, all specimens were split bucco-lingually for further examination by SEM (JSM-5410 LV, JEOL, Japan) as it was shown in Figure 1 (A & B).

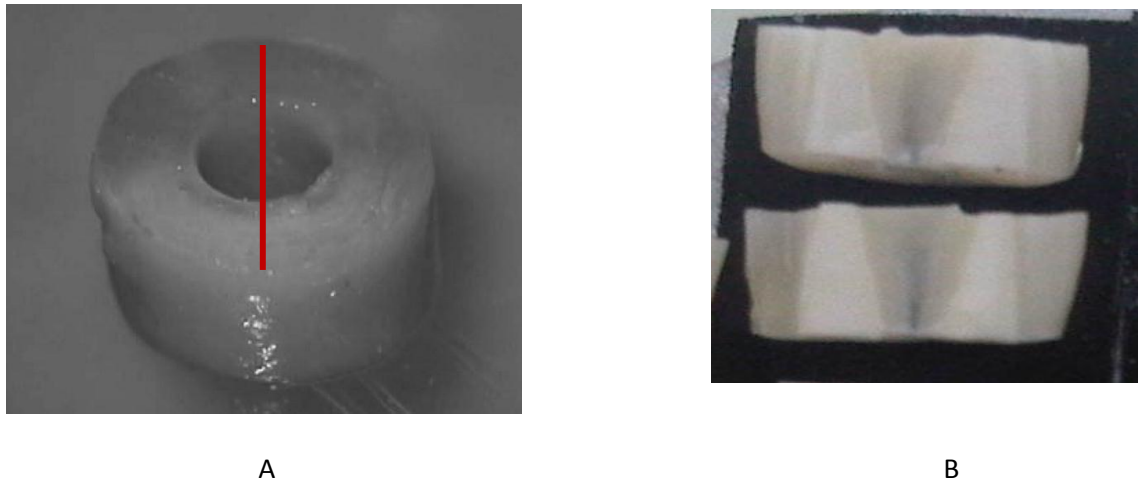


Figure1. (A) The dentine cylinder; (B) the split specimens that were ready for SEM preparation.

Figure1 shows (A) The dentine cylinder. Black line indicated the guiding groove that extends buccolingually. (B) the split specimens that were ready for SEM preparation. Squares indicate selected areas of the split part which is about 250 μm from root canal wall to observe depth of sealer penetration and content of dentinal tubules, circle indicate selected areas of the root canal wall which was observed the extension of sealers.

To evaluate the penetration of sealers and bacteria in dentinal tubules, two areas of the samples were observed. Firstly, the split areas were examined at about 250 μm from root canal wall. The content of dentinal tubules such as bacteria, sealer tags and depth of sealer penetration should be observed from these areas. Another area was the root canal wall, which the extension of the sealer tags should be observed. For both areas, 10 randomly of non-overlapping fields within overall areas were captured as it was shown in figure 1.

Results

SEM analysis revealed that dentinal tubules were randomly invaded by bacteria. Both AH plus and ZOE sealers were also inconsistent in their penetration into the dentinal tubules. It was shown that both sealers can penetrate into dentinal tubules contained bacteria. However, some tubules contained bacteria showed no sealer tags. There were some differences in characteristics of both sealer tags. In root canal area, AH plus penetrated more tubules compared to ZOE. There were two characteristics of AH plus that are ring like appearance (figure 2A) and common sealer tag (figure 3A). In ZOE group, sealer tags were granular like appearance and sealer tags seemed to deposit only on the entrance of dentinal tubules (figure 2B, 3B). In split area, AH plus completely and partially filled dentinal tubules. Some tubules were filled with ring like sealer tags. When the ring like sealer tags were split, they will result like the sealer tags are coated on tubule surfaces. Interestingly, bacteria seemed to be masked or embedded by some AH sealer tags while this phenomenon was not seen in the ZOE group (Figure 4A, B). In ZOE group, sealer tags were shorter and partially filled the dentinal tubules. As a whole, AH plus's sealer tags seem to seal the dentinal tubules better than ZOE's (Figure 3A,B).

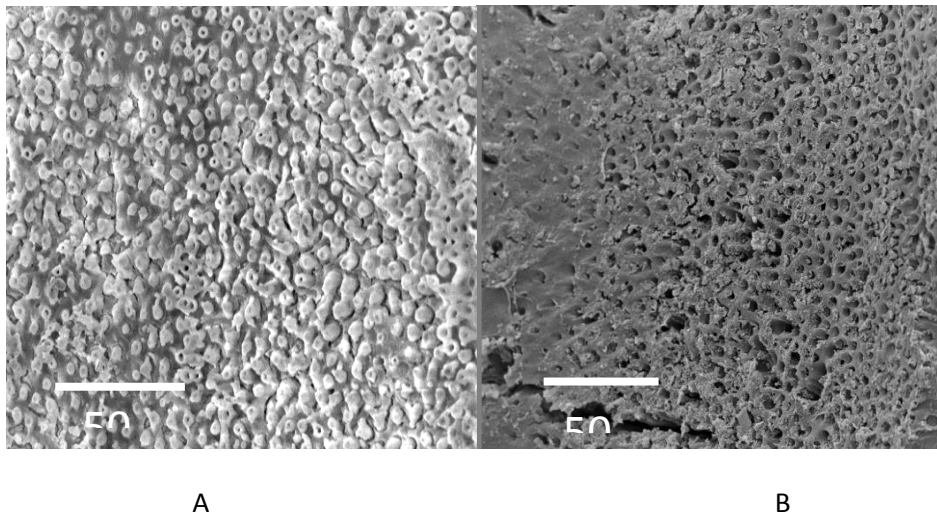


Figure 2. Scanning electron micrographs showing the extent of tubules penetrated by root canal sealers in the root canal area. The samples were examined towards root canal wall.

(A) ability of AH plus to penetrate into dentinal tubules which some sealer tags were ring like appearance.

(B) the ability of ZOE to penetrate dentinal tubules. Some tubules were occupied by sealer, whilst most tubules were empty. (Magnification x500)

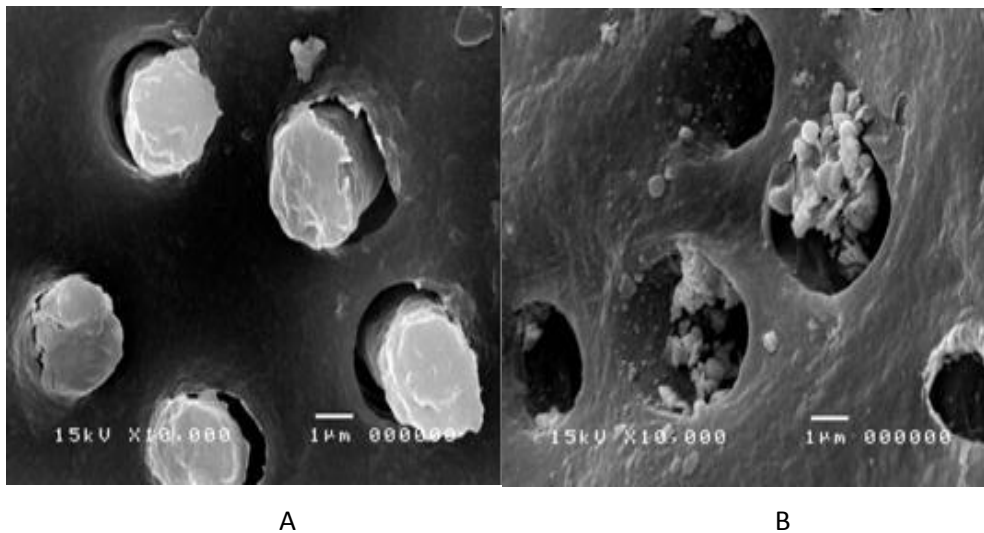


Figure 3. Scanning electron micrographs showing the characteristics of sealer tags in the root canal area. (A) The AH plus sealer tags that were the common type. It was noted that sealer tags were homogeneous and seemed to penetrate into dentinal tubules.

(B) The ZOE sealer tags that were granular like appearance and deposit only at the entrance of dentinal tubules. (Magnification x10000)

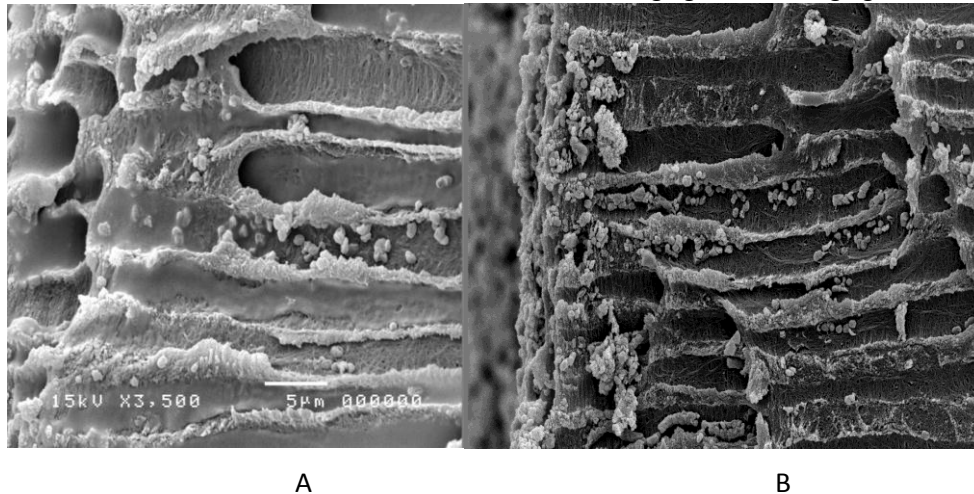


Figure 4. The scanning electron micrographs showing the split areas of both sealers.

(A) Scanning electron micrographs showing the bacteria in dentinal tubules were trapped by AH plus's sealer tags as indicate by the circle (magnification x3500)

(B) The sealer tags of ZOE those were not able to trap the bacteria in dentinal tubules. Arrows indicate sealer tags and circle indicates bacteria. (magnification x2000)

FUTURE RESEARCH DIRECTIONS OR RECOMMENDATIONS

As was seen in previous studies, our study confirmed the ability of bacteria to survive chemomechanical preparation (Berutti et al., 1997; Bystrom & Sundqvist, 1983; Orstavik & Haapasalo, 1990; Sjogren et al., 1997). The SEM images portrayed bacteria located deep in the dentinal tubules, suggesting that chemomechanical preparation can eliminate bacteria only at the entrance of the dentinal tubules. Additional strategies to eliminate bacteria in dentinal tubules should be study further.

The observation showed that both sealers can penetrate infected dentinal tubules and AH plus seems to block and seal dentinal tubules better than ZOE. However, it cannot conclude that AH plus completely entomb the bacteria as there were some tubules that contain bacteria but lack of sealer penetration. Previous study showed that bacteria can survive in dentinal tubules after filling root canal for 12 months and had the ability to grow in vitro (Sedgley et al., 2005). Nevertheless, there is no study confirm that bacteria in dentinal tubules can reenter the root canal when nutrients are provided. Further study should be conducted to prove this matter. In addition, if they can reenter in the root canal, it should be study whether the sealer tags can block the bacteria from reentering the root canal or not.

Both root canal sealer has an antibacterial effect (Saleh et al., 2004). However, to kill bacteria, sealers should have direct contact with the bacteria. The SEM images showed that some bacteria located deep in dentinal tubules and the sealer tags were not able to penetrate as deep as the bacteria were. Improving the ability of sealers to penetrate into dentinal tubules should be conducted such as increased flowability of the sealers. As the sealer can penetrate deeper into dentinal tubules and penetrate more number of dentinal tubules, it will trap more bacteria that may result in death of bacteria or may increase a chance to blocked bacteria not to reenter the root canal.

CONCLUSION

Bacteria in dentinal tubules cannot block the sealer penetration. This study demonstrated a possible role of the root canal sealer as a physical barrier to partially block the bacteria from the dentinal tubules to reenter the root canal space. Applying sealer with superior flow ability may be beneficial to bacterial management. However, further study should be conducted to prove the ability of these sealers to prevent bacteria from reentering the root canal. In addition, improving the ability of sealer penetration may benefit in elimination of bacteria in dentinal tubules.

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A Lean Thinking Approach to the Challenges of Researching and Managing School Safety

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ABSTRACT

Effective safety is vital to a school's reputation, and to the overall achievement and educational quality a student receives. Researching and managing safety at school is the responsibility of everyone, but is commonly seen as an expensive and bureaucratic process, with low efficiency in terms of safety improvement. This paper suggests a Lean thinking approach could be utilized to cut waste and improve safety research and management. The research presents a case study at a private school in Thailand, where compared to more developed countries, there is little governmental guidance on school safety. Results are preliminary, showing an assessment of the current safety situation in the school and a consideration of waste with regard to the safety suggestion process. The paper proposes a conceptual framework to improve this safety research and management based on Lean principles.

Keywords: Research challenges, school safety, Lean thinking, Thailand, process improvement.

INTRODUCTION

Effective child safety is vital to a school's reputation (CPCR, 2007), and ultimately to students achieving their educational potential. Despite this, managing school safety is often seen as a wasteful mix of protocols and expense. Effective research into school safety is also challenging, and influenced by a variety of issues. For example bureaucracy, inefficiency and costs are commonly associated with researching, improving and managing safety, particularly for schools, where time and budgetary constraints put additional pressure on organizational processes. These issues are exacerbated by the intangible aspects of effective school safety, and the often indeterminate cost benefit ratio of implementing safety related suggestions.

In Thailand, where frameworks and policies for child safety are still developing, one of the most challenging issues for schools is researching, understanding, and implementing safety measures. This paper proposes a new approach to researching and managing school safety, using the philosophies and principles of Lean thinking. The paper leverages a case study from a school in Thailand to show how the key philosophies of Lean thinking might be utilized to develop a new framework to research, understand and manage child safety in schools.

BACKGROUND

Child Safety in Schools

Child safety refers to a state where there is no threat or danger to a child within the home or at school (Action for Child Protection, 2003). Every child has the right to be safe from harm, and the wellbeing of children is the responsibility of the entire community (Government of South Australia, 1993). As schools represent an environment that is fundamentally envisaged for children, managing school safety has been an issue of worldwide research and debate (Benbenishty & Astor, 2008). This debate can most effectively be represented by a triad of components, each of which contributes to make school safety a challenging research issue. Figure 1 illustrates these three components and the associated challenges of such research.

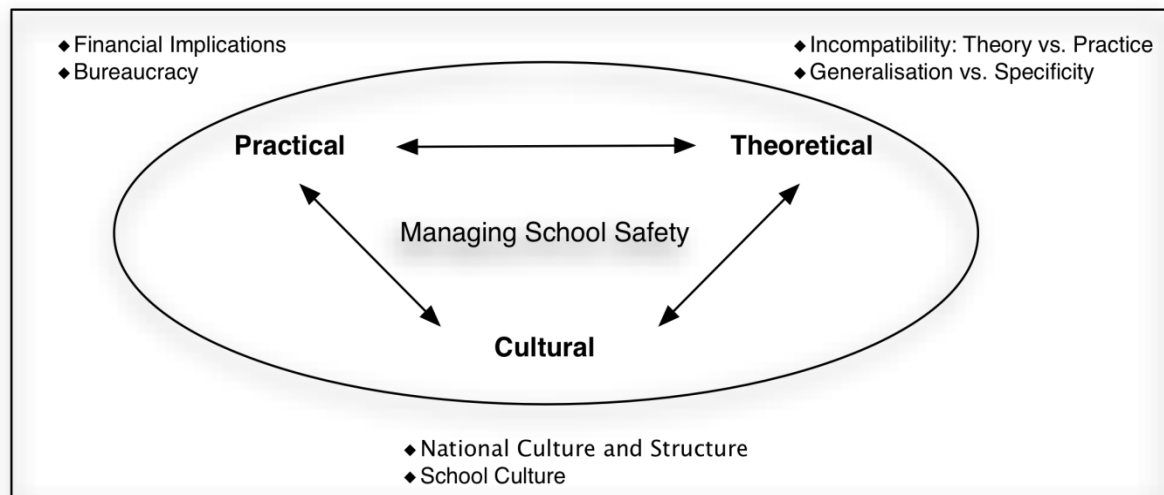


Figure 1. The triad of components contributing to the research challenges of managing school safety.

The triad shown in Figure 1 represents the challenges both in conducting, and implementing research related to school safety. The first component of the triad relates to the practical issues of enacting safety research in schools, for example, issues associated with finance and bureaucracy. The theoretical component of the research triad is concerned with issues such as the compatibility of particular theoretical and epistemological aspects of research, and the practical realities and difficulties of scaling and adapting research from generalizations to specific applications. The third component of the triad constitutes cultural aspects of research related both to the national culture of a country and micro-scale culture within individual organizations. The three components of the triad represent challenges and barriers to effective research concerning school safety, and each of the three components is inextricably linked. This paper proposes a Lean thinking approach to manage each of these challenges when researching and managing school safety.

Tackling school safety research with Lean thinking: Muda, Mura and Mur

Figure 2 shows how the three central philosophies of Lean thinking (Muda, Mura and Muri) can be applied to effectively research and manage school safety.

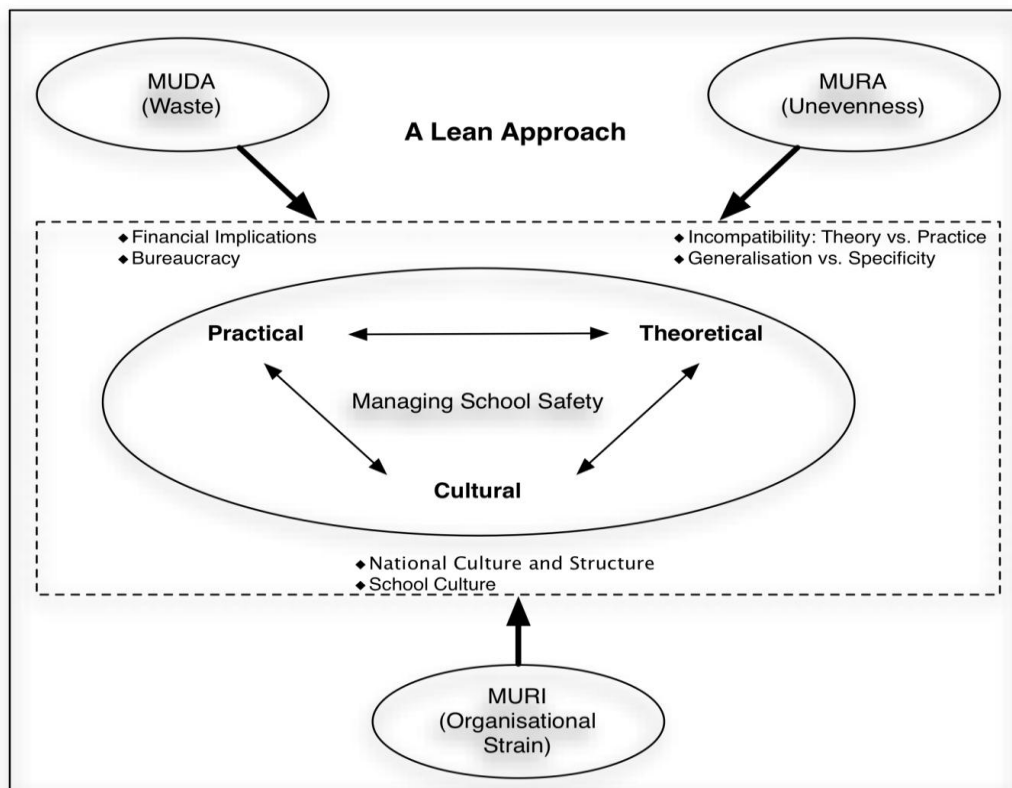


Figure 2. The application of Lean thinking to research and manage school safety.

In its traditional manufacturing roots, Muda refers to the waste associated with high volume production in the automobile industry (Womack, 1990), but according to Hines et al. (2004) Lean and Muda have developed significantly and been applied in a range of environments. The core component of the Lean approach is that value in any organization is the result of a process known as a value stream (Womack, 2005) and Muda aims to identify every step in such a value stream and remove the associated waste. This research suggests that eliminating waste in the process of researching and managing practical aspects of school safety can have significant impacts on the current financial and bureaucratic processes associated with school safety.

Muda refers to unevenness in the value stream (Manuele, 2007) and in terms of a Lean approach to the research and management of school safety, corresponds to the unevenness associated with the differences between research theory and practice and research generalizations versus the requirement for localized and specific research applications.

In Lean thinking, Muri refers to strain (Radnor et al., 2012), and in this paper, the key aspect of organizational strain relates to cultural issues when researching school safety. Cultural issues can either be national (for example, in terms of cultural aspects related to Thailand) or local, in terms of an individual school's culture.

In reality, Muda, Muri and Mura are interrelated and affect every part of the research process and every aspect of managing school safety. This paper argues that the three Lean thinking concepts of Muda, Mura and Muri can be applied in a holistic way to school safety research and to its practical application and implementation. This assumption is tested through a case study at a private school in

northern Thailand. Before discussing the case study, there is a need to detail the state of school safety research and how Lean thinking could be applied to such investigations.

School safety research

In promoting school safety, research focus should be on ensuring physical wellbeing, environmental hygiene and road safety (Leger, 2006). If these three factors of safety are fulfilled, schools might be judged as providing a safe environment (CPRC, 2007). In recent years, school safety has been brought sharply into focus, and incidents occurring worldwide have affected the safety of students at school.

Literature shows school safety is a significant global issue, and in response to this, a well-developed health and safety culture has emerged in many countries (Health and Safety Commission, 1993). Despite this, while child safety is of concern in Thailand, no formal framework exists and there is a dearth of research dealing with safety in schools. School safety therefore represents a significant emerging issue in Thailand. A survey involving five schools in Bangkok reported that 90% of parents see child safety as a critical issue (CSIP, 2007) and school safety can be considered integral to efforts to improve school quality (e.g. Furlong & Morrison, 1994; Verdugo & Schneider, 1999). As well as the safety issues per se, schools must also consider the potential loss of parental satisfaction and trust associated with ineffective safety, which can be difficult to regain if lost. For private schools, this may result in lower numbers of students, and ultimately could affect financial sustainability. This is corroborated by research illustrating that school safety varies considerably among different school types (Laflamme & Menekel, 2000).

To avoid problems caused by child safety, school administrators often use a safety suggestion system to elicit suggestions from stakeholders for the purposes of improving school safety and parental trust. As a result school administrators are able to identify issues and find appropriate solutions. Collecting suggestions from parents allows schools to address their concerns and action their suggestions; however tackling school safety also has significant practical limitations. Some suggestions are expensive in terms of the time and effort required for implementation, and when analyzing and responding to safety suggestions, key school stakeholders must be involved (teachers, staff and parents). Addressing child safety can also be a costly endeavor; data drawn from various sources showed the estimated cost of child safety in the US was \$103.8 billion in 2007 (Wang & Holton, 2007). In addition, due to the frequent incompatibility of research theory and practice, money, time and effort may have no impact in terms of solving the problem of school safety.

Lean thinking and reconfiguring organizational processes

Lean thinking is a methodology and philosophy originating in the Japanese car manufacturing industry, which provides a focused approach for continuous improvement. The concept of Lean manufacturing was first recognized in 1990 through studies of Toyota's car manufacturing plants (Womack & Jones, 1990). More recently, the term 'Lean thinking' has been recognized to signify a shift in the application of Lean, from solely manufacturing, to a more general philosophy, which can be applied to improve the service and quality of any organizational process. Lean thinking is, in essence, a process reengineering methodology (Radnor, 2010). In considering Lean for process reconfiguration, research found the American health care system facing poorly coordinated research, bureaucratic processes and unacceptable waste (Dart, 2011), with Lean thinking applied to this area to reduce waste and increase efficiency. The application of Lean thinking to health care research and systems is a common theme in the literature (e.g. Chalice, 2007), with enhanced patient care and decreased costs being regular tenets of such research. The primary philosophy of

Lean involves eliminating waste and unnecessary actions, and linking all steps that create value (Womack & Jones, 1996). Lean thinking utilization in health care research and practice, and the general aims of eliminating waste and improving customer satisfaction, suggest that Lean thinking is well suited for application to safety in schools. The next section describes the application of a Lean approach to school safety research management via a case study in northern Thailand.

CASE STUDY AND METHODS

Case Study

A case study was utilized to test the application of Lean research to school safety and was based in a private school in northern Thailand. The school runs kindergarten and primary level education programs, with 1,260 students on roll (410 kindergarten and 850 primary students), and 97 teachers and staff. The school is well known among parents in its catchment area, which is a small city located in northern Thailand. The school has been operational for 25 years, and aside from a high quality education, parents expect their children to be safe at school. When choosing a private school, parents visit to explore, search for information about educational management and pay considerable attention to safety (Trump, 2012). The school selection process within the private education sector thus provides an additional financial impetus to ensure safety.

Method

The research presented in this paper is currently work-in-progress, and at a conceptual rather than completed stage. There are four methodological steps in applying a Lean approach to school safety, as shown in Figure 3. This paper outlines the first three steps, with the fourth step being the domain of future work.

Each research step was associated with the five key principles of Lean, as identified by Womack and Jones (1996). These five key theoretical principles were split into key practical steps, as exemplified by the healthcare literature (e.g. Radnor et al., 2012). The steps were as follows:

- Identification and Assessment: Identifying the value of safety derived by customers (the students).
- Assessment: Identifying existing waste and inefficiency.
- Improvement: Designing a framework to challenge waste, standardize according to best practice, innovate and focus to banish waste and inefficiency.
- Monitoring (future work) : Measure and analyze performance to check the system and continuously improve it.

Figure 3 outlines practical implementation of these steps, which are also explained in detail below.

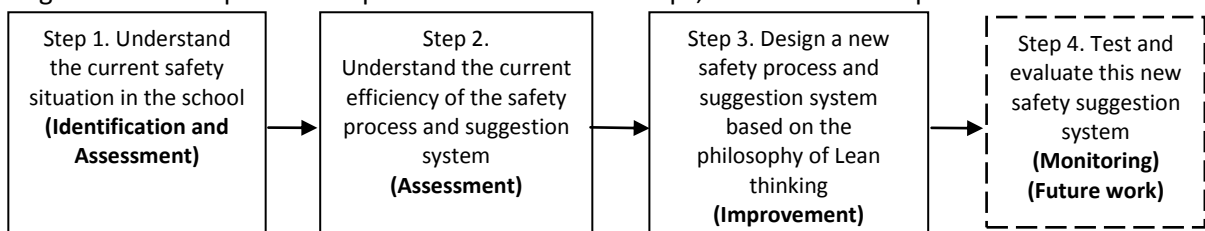


Figure 3. Key Steps to apply a Lean thinking approach to school safety research and management.

Step 1: In terms of Lean thinking, this step aimed to research and identify the value of safety as derived by customers (students), and to assess the current inefficiency and waste in the process of managing school safety. The current safety situation was assessed by investigating the number of accidents or injuries occurring in the school. In this research, the meaning of safety is split into the three aspects of physical wellbeing, environmental hygiene and road safety. Data were collected from the school's accident record over three semesters (2nd semester 2010, 1st semester 2011 and 2nd semester 2011). The objective of collecting such data was to understand the current status of safety in order to gain insight into the significance of safety at the school, and to provide a benchmark against which a future Lean implementation could be measured in terms of its effectiveness.

Step 2: The main objective of this step was to assess and understand the waste and inefficiencies related to the current suggestion system for school safety. In the case study school, the safety suggestion system is considered the primary mechanism for managing and improving safety and was thus the initial focus for Lean implementation. This step gathered data using records over the same three semesters defined in step 1. For a practical implementation of Lean thinking and integration within the school suggestion system, there was a need to understand current costs, waste and inefficiencies. A crucial part of the data collection at this stage was also interviews with staff and teachers. This was to better understand current processes and associated waste.

Step 3: Improvement to the management of school safety required the design of a new safety suggestion system based on Lean thinking principles. This in turn required a review of appropriate literature, and an assessment of Lean thinking to understand how the current situation of child safety in the school and the suggestion system itself could be improved. Lean principles aim to eliminate waste, minimize inventory, maximize flow, pull production from customer demand, achieve customer requirements, do things right the first time, empower workers, design for rapid changeover, team-up with suppliers, and create a culture of continuous improvement (Womack & Jones, 1990). In transposing these principles to school safety, the main goal becomes eliminating waste, and in this preliminary research, Lean is applied to filter the safety suggestions solicited from different stakeholders at the school. The three key principles of Muda, Muri and Mura (described in section 3.4) are therefore integrated into a proposed Lean framework to improve the safety suggestion system in the school.

RESULTS AND DISCUSSION

The results of the application of Lean thinking to school safety research and management are presented according to the structure of the method, along with the corresponding Lean principles.

Current safety situation (Lean principle: Identification and Assessment)

In the 2nd semester 2010, there were 22 cases relating to physical wellbeing, 8 cases of environmental hygiene and zero cases of road safety. In the 1st semester 2011, there were 40 cases related to physical wellbeing, 2 cases of environmental hygiene and zero cases of road safety. In the 2nd semester 2011, there were 19 cases of physical wellbeing, 6 cases of environmental hygiene and also zero cases of road safety. Over three semesters, a total of 97 incidents occurred. Given the number of students on roll and total accidents, the overall accident rate was 7.6 %.

Effectiveness of the current safety suggestion system (Lean principle: Assessment)

Parents and staff currently send their safety suggestions via the channels provided, which are face to face, telephone, e-mail, letters and social networking (Facebook). The current suggestion system and its success rate for the three semesters is outlined in Table 1.

Table 1. *Safety related suggestions and success rate over three semesters*

Source of Suggestions	Channels	Total suggestions	Successful suggestions	Success rate (%)
Parents (974)	Face-to-Face	277	94	34
	Telephone	331	94	28
	E-mail	148	54	36
	Letter	57	17	30
	Facebook	161	64	40
Teachers/ Staff (903)	Meeting	351	104	30
	Web-blog	178	66	37
	Telephone	114	49	43
	E-mail	94	22	23
	Letter	24	2	8
	Facebook	83	30	36
	Suggestion cards	59	20	34

The average success rate for all channels over the three semesters is 31.5 %. This is relatively low, and indicates that the majority of safety related suggestions are not successful and underlines the current inefficiency and barriers to implementing successful safety measures at the school. More importantly, it highlights inefficiency in terms of processing the large numbers of suggestions elicited from different channels and sources.

Proposed framework using Lean concepts (Lean principle: Improvement)

The proposed Lean framework is based around the three principles of Muda, Muri and Mura. Figure 3 illustrates the proposed framework. Muda refers to waste and is thus the central principle of Lean (Weigel, 2000). Muda has applied to school safety, should eliminate wasteful activities, and more specifically eliminate waste in the safety suggestion system by cutting down the number of suggestions, which have no impact on safety. This will be achieved through the application of Mura, a Lean concept associated with unevenness (Weigel, 2000). Reducing unevenness means standardizing, and making processes efficient. In the framework applied to school safety, Mura will aim to standardize the process of eliciting safety suggestions as well as the efficiency and methods of sorting useful safety suggestions from those with no apparent safety benefits. Lastly, the framework considers Muri, the third component of Lean thinking and associated with excessive strain. As related to school safety, Muri is applied to distinguish feasible suggestions from those, which are not feasible based on difficulty of implementation in terms of the effect on workload (Ehab and Salim, 2010).

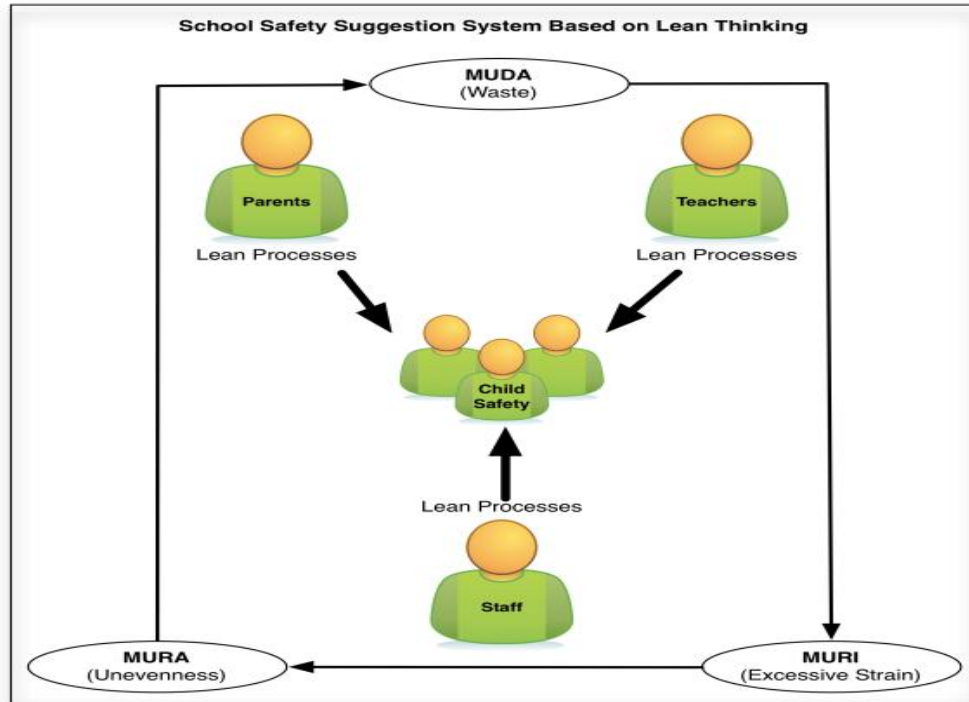


Figure 4. Proposed framework for lean school safety suggestion management.

To implement the theoretical framework presented in figure 2, a team or committee should be identified. Then, rules and regulations should be established. Next everyone in the organization must be informed of the lean suggestion system (liker, 2004; Demers, 2002) and how it should be implemented. The system should then be set up to gather and record ideas. The committee will then analyze all the gathered suggestions according to lean principles.

LIMITATIONS AND FUTURE WORK

There are several limitations in the concept of applying Lean thinking to school safety research and management. Firstly, while applying a philosophy originating in the car manufacturing industry to a school environment may seem misguided or inappropriate, the auto industry has been, and still is, fundamental not just to how manufacturers create things, but the way organizations and society operate in terms of living, working, and thinking (Womack & Jones, 1990). Adapting and transposing Lean thinking to a school safety environment is challenging, as is the genesis and implementation of the Lean research framework. However, initial results and further development of the approach suggest school safety is an area which could benefit considerably from a Lean thinking approach, particularly in Thailand where little government guidance exists on safety in schools, and particularly in the private education sector, where safety can also affect the financial health of the school. The research presented so far is mainly conceptual, with future research to implement, test and evaluate a lean approach to safety in schools.

CONCLUSION

This study has presented preliminary research and highlighted potential for Lean thinking to be applied to school safety research and management. The research initially aimed to understand the

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current safety situation of a school chosen as a case study, followed by understanding the current efficiency of the school's safety suggestion system and finally proposed a new safety framework based on the Lean thinking principles of Muda, Mura and Muri. Data was collected through a school's accident books and records of suggestions over three semesters together with staff and teacher interviews. Results showed incidents affecting child safety in the school, but more importantly, revealed safety suggestions offered by parents were inefficient according to the success rate and interviews. Future work should focus on moving from conceptual research to practical implementation of the Lean safety suggestion management system and subsequent monitoring of the proposed framework to continuously improve safety suggestions and ultimately enhance child safety in schools.

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The Use of Table Ideas, Facts, Learning Issues and Action Plan (IFLA) Focusing on Entrepreneurship in Learning Basic Chemistry

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ABSTRACT

The purpose of this research is to find out how to use of the IFLA table in learning chemistry and to find out whether or not there is improvement in interpersonal relationships which constitutes one of the aspects of generic entrepreneurial competencies. The research method is mixed: quantitative – qualitative research. The mixed method design type is Concurrent Triangulation QUAN + QUAL. The subjects of this research are 38 student teachers. The research instruments used to answer the question on how to use the IFLA table in learning chemistry are documentation, observation, interview and questioner. The instrument used to investigate interpersonal relationships improvement is a rubric. The rubric is used for self-assessment and peer assessment. Based on the analysis of the data and discussion, the conclusion of this research is as follows: 1).The use of the IFLA table in the Authentic Problem Based Learning (APBL) is according to scientific method. The scientific method constitutes a process to understand science including chemistry. The knowledge and understanding of the subject of the research methodology helps the students participate in learning chemistry using IFLA table. The IFLA table is used to decide the product that sells well in accordance with the need of the consumers. 2).The APBL may improve of interpersonal relationships which constitutes one of the aspects of generic entrepreneurial competencies.

Keywords: IFLA table, APBL, interpersonal relationships, generic entrepreneurial competencies.

INTRODUCTION

Today high learning institutions in Indonesia are using competence based curriculum which constitutes the change from content based curriculum. This competence based curriculum is based on the competence which must be achieved by a graduate of a high learning institution which fits for the competence required by society (Kepmendiknas No 232/U/2000 and No 045/U/2002).

The change of the curriculum in Indonesia is often only focused on the amendments of documents, but its implementation, learning atmosphere, and learning assessment are often unchanged, so that it may be said that the change of the curriculum is only at the level of a concept or to change the

document only (Direktorat Jenderal Pendidikan Tinggi, Jakarta 2008). This matter is supported by the results of the monitoring conducted by the Directorate of Academic Higher Education in respect of the implementation of the competence based curriculum year 2007, it appears that only 60% training participants who apply the training results with various levels. As a matter of fact the socialization of the competence based curriculum to the higher learning institution was carried out in 2005, 2006 and continued by training for trainers until 2008. As many as around 800 lecturers of representative from 372 higher learning institutions have participated in the training which is expected to be able to disseminate and use the knowledge of the competence based curriculum in their higher learning institutions (Direktorat Jenderal Pendidikan Tinggi, Jakarta 2008).

The pattern of learning focused on lecturers as has been practiced at this time is not so adequate to achieve the purpose and objective of the competence based education. The learning appropriate to the competence based curriculum is the learning focusing on students. A lecturer is only as a facilitator and motivator by providing several learning strategies which enable the students together with the lecturer to choose, find and compile knowledge and method of developing their skill by using the method of inquiry and discovery (Kepmendiknas no. 232/U/2000 and 045/U/2002).

Based on interviews with several lecturers who teach science, biology and chemistry in one of the higher learning institution in Indonesia, it is found that they have never heard and applied Authentic Problem Based-Learning (APBL) in the learning. While on the contrary the APBL constitutes one of the learning which uses the method of inquiry. Apart from the aforesaid matters, when applying the competence based curriculum it is expected that the higher learning institution will also develop a generic skill for the students. Generic skill is the skill to survive and work (Kearns in Yeung et al, 2007). To define a generic skill to be developed, a higher learning institution had better observe the condition in Indonesia. At this time Indonesia still has problems related to unemployment. The elementary school graduates who work are as much as forty nine point fifty three percent (49.53%) but only four point ninety eight percent (4.98) graduates of bachelor degree who are employed (BPS 2011). As a matter of fact, the skill and capability of thought owned by graduates of bachelor degree are expected to be able to see the opportunity to create work opportunity. Therefore the competency of Indonesian education should be added that the bachelor degree graduates have capability for entrepreneurship. Therefore the generic skill required by Indonesia is generic entrepreneurial competencies. There are three (3) dimensions of generic entrepreneurial competencies, namely basic competencies, systemic competency and interpersonal competencies (NCERT, 2005)

Based on the aforesaid thought, a higher learning institution in Indonesia is expected to be able to design and implement the learning fits to the competence based curriculum which may also improve the general entrepreneurial competence. The learning specified in this research is APBL. One of the tools used in APBL is IFLA table (Ideas, Facts, Learning Issues and Action Plan). Therefore, the purpose and objective of this research is to find out how to use the IFLA table in learning Chemistry and to find out whether or not there is improvement in interpersonal relationships which constitutes one of the aspects of general entrepreneurial competencies.

METHODOLOGY

The research method is mixed methods research quantitative – qualitative research. The mixed methods design type is Concurrent Triangulation QUAN + QUAL. Qualitative research design is descriptive case study; quantitative research design is one class pre post design. The subjects of this research are 38 student teachers.

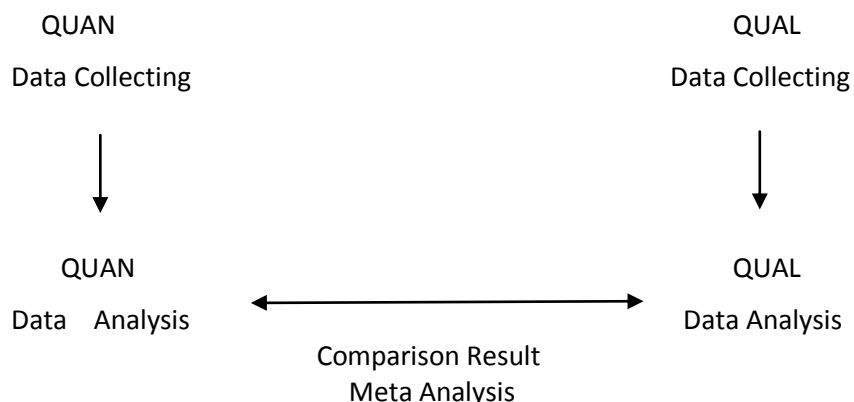


Figure 1: Research methodology

The research instrument used to answer the question on how to use of the IFLA table in learning chemistry is documentation, observation, interview and questioner. Documentation used are IFLA table, activity report. The observation is conducted at the time of the learning is taking place by means of three (3) stages of observations, namely: description, reduction and selection. The interview used is semi structure interview, in which the party invited for the interview is asked to ask its opinion and ideas. Questioner used is Likert scale. The research instrument used to investigate interpersonal relationships improvement is a rubric. The rubric is used for self assessment and peer assessment.

DATA ANALYSES AND DISCUSSIONS

The use of IFLA table at APBL

This activity is conducted in group. There are nine (9) groups, each group consists of 4 – 5 people. The member of each group is heterogeneous based on capability of the student in previous chemistry learning, namely the mark of the subject of basic chemistry 1. The way of classifying the students into the group of high, medium and low capability as follows:

-High group is the students who have greater marks or the same as average marks to be added by one standard deviation, medium group is the students who have marks between average marks to be added by one standard deviation with average marks to be deducted by standard deviation, while the low group is the students who have smaller marks or the same as the average marks to be deducted by one deviation standard.

The APBL used in this research refers to the theory of Neo, Lynda and Meger (2002). Based on document analysis it is found that the stages in the filling in the IFLA table follow the stages of a scientific method. Scientific method steps are

- Scientific Method Step 1: Ask a Question
- Scientific Method Step 2: Make Observations and Conduct Background Research
- Scientific Method Step 3: Propose a Hypothesis
- Scientific Method Step 4: Design an Experiment to Test the Hypothesis

- Scientific Method Step 5: Test the Hypothesis
- Scientific Method Step 6: Accept or Reject the Hypothesis
- Revise a Rejected Hypothesis (return to step 3) or Draw Conclusion

This matter is supported by interview results with several students who declare that the activities worked out at this learning are similar to the method to make a research. At the previous semester the students already studied on Research Methodology, in which one of the assignments of this subject is to conduct a simple research by using a method of Class Room Action Research. With the experience to conduct the research the students apply it when filling in the IFLA table.

The relationships of the stages of the APBL, with the scientific method it may be seen at the following table:

Table 1. *APBL stages and scientific method step*

APBL Stages	Learning Activity	Scientific Method Step
Introduction	<p>The students listen to the explanations on the purpose and objective of generic skill learning which must be owned in the learning of basic chemistry 2. The purpose and objective of basic chemistry 2 is in order that the students have awareness on applied science which is useful to the public, and understand concept, principle, law, and chemical theory and inter-related in daily life.</p> <p>This course will develop generic entrepreneurial competencies consisting basic competencies, systemic competencies and interpersonal competencies. The basic competencies relate to the personal attributes necessary for undertaking any task, including sensitivity, sense of aesthetics, critical thinking, creativity, motivation for work. The systemic competencies relate to the overall capacity for working in changing contexts, including the ability to develop a holistic perspective, to take initiative. The interpersonal competencies relate to social aspects of work, including social skills, communication skills, the capacity to understand and accommodate other' point of view.</p> <p>The students listen to the APBL learning process. The students in group decide the product which sells best related to the concept of stoichiometry, balance, speed of reaction, pH, and thermodynamics.</p>	
Undertaking the problem	Students establish their learning objectives based on what they would like to learn from the problem. This provides focus to their learning	
Presenting the problem	<p>Students generate possible ideas using the APBL, table below</p> <p>Students carry out inquiry based on the facts of the problem</p>	Scientific Method Step 1: Ask a Question
Client interface or simulated	<p>Students introduce themselves to the client</p> <p>Students set term of references (objectives) for the meeting</p> <p>Students ask questions to clarify the problem</p>	Scientific Method Step 2: Make

client	Student take notes of client's presentation and answer	Observations and Conduct Background Research
Clarifying the Problem	Students revise possible ideas after meeting client or simulated clients or obtaining new information. They refine their ideas by deleting previous hypotheses and/or adding new ones Students synthesize and re synthesize the expanded facts obtained from inquiry Students determine their learning issues Students assign tasks among the group	Scientific Method Step 3: Propose a Hypothesis
Problem Identification	Students summarize the problem (recap) Students examine what they have shared in light of the key issues of the problem	
Commitment	Students make commitment as to the most probable cause of the problem	
Self Directed Learning	Students formulate an action plan to address their knowledge gap Students discuss their fact finding strategy and possible information sources that they will be seeking Student agree on the next date to meet again Student proceed to find the information and make handouts or copies of notes for their members	Scientific Method Step 4: Design an Experiment to Test the Hypothesis
Diagnostic Discussion	Students report on the resources that they used and explain any deviation from planned resources Students critique their planned and actual resources Students summarize the problem (re gap) Students apply new information/knowledge to the problem Students share appropriate hand-outs Students revise and/or generate new possible ideas in the light of new knowledge Students identify new learning issues if necessary /needed Students assign roles and tasks in the action plan to discover new developments	Scientific Method Step 5: Test the Hypothesis
Self Directed Learning (optional)	Students repeat self directed learning outlined in 5 Students are to complete the information needed to reach a decision	Revise a Rejected Hypothesis (return to step 3) or Draw Conclusion
Decision	Students summarize the problem Students determine the decision to be taken/outcome	
Production	Students write or produce a plan and/or tactical materials	
Presentation	Students make their presentation to the client and tutor in a professional environment and exhibit appropriate professional etiquette	
Tutor and Client		
Student	The client gives immediate feedback to students after presentation	
Concept Map/mind map/picture	Students draw concept map/mind map to articulate their understanding and linkages of concepts learnt from the problem	Scientific Method Step 6: Accept or

Self, peer and tutor assessment	<p>Students conduct self assessment by appraising their contribution to the group on the following:</p> <ul style="list-style-type: none"> - New knowledge applied - Problem solving skills - Team skills - Self directed learning skills <p>Students also receive feedback from the other group members and tutor on the following:</p> <ul style="list-style-type: none"> - New knowledge applied - Problem solving skills - Team skills - Self directed learning skills 	Reject the Hypothesis
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IFLA table is used at the stage of presenting the problem, clarifying the problems, and diagnostic discussion. At the stage of the presenting the problem, for column I (ideas), students list all possible ideas that are brainstormed on the causes of the problem. For column F (facts), students synthesize the information obtained from the problem; state the given facts to support the possible ideas. For column L (learning issues), students list what they need to learn to understand and solve the problem. For column A (action plan), student list things that they need to complete and do to solve the problem (such as meeting up with client for a client briefing, survey, etc). At the stage of presenting the problem, each group fills in IFLA table. Each student writes out a preliminary idea on handmade product that sells well based on the facts in the field.

IFLA table filling results at the stage of presenting the problem carried out by one of the group are as follows.

Table 2. *IFLA table at the stage of presenting the problem carried*

Ideas	Facts	Learning Issues	Action Plan
Greeting card from photographic paper	A lot of trashes in the form of photographic paper lie ahead, therefore it is necessary to think out the way of reprocessing of these trashes or garbage in order that they will be useful for daily life. This photographic paper will be reprocessed to be turned into decoration and greeting cards.	The chemical used is alcohol. For that purpose it is necessary to find out about the content of the alcohol and chemical reaction that happens at the time of the loss of the photographic ink.	The instruments used are cotton bud and scissors. The materials used are photographic paper, alcohol, cotton bud, scissors, cotton and coloring matter.
Facial mask of fruits	Pollution in Indonesia is quite high, so that our face may look dull and dirty. The mask may function to open clogged pores owing to dirt of dust, as well as remaining cosmetics. Fruits in general have the nature	The fruits which may be used to make a natural mask are avocado, strawberry, lemon and grape. To make a mask for the face from fruits, yoghurt is also required. Therefore it is necessary to learn about the	The materials used are fruit, yoghurt and water. Working procedure :The fruit is refined by a pounder then it is mixed with yoghurt and water. Then it is rubbed on

	of coldness and gives freshness. Apart from the above, the fruits are very easily available.	content of the chemicals available in the fruits which cause freshness for the skin of the face and content available in the yoghurt.	the face.
Aroma therapy wax	In general the remaining wax is usually disposed away. As a matter of fact the wax may be reprocessed to turn it into a wax of which the form is more attractive and has a therapeutic aroma so that it has a higher economic value.	The wax in a solid form may become liquid when it is heated. It is necessary to learn about the temperature at the time when the extracts of the fruits or flowers are mixed to the wax liquid that has melted.	The materials used are the remaining wax, flower or fruit extracts. The instruments used are Bunsen burner and wax mold. Working procedure: the wax is liquefied, put the extracts of flowers or fruits. Then the wax is remold. Based on the inquiry from the clients, the product to be made is aroma therapy wax.

Based on the processing of the idea data, handmade product made is divided into three (3) criteria, namely decoration, food, and daily equipment. From nine (9) groups which consist of 38 students there are 73 preliminary ideas dividing into 11 ideas on decoration, 26 ideas on food and 36 ideas on daily equipment.

Table 3. *The product criteria*

Group	Number of students	Preliminary ideas	Criteria		
			Decoration	Food	Daily equipment
1	5	13	1	6	6
2	4	6	3	-	3
3	4	7	-	2	5
4	4	9	-	5	4
5	4	5	-	1	4
6	5	13	3	4	6
7	4	9	2	4	3
8	4	5	-	1	4
9	4	6	2	3	1

At the stage of the clarifying the problem, for column I (ideas), focus or expansion of ideas. For column F (facts), synthesis or resynthesize of information. For column L (learning issues), reviewing and refining learning issues. For column A (action plan), refining things needed to be done and formulating an action plan.

At the stage of clarifying the problem, the student meets up the client to seek product which is the most suitable to the client. The students improve preliminary idea with the method of adding, eliminating or revising preliminary ideas.

IFLA table filling results at the stage of clarifying the problem carried out by one of the group are as follows.

Table 4. *IFLA table at the stage of clarifying the problem*

Ideas	Facts	Learning Issues	Action Plan
Based on the questioner from the clients, the product to be made is aroma therapy wax.			
To seek theory about aroma therapy wax.	The theory related to the aroma therapy wax is as follows: 1.)Wax belongs to fatty acid ester with saturated straight and long chain alcohol; 2).Having a boiling point between 47 ⁰ C and 64 ⁰ C, insoluble in water; 3).Consisting of four components, namely paraffin, wick, aroma and coloring matter; 4).Odorless, so that it needs aroma therapy; 5).Wax wick is made of mattress cord, fiber, woven or knitted product; 6)Aroma therapy green tea is used to keep up spirit, to cool down and refresh mind, lavender for helping the establishment of body and mind balance, helping to overcome insomnia, peppermint for refreshing and arousing atmosphere and reducing tension.	Findings of constrains: 1). Limited stock of wax molds, wick upright instrument; 2). Central part of wax tends to create holes so that the middle part thereof is lower than its edge.	To discuss again and repeat the process of making aroma therapy wax.
To make a survey regarding prices of raw material	Perfume may not be purchased in a small amount of quantity. so that only two (2) types of aroma therapy that may be made.		
To prepare a mind map	The mind map may integrate a concept of chemistry and entrepreneurship.		

Based on the data obtained the students re-synthesize the fact and decide the product to be made in the group. Then the student divides the task in the group. The student uses a questioner and interview to obtain data from the client. From nine (9) groups, 6 groups use a questioner, 1 group uses an interview and 2 group use a combination of instrument namely questioner and interview.

Table 5. *Questioner and Interview Number*

Group	Numbers of students for each instruments		Total Respondent
	Questioner	Interview	
1	15	4	19
2	13	-	13
3	29	-	29

4	13	-	13
5	10	6	16
6	-	20	20
7	19	-	19
8	10	-	10
9	15	-	15

At the stage of the diagnostic discussion, for column I (ideas), further revise ideas. For column F (facts), apply new knowledge gained and resynthesize. For column L (learning issues), identify new ones (if necessary). For column A (action plan), look again at action plan, revise decisions.

At the stage of diagnostic discussion, the student reports on resources used and explains the deviation of the resources planned. They criticize their planning and resources. Then they sum up the problems, applying new information and/or knowledge for the problem, distributing hand out, revising and preparing ideas that may be new, planning activity for a new development. The student prepares a sample of the product, then again seeking data of the client and writing out superiority and shortcoming of the product made, improving and finally making the product as expected by the client.

IFLA table filling results at the stage of diagnostic discussion carried out by one of the group are as follows.

Table 6. *IFLA table at the stage of diagnostic discussion*

Ideas	Facts	Learning Issues	Action Plan
To conduct an interview with clients in order to seek after opinions on the product of aroma therapy that has been yielded or produced			
The results of the interview that are obtained: 1).The aroma therapy wax is so fine, which is different from it used to be, as its aroma therapy gives its feeling effect; 2)This wax has a high selling power due to its fairly economic price; 3). The position of the wax wick deserves attention so that it may become more perfect; 4).The base of the wax should be neat and orderly in shape.	1). Wick is fixed at the time when the wax starts to harden and selects a rigid wick; 2).Apart from using oil, the material of the mold should be improved and replaced by using an aluminum foil.	None	To decorate the wax and provide its label appropriately

The product criteria produced by the 9 groups is food and daily equipment. There are seven (7) groups that prepare food product and two (2) groups make daily equipment product.

The students made id fibered milk peppermint, plastic bag, flow thru ginger – glove - bag, aromatherapy candle, yoghurt pudding, spinach and papaya chips, green jelly, banana peel, rice chips, magic jell, banana chips.

Further analysis results find that there is one (1) group which uses two instruments, namely an inquiry and interview when collecting the data. Further the students say that actually they will use one other instrument, namely observation sheet at supermarket. But owing to limited period of time, this activity fails to be continued and implemented. The reasons of the students to use three

instruments are that they may relate their knowledge regarding triangulation instrument in order to obtain valid data.

Interpersonal Relationships

The instrument used to find out whether there is an interpersonal increase or not is a rubric. The rubric is used for self-assessment and peer assessment consisting of three (3) criteria by using five (5) assessment scales.

The interpersonal relationships criteria are: (1) Gathering & Understanding Basic Knowledge: Using basic interpersonal skills such as listening, doing one's part in a team or group effort, and encouraging others (2). Information Analysis & Processing: Employing relatively sophisticated relationships and interpersonal skills to probe for understanding in others and to promote more meaningful human relationships among other people (3). Higher-Order Thinking & Reasoning: using an in depth understanding of human relationships and group-process dynamics to build group consensus, manage conflict, and develop profound levels of human caring and sensitivity (Lazear, 2004).

The following are interpersonal relationships assessment scale: (1). Inquiry and questioning: Asking questions that tap information recall but go beyond the fact to probe for genuine understanding, creative thinking, and real-life applications of the information. (2). Team Building: Tapping the full range of collaborative skills involved in any serious group effort or cooperative learning situation, ranging from simply doing the tasks or jobs assigned in a group to taking full responsibility for the success of the team as a whole and of each member of it. (3). Listening to Others: Not only deeply listening to and understanding another person's message, including being able to repeat what the person said in a way that honors the meaning and implications of the communication, but also being able to interpret the message to another person. (4). Giving feedback: Giving another person accurate and meaningful feedback based on a genuine understanding of the kind of feedback that will help the person. This ability also involves helping another person understand and apply the feedback. 5). Empathetic Processing: Stepping inside another person's perspective, so to speak, in order to understand his or her thoughts, feelings, motivations, behaviors, or moods. Doing so does not necessarily imply agreement with that person, but it does imply an understanding and appreciation of where he or she is coming from (Lazear, 2004)

The data analysis technique used is descriptive statistics and inferential statistics. The minimum, maximum score average score and gain normalization of pretest and posttest can be seen in the following table. The maximum grade obtainable is fifteen (15).

Table 7. *The Minimum, Maximum, Average Scores of Pretest, Posttest and Gain Normalization*

Assesment	Test	Minimum Score	Maximum Score	Average	N-Gain
Self assessment	Pretest	7	15	12.38	0.50
	Posttest	7	15	13.61	
Peer assessment	Pretest	9	15	11.97	0.25
	Posttest	9	15	13.24	

Average grade of self assessment at the pretest is twelve point thirty eight (12.38), at the posttest is thirteen point sixty one (13.61). Average grade of peer assessment at the pretest is eleven point ninety seven (11.97), at the posttest is thirteen point twenty four (13.24) Gain normalization for self assessment is zero point fifty (0.50) including category of medium, while for the assessment of friends is zero point twenty five (0.25) including category of low.

Further it is analyzed by using inferential statistics to find out whether there is interpersonal significant difference before and after it has treatment, both from self assessment as well as assessment from friends. Based on data processing of the self assessment by using Wilcoxon it obtains a grade of $p=0.000$ at a significant level of zero point zero five (0.05), meaning there is a significant difference between interpersonal relationships before and after the learning, likewise the data processing of friends' assessment by using Wilcoxon it obtains the grade of $p=0.000$ at a level of significance 0.05, meaning there is a significant difference of interpersonal relationships before and after the learning.

The supporting data used to find out the competency of interpersonal relationships is by questioners. There are fifty six percent (56%) of students who choose to agree to the point of the 8th questioner which means they do not encounter any difficulty when they interact with their group friends. The environment of the students highly supports to interact with their friends because they stay in one boarding house existing in the environment of the campus for approximately three and a half (3.5) years. There are fifty three percent (53%) students who choose to agree to the point of the 9th questioner which means that they do not encounter any difficulty when they interact with the clients. The activities in the campus highly supports to interact with the clients, because each time there are activities at the University, the students are always involved in the committee affairs so that they have opportunity to interact with the community in the environment of the campus.

CONCLUSION

Based on the analysis of the data and discussion, the conclusion of this research is as follows:

1. The use of the IFLA table in the APBL is according to scientific method. The scientific method constitutes a process to understand science including chemistry. The knowledge and understanding of the subject of the research methodology helps the student to follow the learning of the chemistry that uses IFLA table. The IFLA table is used to decide the product that sells well in accordance with the need of the consumers.
2. The APBL may improve interpersonal relationships which constitutes one of the aspects of generic entrepreneurial competencies.

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The Effectiveness of Constructivist Approach–Based Experiments in Teaching Selected Physics Concepts

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ABSTRACT

The study developed constructivist approach experiments to determine its effectiveness in teaching physics concepts. The quasi-experiment following a non-equivalent control group design was used. Two sections of 2nd year BSIT students of Isabela State University Cauayn City Campus were involved. The study administered pre-test and post-test. The scores in the achievement test and standardized attitude inventory test were compared and the significance of their difference was determined using the t-test. The control group and the experimental group were equal in terms of cognitive level in Physics. However, the students exposed to the constructivist approach of laboratory teaching had significantly higher post-test scores and higher mean gain scores than the students exposed to the traditional approach after the study was conducted. The experimental group developed a more positive attitude towards Physics than the control group. Moreover, there was a significant difference between the post achievement scores and post attitude scores of the students exposed to constructivist approach-based experiments and traditional experiments. The Constructivist Approach Experiments are effective in enhancing students' achievement and in developing a more positive attitude towards the subject than the traditional approach.

Keywords: Constructivist approach, constructivist approach-based experiment, traditional experiment, attitude towards Physics

INTRODUCTION

Science is recognized widely as being of great importance internationally both for economic well being of nations and because of the need for scientifically literate citizenry (Fraser & Walberg, 1995). Among the basics of science, physics is the most fundamental and all-inclusive of all the sciences. It is one of the subjects that need careful re-examination to determine what improvement could be made to fully develop the students' potentials in the subject. The study of Physics involves the pursuit of truth; hence it inculcates intellectual honesty, diligence, perseverance and observation in the learners (Das, 1985). It's being tagged as a difficult subject is almost a prophetic statement as shown in the performance of the Filipino students in various international assessments. Ganagen (2000) said that no subject in the curriculum today has drawn greater attention than science. But

sad to know that the present state of science education as assessed by renowned scientist both in local and international circles are “discouragingly poor”.

In the different science subject areas, achievements in physics of Filipino students appeared below the international standards (US Department of Education National Center for Education Statistics 2000, International Association for the Evaluation of Educational Achievement 2004). The Philippines ranked third and fourth to the last in the list of nations in the 1999 and 2003 TIMSS respectively. Findings of Philippine-based studies (Orleans, 1994) also present the same conclusion of low student achievement in physics. This poor student achievement has prompted educational researchers worldwide to continuously identify factors that can account for academic outcomes in the classroom. Considering the worth of knowing physics, it becomes a challenge for teachers how they could make physics teaching more attractive to the students.

Student’s misconceptions in science, specifically in physics are just but common and universal in scope. After conducting a review of literature and extensive reading, the researcher found out that one of the approaches or strategies in teaching which take into consideration the misconception of the students is the constructivist approach. According to Novodvorsky, constructivism is a philosophy of learning that covers all classroom activities, thus, it is also applicable in the performance of experiments in the laboratory. Because of this, the researcher was encouraged to develop selected experiments in physics specifically in mechanics based on the constructivist approach for the purpose of identifying and overcoming the student’s misconceptions on some of the most basic concepts in mechanics.

The constructivist approach was utilized in this study. It is the researcher’s desire to test the effectiveness of the constructivist approach-based experiments in teaching and learning selected physics concepts.

Specifically, this study was conducted to:

1. Determine the significant differences between the control group and experimental group in terms of the following:
 - a. pre-achievement scores
 - b. post-achievement scores
 - c. gain scores
 - d. pre-attitude scores towards physics
 - e. post-attitude scores towards physics
2. Determine the significant difference between the achievement and attitude scores towards physics before and after the study of the:
 - a. Experimental group
 - b. Control group

MATERIALS AND METHODS

The researcher used a quasi-experiment following a non equivalent control group design to verify the effectiveness of the constructivist approach-based experiments. It involved the comparison of concept learning in physics between students exposed to constructivist approach-based experiments and those to traditional experiments. The students that were exposed to

constructivist approach-based experiments were designated as experimental group and those students that were exposed to traditional experiments were designated as control group. The students' achievement and attitude scores towards physics before and after the experiments were gathered and measures were employed.

The research was conducted at Isabela State University-Cauayan Campus, San Fermin, Cauayan City, Isabela, Philippines. The respondents of the study were the two sections of the second year BSIT students wherein the researcher was assigned to teach Physics 11.

This research made use of the following data gathering instruments:

- a. The Pre and Post Achievement Test
- b. The Attitude Inventory Test (by Melecio Deauna)
- c. The Traditional Experiments
- d. The Constructivist Approach-Based Experiments

Before the experimental study, the pre-achievement test was administered to the two groups of respondents to find out their preconceptions and misconceptions in mechanics and likewise to measure their achievement level. The Deauna's Attitude Inventory test was also administered to determine the initial attitude level of the students towards physics.

The treatment for the experimental group differs from that of control group in only one aspect. During the period of study, the experimental group was exposed to the constructivist approach of laboratory teaching.

At the end of the study, a post achievement test was again administered to measure the achievement level of the students and the attitude inventory test was administered again to find out their post-attitude towards physics.

A criterion scale was used in analyzing the over-all attitude of the two groups. The t- test was used to determine if there was difference between the experimental and control groups in their:

- a. Pre-achievement scores in physics
- b. Pre-attitude towards physics
- c. Gain Scores
- d. Post-achievement scores in physics
- e. Post-attitude towards physics

RESULTS AND DISCUSSION

The Difference between the Pre- Achievement Scores of Experimental and Control Groups

The pre-achievement test was conducted to find out if both groups of respondents' possess the same cognitive level before the conduct of the study.

Table 1 shows the difference between the pre-achievement scores of the two groups of respondents.

It can be gleaned from the table that the experimental group had a pre-test mean score of 14.65 and a standard deviation of 4.02 while that of the control group had a mean score of 14.13 and a standard deviation of 3.41. The t-ratio of 0.671 has an associated probability of 0.252. This means that the null hypothesis is accepted. Hence, there is no significant difference between the pre-test mean scores of the two groups of respondents. This only means that the two groups of respondents have the same cognitive level before the study was conducted.

Table 1. *The difference between the pre-achievement scores of experimental and control groups*

Group	Mean	SD	df	t-ratio	p
Experimental Group	14.65	4.02	90	0.671 ^{NS}	0.252
Control Group	14.13	3.41			

The Difference Between the Post-Achievement Scores of Experimental and Control Groups

After the study, the effect of constructivist approach and traditional approach in physics laboratory teaching was determined. The actual scores of the two groups were treated.

Table 2 shows the difference in the post-achievement scores of the experimental and control groups.

As shown in the table, the students exposed to constructivist approach-based experiments had a post-test mean score of 28.91 and a standard deviation of 3.60 while the group exposed to traditional experiments had a mean score of 22.52 and a standard deviation of 4.28. The t-ratio of 7.7464 has an associated probability of 6.79×10^{-12} . This means that the null hypothesis is rejected. Hence, there is a significant difference between achievement scores of the two groups after the study.

After the treatment, the two groups of respondents varied statistically in terms of their physics achievement. It also signifies that constructivist approach-based experiments as a tool in teaching laboratory physics did enhance better achievement of students than the traditional experiments.

The higher post-achievement score of the experimental group can be attributed to the fact that the students were highly motivated to play an active part in their acquisition of knowledge giving them an active role in their own learning which made them perform better academically after the study.

Table 2. *The difference between the post-achievement scores of experimental and control groups*

Group	Mean	SD	df	t-ratio	p
Experimental Group	28.91	3.60	90	7.7464 ^S	6.79×10^{-12}
Control Group	22.52	4.28			

The Difference Between the Gain Scores of Experimental and Control Groups

After the administration of the post-achievement test, the gain scores of the two groups were compared.

Table 3 shows the difference in the gain scores between of the experimental and control groups.

The mean gain score of the experimental group was 14.26 and a standard deviation of 5.43 while that of the control group was only 8.39 and a standard deviation of 5.53. The table also reveals that

the t-ratio of 5.13 has an associated probability of 8.1×10^{-7} which means that there is a significant difference between the gain scores of the two groups after the study.

Furthermore, it can be noted that the students exposed to constructivist approach-based experiments gained more in their achievement scores after the conduct of the study. This is due to the approach of instructions in which the students had been exposed to.

The Constructivist approach of teaching laboratory physics using constructivist approach-based experiments resulted to an improved learning in physics which led to a better understanding of physics concepts. This implication can be due to the fact that in the constructivist approach, misconceptions on physical concepts and overcoming them are taken into consideration thus giving more emphasis on most aspects of concept attainment in physics for clearer and better understanding.

Table 3. *The difference between the gain scores of experimental and control groups*

Group	Mean	SD	df	t-ratio	P
Experimental Group	14.26	5.43	90	5.13 ^S	8.1×10^{-7}
Control Group	8.39	5.53			

The Difference Between the Pre-Attitude Scores Towards Physics of the Experimental and Control Groups

Before the experiment, the attitude scores towards physics of the students were determined using the Deauna's Attitude Inventory Test. This was done in order to find out if both groups of students have the same level of attitude towards physics before the conduct of the study.

Table 4 shows the difference between the pre-attitude scores towards physics of the experimental and control groups.

As gleaned from the table, the experimental group had a mean score of 3.459 and a standard deviation of 0.295 which means that they have a neutral attitude towards physics. The control group had a mean score of 3.400 and a standard deviation of 0.281 which also means that they have a neutral attitude towards physics.

The ratio of 0.9456 has a probability of 0.1734 which tells us that the null hypothesis is rejected. There is no significant difference between the pre-attitude mean scores of the two groups. This only means that the initial attitude of the two groups of respondents were the same before the conduct of the study.

Table 4. *The difference between the pre-attitude scores towards physics of the experimental and control groups*

Group	Mean	SD	df	t-ratio	p
Experimental Group	3.459	0.295	90	0.9456 ^{NS}	0.1734
Control Group	3.400	0.281			

The Difference Between the Post-Attitude Scores Towards Physics of the Experimental and Control Groups

The post-attitude scores towards physics of the two groups of respondents were determined after the conduct of the study in order to find out if there was a significant change in the attitude of the students towards physics as a result of constructivist and traditional approach of teaching laboratory physics.

Table 5 shows the difference between the post-attitude scores of the experimental group after being exposed to constructivist approach-based experiments and the control group after being exposed to traditional experiments.

The table reveals that the post-attitude mean score of the experimental group was 3.88 and a standard deviation of 0.339 which means that their attitude towards physics was positive. This only shows that their attitude was changed significantly from the neutral before the conduct of the study to positive after the conduct of the study.

The table also reveals that the post-attitude mean score of the control group was 3.59 and a standard deviation of 0.336 which means that they still have a neutral attitude towards physics after the conduct of the study.

Furthermore, the t-ratio of 4.14 which has a probability of 3.85×10^{-5} means that the null hypothesis is rejected. Hence, there is a significant difference between the post-attitude of the experimental and control groups.

The above discussion implies that constructivist approach-based experiments enhanced the interest and attitude of the students towards physics better than the traditional experiments. The positive response of the experimental group after the study means that the students learned to appreciate and love physics. This can be attributed to the fact that since constructivist approach-based experiments give the students maximum opportunities to apply their own decision, they were more motivated in performing the activities that served to focus and stimulated their attention towards the lesson; hence a positive attitude that favors learning is nurtured.

Table 5. *The difference between the post-attitude scores towards physics of the experimental and control groups*

Group	Mean	SD	df	t-ratio	p
Experimental Group	3.88	0.339	90	4.14 ^s	3.85×10^{-5}
Control Group	3.59	0.336			

The Difference Between the Pre and Post Achievement Scores of the Students Exposed to Constructivist Approach-Based Experiments

The pre and post achievement test were administered in order to determine whether was a significant change on the achievement of the students as a result of using constructivist approach-based experiments as a tool in teaching laboratory physics.

Table 6 shows the difference between the pre and post achievement scores of the experimental group.

Before the conduct of the study, the mean score of the students was 14.65 with a standard deviation of 4.02 which was increased significantly to 28.91 with a standard deviation of 3.60 after the conduct of the study.

The table also reveals that the t-ratio is 17.91 which have a probability of 9.5×10^{-14} which means that the null hypothesis is rejected. Hence, there is a significant difference between the pre and post achievement scores of the students exposed to constructivist approach-based experiments. It also suggest that constructivist approach based experiments as a tool in teaching laboratory physics did enhance achievement. The students performed better as a positive effect of the approach that was employed.

Furthermore, it was also observed that during the conduct of the study, students showed willingness to undertake new tasks, initiative new ideas related to classroom activities, project and adapt easily to changes in procedures.

Table 6. *The difference between the pre and post-achievement scores of the experimental group*

Achievement	Mean	SD	df	t-ratio	P
PRE	14.65	4.02	45	17.91 ^S	9.5×10^{-14}
POST	28.91	3.60			

The Difference Between the Pre and Post Achievement Scores of the Students Exposed to Traditional Experiments

The pre and post achievement test were administered in order to determine whether there was a significant change on the achievement of the students as a result of using traditional experiments as a tool in teaching laboratory physics.

Table 7 shows the difference in the pre and post-achievement scores of the control group.

The table reveals that the students in the control group obtained a pre-test mean score of 14.13 with a standard deviation of 3.41 and a post-test mean score of 22.52 with a standard deviation of 4.28. The t-ratio of 10.395 which has a probability of 2.0×10^{-14} tells us that there is a significant difference between the pre and post achievement scores of the students exposed to traditional experiment.

The result presented in the table implies that there was a significant increase in the mean scores of the students after the conduct of the study. This means that traditional experiments are also capable of improving the student's performance in physics and should not be discarded as one of the approaches employed to be employed in physics laboratory teaching.

In the event of the study, it was observed that students were also participative and enthusiastic in performing the activities which were undertaken in the subject.

Table 7. *The difference between the pre and post-achievement scores towards physics of the control group*

Achievement	Mean	SD	df	t-ratio	P
PRE	14.13	3.41	45	10.395 ^S	2.0×10^{-14}
POST	22.52	4.28			

The Difference Between the Pre and Post Attitude- Scores of the Students Exposed to Constructivist Approach-Based Experiments

The Pre and Post-Attitude Inventory Test were administered in order to determine whether there was a significant change on the attitude of student's towards physics after employing the constructivist approach of laboratory teaching.

Table 8 shows the comparison of the attitudes towards physics of the students exposed to constructivist approach-based experiments before and after the study.

The students in the experimental group had a pre-attitude mean score of 3.46 with a standard deviation of 0.295 and a post-attitude mean score of 3.88 with a standard deviation Of 0.339 and with a t-ratio of 6.47 with an associated probability of 2.49×10^{-9} . Thus, there is a significant difference between the attitude of the experimental group before and after the study.

The table further reveals that the students in the experimental grouped developed a positive attitude after the study.

The increase in the attitude mean scores indicates that the students who were exposed to constructivist approach-based experiments were well-motivated to love, like the subject, appreciate the interesting activities and show interest, eagerness and enthusiasm towards physics.

Table 8. *The difference between the pre and post-attitude scores towards physics of the experimental group*

Attitude	Mean	SD	df	t-ratio	P
PRE	3.46	0.295	45	6.47 ^s	2.49×10^{-9}
POST	3.88	0.339			

The Difference Between the Pre and Post Attitude Scores of the Students Exposed to Traditional Experiments

The Pre and Post-Attitude Inventory Test were administered in order to determine whether there was a significant change on the attitude of students towards physics after employing the traditional approach of laboratory teaching.

Table 9 shows the difference between the pre and post-attitude towards physics of students exposed to traditional experiments.

It can be gleaned from the table that the pre-attitude mean score of the control group was 3.40 with a standard deviation of 0.2812 and after the study the attitude mean score was found out to be 3.59 with a standard deviation of 0.3364. The table further shows that the null hypothesis is rejected. Hence, there is a significant difference between the pre and post attitude mean scores of students exposed to traditional experiments.

Thus, it can be noted that traditional experiments can also enhance the students' attitude towards physics.

Table 9. *The difference between the pre and post-attitude scores towards physics of the control group*

Attitude	Mean	SD	df	t-ratio	P
PRE	3.40	0.2812		3.0013 ^s	1.74×10^{-3}
POST	3.59	0.3364			

POST	3.59	0.3364
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Hence, the developed constructivist approach-based experiments as a tool in teaching laboratory physics is an innovative approach that affects the students' achievement and attitude towards physics. The result of this study strongly supports the research findings of Arpilleda (1982), Alcantara (1982), Tong (1993) and Camarao (1996) that the use of innovative approach of instruction in teaching physics greatly affects students achievement.

The result of this study also strengthens the theory of Tibigar (1986), Garcia (1989), Rafael (1990), Hidalgo (1991), Teeravarapang (1992), and Agara (1996) that effective science teaching is based on the teacher's arc of using any particular method in achieving goals. Innovative method and approaches improved learning and are helpful in developing the critical thinking among students. The approach of instruction should motivate the learner to strive to learn and to acquire knowledge to find something new to the world and explore for themselves. Based on the foregoing discussions, constructivist approach of laboratory teaching enhances better achievement and attitude towards physics.

FUTURE RESEARCH DIRECTIONS OR RECOMMENDATIONS

In the light of the findings and conclusion of this research, the following recommendations are hereby presented;

1. Since the use of constructivist approach in physics laboratory teaching resulted significantly to students learning in terms of knowledge, comprehension, application and analysis in physics, this approach therefore, is highly recommended as one of the many strategy/approaches a teacher can use in the classroom to motivate students and to produce better achievement in physics.
2. Teachers and laboratory manual writers should be encouraged to use and design more constructivist approach-based experiments.
3. Heads of academic institutions must be encouraged to sponsor or conduct seminars and trainings on constructivism using experts on the field as a part of their faculty development program.
4. A replication of the study by using bigger sample and more number of items in the achievement test providing more items on analysis, application and synthesis should be conducted to ascertain the same results.
5. Further researches must be done to test the effectiveness of constructivist approach-based experiments in teaching other topics or other science subjects.

CONCLUSION

Based on the findings of this study, the following conclusions were drawn:

1. The Constructivist Approach of laboratory teaching using Constructivist Approach-based Experiments is effective in enhancing student's achievement and in developing a more positive attitude towards physics than the Traditional experiments.

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2. The students' achievement and attitude towards physics can be intensified when they work cooperatively as they learn; providing them with more opportunities to apply their own skills and make their own decisions; and taking into consideration as well as overcoming their misconceptions on the subject.

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Sorted Vaporization: An Extraction Method of Unconventional Hydrocarbon Resources on The Surface for Extracting Buton's Natural Asphaltene as to Avoid Producing Wastewater

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ABSTRACT

Asphaltene is one of prospective unconventional hydrocarbon resources which become increasingly precious nowadays. There is approximately 1640 million tons of natural asphaltene deposit located in Buton Island, Indonesia. Several methods recently employed for extracting this deposit are surface mining, Steam Assisted Gravity Drainage (SAGD), Cyclic Steam Stimulation (CSS), and Vapor Extraction (Vapex), the newest among all. For surface extraction, surface mining is the most efficient extracting method for large amount of asphaltene deposit on the surface. After the excavation of the natural resource, this method requires hot water and caustic soda to be poured into the sand in order to form slurry for upgrading. Meanwhile for the same purpose, in Vapex, oil viscosity is reduced by diluting the oil with vaporized hydrocarbon solvents so that the diluted oil can flow easily to the surface through the production well.

In practice, these conventional extracting methods needs large amounts of light petroleum, warm water, and caustic soda to be mixed with asphaltene. As an effort to reduce utilizing light petroleum and producing wastewater, we adopt the concept of Vapor Extraction to develop a new extraction method based on laboratory experiment. During the experiment, we found that the rock of ununiformed grain size demanded relatively longer dilution time compared to the rock of uniformed grain size. This was because the steam requires hydrocarbon for dilution, but the hydrocarbon itself would be uneasily found in large grain pores due to continuous heating while the left hydrocarbon concentrated in smaller pores. As so, it was difficult for the steam to reach the left hydrocarbon, therefore longer time of heating was needed. In order to avoid the ongoing heating of grains without dilution of hydrocarbon, we performed mechanical sorting prior to the extraction that significantly helped for best results of our new extraction method.

Keywords: Unconventional hydrocarbon, asphaltene, bitumen, vapor extraction, surface mining.

INTRODUCTION

The enormous deposit of natural asphalt has been discovered in Buton Island, South East Sulawesi Province as shown on Figure 1. The natural resources area of Buton Island is divided into four blocks that are covered by an immense number of natural asphaltene. Some of them have been utilized for concrete mixtures. A study of Ministry of Energy and Mineral Resources of Republic of Indonesia stated that this natural asphaltene is undeniably potential to be extracted as unconventional hydrocarbon.

The extraction performed after surface mining consumes large quantities hot water, caustic soda (NaOH), and light petroleum to skim the asphaltene from the sand. Those wastes would draw down surface water flow, undesirably impacting stream habitat.

An in-situ extraction method has been developed to reduce the wastes in which the produced steam is cycled beneath the surface. This method, namely Vapor Extraction (Vapex), is a quiet new in-situ method for extracting heavy oil and natural asphaltene in which oil viscosity is reduced by diluting oil with vaporized hydrocarbon solvent (HCS). The process generally utilizes horizontal well pairs with an injector is placed above the production well. However, this in-situ extraction method requires exorbitant expenses.

The pore spaces nearby the injector, from which the oil has been removed, remain filled with the solvent vapor and are signified as “vapor chambers”. The vapor chamber expands laterally as more oil is drained out of the reservoir. The expansion of the vapor chamber is highly affected by the permeability of the natural asphaltene. In addition, the amount of asphaltene diluted in this process corresponds directly to the pore surface area. Thus, physical rock properties play a major role in asphaltene dilution (Buttler & Morkeys, 1993)

With a desire to invent a new method for extracting asphaltene efficiently, we conducted an experiment in which the concept of Vapex was employed and a mechanical sorting to maneuver physical rock properties was performed for better results of the asphaltene extraction. After the information of permeability is acquired, the vapor is then cycled while the extraction is proceeding. The information of rock permeability and accurate grain size enables us to estimate the time required for extraction to avoid energy wasting. An advantage of this method is no wastewater produced during the process. This paper presents the new idea to maximally obtain the asphaltene through extraction without any environmental impacts.

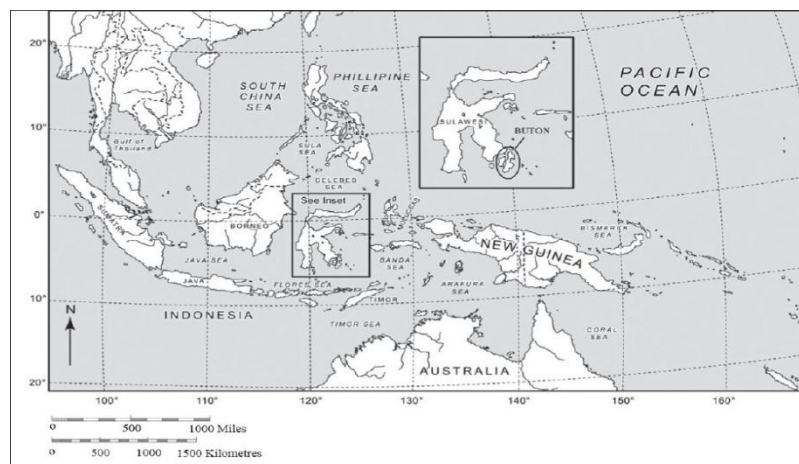


Figure 12: Location of Buton Island

NATURAL ASPHALTENE AS UNCONVENTIONAL HYDROCARBON

Bitumen, also known as natural asphaltene, is an unconventional oil resource that is characterized by relatively high viscosity and density compared to conventional oil. It derived from conventional oil formed in deep formations, but drifted to upper region where it was degraded by bacteria and weather and the lightest hydrocarbons escaped then. Thus, extraction process followed by upgrading process is required to obtain useful hydrocarbons (Brian et al., 2007).

International Energy Agency (IEA) stated that they estimated that there are 6 trillion barrels of natural asphaltene in place worldwide; 2.5 trillion barrels in Western Canada, 1.5 trillion barrels in Venezuela, 1 trillion in Russia, and 100 to 180 billion in USA (Brian et al., 2007).

The largest recovery factor can be attained from surface mining method. Shovels and trucks are used to load and hauls the unconsolidated natural asphaltene from the mine face to the crusher. Once being crushed, the ore is blended with water in cyclofeeder. The slurry is then piped to a central processing for upgrading. The asphaltene, sand and water admixtures produce emulsions. The separation of oil from the sand particles begins during hydrotransport and is continued in the primary separation vessel (PSV) at the central facility then produces bitumen froth (60% bitumen, 30% water, 10% fine solid). The bitumen froth is removed from the PSV and then is either processed with naphtha or paraffinic solvents to remove water and fine solids. This process produces bitumen with 0.1% water or less and fine grains. Dry sands from the PSV is removed and then hoarded. Mixture of bitumen and water, fine particles (tailings) and clay are transported to an allotment pond. The fine tailings are then dewatered.

Mikula et al., (2008) stated that to produce a barrel of synthetic crude (syncrude) oil from the oil sands by mining, two to four barrels of fresh water are required. In Canada, companies withdraw over 590 million cubic meters of water per year, which is equivalent to what a city of three million people acquires. In 2009, IHS Cambridge Energy Research Associates explained that this water is impossible to be returned to the river system since it becomes toxic in the extraction process and must be retained in tailing ponds. Supported by Energy Resource Conservation Board (2008), no tailings ponds have been reclaimed to date.

IHS Cambridge Energy Research Associates (2009) implied that in situ development is less water intensive at approximately 0.9 barrels of water per barrel of oil. Moreover, vapex consumes more vapor than water. In Vapex, heating of a horizontal wellbore will reduce asphaltene viscosity sufficiently to produce a large increase in oil production rate. The heat also serves to initiate communication between the injector and the producer (Fraunfeld et al., 2009).

In order to cope with this kind of problem, we adopt the concept of vapex to extract the asphaltene on the surface. The author also concerned the direction of vapor when diluting the asphaltene because the author intend to circulate the solvent so that wastewater is not produced.

SCALED LABORATORY MODELS FOR SORTED VAPORIZATION

Theory

Toluene is a mono-substituted benzene derivative in which a substance of CH_3 replaces a single hydrogen atom of the benzene. This aromatic hydrocarbon is widely used as a solvent. Joe H. Hilderband (1936) proposed the idea about solubility (δ). Water has solubility parameter of 23.5

$\text{cal}^{1/2} \text{cm}^{-3/2}$ and toluene has a solubility parameter of $8.91 \text{ cal}^{1/2} \text{cm}^{-3/2}$. Hoiberg (1964) approximated solubility parameter of asphaltene to be $8.2 \text{ cal}^{1/2} \text{cm}^{-3/2}$. Thus toluene appears to be the better solvent.

Kozeny and Carman (1956) originated an experiment with a bundle of tubes that represent flow through a porous medium. With a certain porosity ϕ , a tube is assigned a shape factor, f , a dimensionless number between 1.7 and 3, and pore length, L_o , which is greater than the sample length L . The tortuosity is defined as $\tau = (L_o/L)^2$. The resulting equation is

$$k = \frac{\phi R_h^2}{f\tau} = \frac{\phi R_h^2}{f\tau \Sigma_p^2} \quad (1a)$$

where the hydraulic radius R_h is defined as the reciprocal of Σ_p the ratio of pore surface area normalized by a volume is often called the specific surface area. If specific surface area is instead expressed as Σ_r , the ratio of pore surface area to rock volume, then Equation (1a) becomes

$$k = \frac{\phi^3}{f\tau \Sigma_p^2} \quad (1b)$$

Thus the functional dependence of k on ϕ , which differs among Equation (1a) and (1b) depends on the definition of specific surface area.

Van Baaren (1979) begins with the Kozeny-Carman expression of Equation 1b and uses formation factor F , porosity, tortuosity, cylindrical tube diameter d , and relating formation factor m to substitute $F\phi = \tau$, $\Sigma_t = 4\phi/d$, and $F = \phi^{-m}$ to obtain

$$k = c_2 d^2 \phi^m \quad (2)$$

Table 1. *Relation of sorting coefficient C to spread of dominant grain diameter, from Van Baaren (1979)*

Sorting	c
Extremely well to very well sorted	0.70
Very well to well	0.77
Well	0.84
Well to moderately	0.87
Moderately	0.91
Moderately to poorly	0.95
Poorly	1.00

Table1 shows that the greater value of sorting coefficient c , the greater value of permeability. Therefore the poor sorted grain yields the greater permeability.

Graton and Fraser (1935) proposed the importance of grain size in the basic intrinsic permeability equation, also summarized in the texts previously, as follows:

$$k = cd^2 \quad (3)$$

In this well-known equation, k is intrinsic permeability, restricted to properties of the medium alone; c is a dimensionless constant which includes path tortuosity, particle shape and sediment sorting; and d is either pore throat diameter or a representative grain diameter (Bear, 1972).

EXPERIMENTS

Three experiments were carried out in physical models. Two main devices used in this experiment are sieve apparatus and modified solvent extractor. These experiments were proposed to find the advantage of solvent utilization for surface extraction

EXPERIMENT SETUP

To measure the grain size, the sieve apparatus was employed. The sieve column consists of five sets of apertures with diameters of 1.4 mm, 1 mm, 0.6 mm, 0.25 mm and 0.074 mm each where the largest apertures set were put on the top and a round pan called receiver is set at the bottom as shown in the Figure 2 below.



Figure 2. Sieve Analysis

Emphasizing the concept of vapex, a modified solvent extractor was operated. A 500 ml still pot was connected to a graduated tube and a condenser through a transparent pipe. During heating the still pot inside which the solvent was contained, the solvent vapors moved along the pipe into the graduated tube where they were condensed and returned through another transparent pipe to the still pot. This modification was treated on this extractor to circulate the solvent during the heating. Figure 3 below shows the configuration of the apparatus.



Figure 3. Modified Solvent Extractor

Two different solvents were used in this vaporization process to investigate the best one for extraction. Firstly, we used water as the solvent. Secondly, toluene was used with three different volumes. Two types of natural asphaltenes were exploited in this experiment. The characteristics of the solvents and asphaltenes are shown in Table2 below.

Table 2. *Size of sands and volume of Solvent for extraction*

Sample			Solvent	
Type	Size (mm)	Mass (gr)	Type	Volume (ml)
BRAM	1	30	Toluene	500
	0.6			
	0.25			
	0.074			
	Unsorted		Water	200
	Unsorted		Toluene	
	1			
	0.6			
	0.25			
	0.074			
	Unsorted			
BRA 5/20	Unsorted	Toluene	75	
	1			
	0.6			
	0.25			
	0.074			

EXPERIMENTAL PROCEDURE

Firstly, the sieve analysis equipment was not applied. Toluene, as a solvent, was poured into the still pot. A 30 gram sample of natural asphaltene was taken. The natural asphaltene was then deposited in the 3.5 cm diameter and 4.5 cm timber. After that, the equipment was placed upon the electric heater. Subsequently, the graduated tube was connected to the still pot and the condenser. Switch on the tap which is connected the condenser to make sure the water circulate well. Finally, turn on the electric heater and set the temperature until 120oC, since the boiling point of the toluen at 110oC and the vaporization begun to proceed.

The diluted hydrocarbon which drained from the natural asphaltene than flew down through the timber was necessary to observe. The droplet blended with the toluene, which was called synthetic crude oil (syncrude). The color of droplets indicated the amount of diluted hydrocarbon which was being diluted. Once the first droplet fell, time measurement was started. After the droplet become limpid the timer was ended for it implied the hydrocarbon was completely washed up. During observation the number of toluene circulation occurred was counted frequently. Finally, to measure the concentration of liquid, comparing the density between the syncrude and the pure toluene by using picnometer at temperature 280C was undertaken. Additionally, investigation the estimation of hydrocarbon mass that was produced from the extraction by calculating the deviation mass of grain after extraction and before extraction was carried out.

The following experiment was investigating the affection of sorted grain before vaporization. A representative sample was poured into the top sieve. The column then was placed in a mechanical shaker. The shaker vibrated to shake the column for 15 minutes. After shaking was complete, 30 gram of sample from a certain sieve was taken then set in the thimble. After that the vaporization was preceded.

RESULTS AND DISCUSSION

The dilution time for each solvent are shown in Fig4 for the water and toluene. The chart shows that extraction using 500 ml, 200ml, and 75 ml has a same trend line. The smaller grain size yielded the greater dilution time. The smaller grain size has more immense hydrocarbon attach on the sand. Hence the Vapor chamber needed more time to expand inside the natural asphaltene. Fig5 Shows that the result of extraction using 500 ml and 75 ml yield a similar trend line with the dilution time. The smaller grain size has greater density of synthetic crude oil. This supports the previous consequence that the enormous hydrocarbon presents more considerably in smaller grain size. Nevertheless, further investigation was conducted to analyze the inconsistency of the density in the analysis for experiment using 200 ml toluene.

Diluting Time vs Grain Size

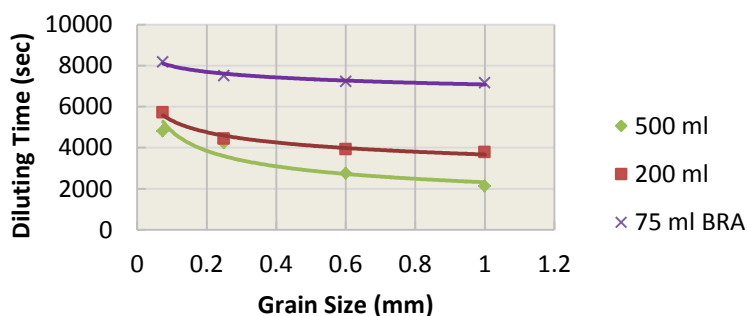


Figure 4. Dilution time as a function of grain size

Density vs Grain size

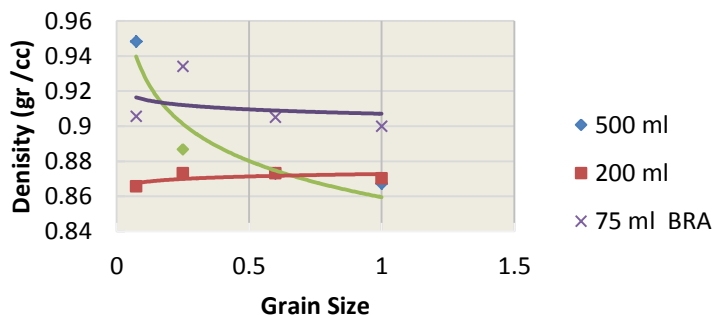


Figure 5. Density as a function of grain size

Table3 present the parameters that were obtained after extraction. It also provides the fact that the unsorted vaporization was full of uncertainty. It is, therefore, conceivable that sorted grain promotes the ability of vapor chamber to grasp the whole area of natural asphaltene.

Table 3: *Result of dilution time, density, and hydrocarbon mass estimation from each sample and solvent*

Sample			Solvent		Dilution Time (s)	Density (gr/ml)	Dry Mass (gr)	Hydrocarb on Mass Estimation (gr)
Type	Size (mm)	Mass (gr)	Type	Volume (ml)				
BRAM	1	30	Toluene	500	2129	0.8673	20.6	9.4
	0.6				2752	0.8731	20.11	9.89
	0.25				4229	0.8868	20.77	9.23
	0.074				4817	0.9482	20.28	9.72
	Unsorted		Water	200	7200		30	0
	Unsorted		Toluene		4970	0.97943	18.6	11.4
	1				3779	0.87021	20.4	9.6
	0.6				3923	0.87303	19.8	10.2
	0.25				4435	0.87305	20.7	9.3
	0.074				5710	0.86552	19.8	10.2
	Unsorted				7291	0.870627		30
	BRA 5/20				Unsorted	Toluene	75	7282
1		7165	0.899935	20.744	9.256			
0.6		7222	0.905073	19.414	10.586			
0.25		7512	0.933911	21.397	8.603			
0.074		8172	0.905509	20.189	9.811			

DATA ANALYSIS

Water was not able to solve hydrocarbon because water has solubility parameter of $23.5 \text{ cal}^{1/2} \text{ cm}^{3/2}$. Meanwhile, the solubility parameter of asphaltene is to be $8.2 \text{ cal}^{1/2} \text{ cm}^{3/2}$.

For the toluene usage, according to the van Baaren's model, the permeability is functionality of sorting coefficient. When the mechanical sorting was not applied, the natural asphaltene was unsorted but it was difficult to determine whether it was poorly or moderately sorted.

Based on Kozeny Carman mathematical calculation, the permeability is inversely proportional to the specific surface area. Whereas specific surface area is the ratio of pore surface area to rock volume. Recall Darcy equation which stated that permeability affects the rate of oil inside the pore. The smaller permeability obstructs the flow of vapor thus the proficiency of vapor toluene to dilute is hindered

The permeability is then reciprocal of pore surface area. The greater surface area sustains the more extensive number of hydrocarbon to attach on the grain. The toluene vapor required a longer time to diffuse to the surface of asphaltene. Nevertheless, the volume of asphaltene diluted is more excessive than on the greater grain which has limited surface area.

To unravel the discrepancy of density trend line, the author calculated the relationship between hydrocarbon volume and grain size using equation (4). The Volume toluene (Vol_{tol}), density toluene (ρ_{tol}), mass of Hydrocarbon (m_{HC}) are obtained from the experiment result in table3.

$$\rho_{syn} = \frac{Vol_{tol} \cdot \rho_{tol} + m_{HC}}{Vol_{tol} + Vol_{HC}} \quad (4)$$

Table 4. Calculation of Hydrocarbon volume produced from each grain size

Sample			Density (gr /ml)	Dry Mass (gr)	Hydrocarbon Mass Estimation (gr)	Vol Total after extraction (ml)	Calculation of HC Vol (ml)
Type	Size (mm)	Mass (gr)					
BRAM	1	30	0.87021	20.4	9.6	199	6.56
	0.6		0.87303	19.8	10.2	189	6.88
	0.25		0.87305	20.7	9.3	175	6.19
	0.074		0.86552	19.8	10.2	187	8.59

The result of calculation is presented in table4. Furthermore, Figs. 6 shows the relationship between the hydrocarbon volume and grain size. As predicted before, the smaller grain size generated the large hydrocarbon volume since the surface area is greater for covered by the asphaltene.

Vol of Hydrocarbon vs Grain Size

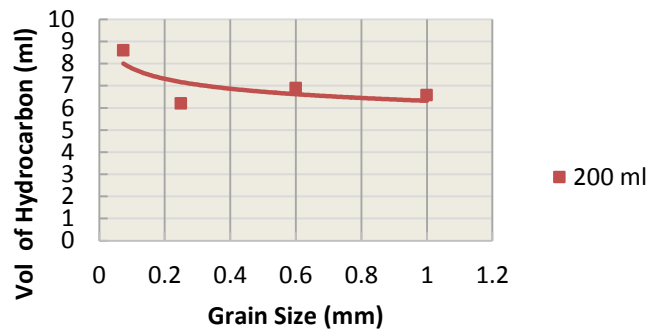


Figure 6. Hydrocarbon volume produced from each grain size

The disparity result from the unsorted grain promotes that the sample was composed of irregular size of grain. This caused the data is tremendously unfavorable to analyze.

Figs7. Compares the sand before Figs7a and after diluted. From the figs7b the residue of extraction is purely sand because the toluene has totally vaporized. It genuinely solves the environmental problem.



Figure 7a. Natural Asphaltene before diluted



Figure 7b. The Residue of Extraction

Based on the result of experiment, we also suggest a new system to extract the hydrocarbon without wastewater. The poor sorted grain comprises of miscellaneous grain size. To avoid uncertainty of the rock physical property, mechanical sorting is essential to undertake. After the grain size has become uniform, the certain size of sand is put into a each chamber. The toluene below the chamber will be heated then flow through the grain while diluting the hydrocarbon. The diluted hydrocarbon will drop and mix with the liquid toluene become synthetic crude oil (syncrude). After that, the syncrude flow to the refinery process and the rest of toluene will be recycled. The schematic is shown on figs8.

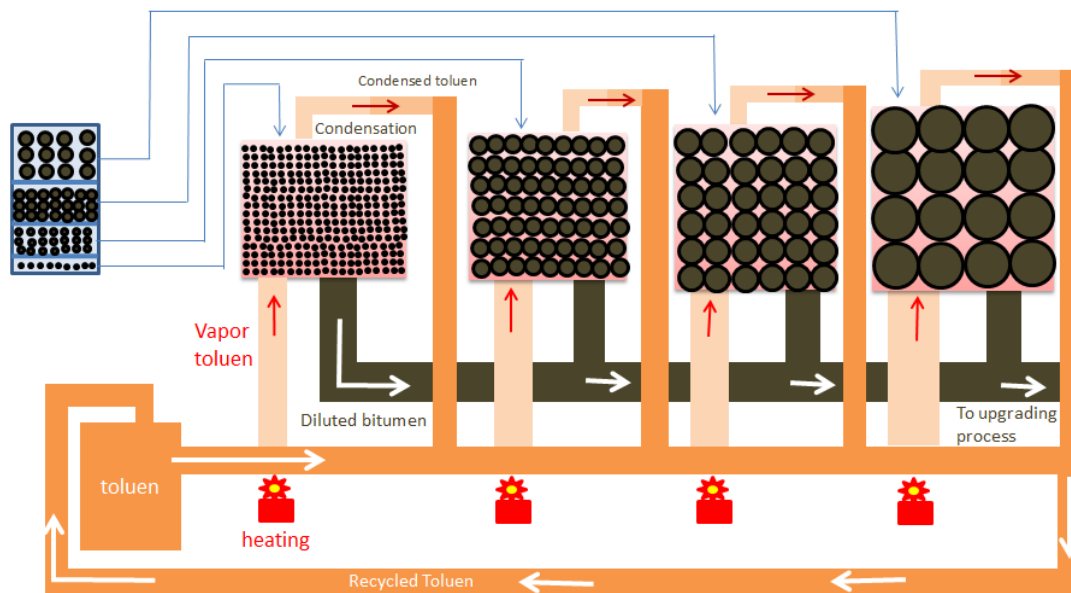


Figure 8. Sorted Vaporization Schematic Picture

SORTED VAPORIZATION AS SIMULATION AND A PILOT PROJECT FOR FUTURE RESEARCH

Sorted vaporization with numerous chambers and extractors as shown on Figure 8 is potential research. Besides, numerical study for generating an extraction simulation is outstanding

suggestion. Reservoir engineer and production engineer can cooperate to enhance the system for the field project. Additionally, collaboration between various engineering is required in order to design the material of extractor, the size of pipeline, and the waste management system. This idea is promising to be carried out as a pilot project in field.

CONCLUSION

1. Buton Natural Asphaltene is indisputably prospective for extracted as unconventional hydrocarbon.
2. The conventional extraction method which uses water and caustic soda instigates the environmental impact because the water and caustic soda is not able to recycle.
3. By adopting the concept of vapex, surface extracting natural asphaltene can be completed by reducing the viscosity of oil and solubilizing the hydrocarbon by the solvent so that the oil drops and on the verge of refining.
4. Toluene is the best solvent for the solubility parameter is proper with the solubility parameter of natural asphaltene.
5. Supported from Kozeny-Carman Equation, Van Baareen's Model, the smaller grain size is wrapped by larger number of hydrocarbon for the more extensive surface area than the massive grain size.
6. The unsorted natural asphaltene presents much uncertainty of permeability and dilution time and table grueling rock properties to examine.
7. Mechanical sorting uniforms the grain size and allows the vapor flow to be recycled after diluting the asphaltene.
8. The process for the future utilizes the closed recycle system so that the toluene will not harm the environment and not is the wastewater produced.

NOMENCLATURE

c	=	sorting coefficient
d	=	cylindrical tube diameter
F	=	formation factor
f	=	tube shape factor
L	=	sample length, cm
L_a	=	pore length, cm
m	=	relating formation factor
m_{HC}	=	mass of hydrocarbon, gr
R_h	=	hydraulic radius, cm
Syn crude	=	synthetic crude oil
Vol_{tol}	=	volume of toluene, ml
Vol_{syn}	=	volume of syn crude, ml

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ρ_{tol} = density of toluene, gr/ml

ρ_{syn} = density of syncrude, gr/ml

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Impact of Work–Home Role Conflict by Work and Home Role Characteristics Among The Women Employees in Public Service Sectors in Coimbatore District, Tamil Nadu, India

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ABSTRACT

The critical problem faced by female employees is the tension that exists between their personal lives and career pursuits. This tension may be viewed as a form of conflict in which the role pressure from the work and home domain are incompatible. In short involvement in one role becomes more difficult in another role. Women employees today strive argument to work and family satisfaction in the work force for its conducive to with lower employee turnover, higher engagement and greater service for both in family and job. The present study examines the work-home role conflict among the women employees in public service sector. This have been determined by Work satisfaction in terms of work role characteristics like work demand, work exhaustion and supervisor. The findings revels that job demand and job exhaustion and supervisors support significantly influence on work and home role conflict of the respondents. Supervisors support is the strongest predictor followed by job demand and work exhaustion on work interference with family. Among the three explanatory variables, job demand and work exhaustion have been showed higher positive direct effect on the dependent variable of work and home role. The job demand also had higher positive indirect effect through work exhaustion on the dependent variable. Similarly work exhaustion also had higher positive indirect effect on the dependent variable. The findings and implications of the will help the women respondents to overcome their work-home role conflict.

Keywords: Work role characteristics, family role characteristics, Work and family demand, role conflict, and work –life satisfaction

INTRODUCTION

Work-home role conflict is the degree to which work is perceived as interfering with home or family life. Work-home role conflict occurs when an employee faces work demand and expectation that complete with demands and expectation at home (Frone, 2003).

Now the majority of mothers of infants are employed. The consequence of these widespread changes in our society is the conflict between work demands and family responsibilities. In most industrial countries, families experience stress because of the need for the care of child care and elderly and family disorder problems as dual earner families and single parent households increased. Employment cited as a source of tension in the family. Since working women has to perform different role, they occupy more significant position than non-working women. With the result, they have to confront more conflicting role expectations. Working women are expected to perform all the duties as an ideal housewife. The working women may be subscribe to the same egalitarian ideology as her husband but that does not mean that he does not expect her to perform family roles exactly as a non-working housewife. Long term care facilities in the Tamil Nadu have long grappled with the challenges of providing cost-effective care to their residents. Most care-giving activities in these facilities are performed by women employees and research indicates that their attitudes including low job and family satisfaction and high demand and exhaustion in work and family role conflict.

Work-home role conflict has been defined as “a form of inter-role conflict in which the pleasures from the work and family domains are mutually incompatible so that participation in one role (home) is made more difficult by participation in another role (work)” Greenhaus and Beutell (1985). The majority of this research examined the market and organizational factors. Few in any studies have investigated how and non work-role influence satisfaction in both work and family of the women employees working in public sector, or the contingencies that affect such relationships. Given that majority of the female workers tend to have greater work-home related responsibilities; a better understanding of how non-work factors affect work attitudes is needed for the development of more effective management practices in public service sectors.

This research adds to our knowledge in this area by examining work-home role conflict among the female workers and the process by which it affects the work-family satisfaction. It also investigates the moderating effects of supportive supervision and coworkers on these relationships. Operational definitions used in the study are:

Family role characteristics

Family role characteristics is defined as a set of beliefs, attitudes and value system an individual holds about the relevance of his or her role in the family, and the manner in which they respond to the conflicting demands of the various members of the family by committing their personal time, support and energy.

Family demand

According to the author Yang, Chen, Choi and Zou (2000), family demand may be defined as “The perception and feeling of pressure of men and women associated with the tasks like house keeping, child care etc”.

Family support

Family support may be defined as “The interpersonal transaction between members of the family involving emotional concern, information transfer, sharing work and family responsibilities, etc”.

Work role characteristics

Work role characteristics is defined as a set of beliefs, attitudes and value system an individual holds about the relevance of his or her role in the work domain, and the manner in which they respond to the pressure inherent in the work, by committing their personal time, support and energy.

Work demand

Job demand is a pressure arising from excessive workloads and typical workplace time pressures such as rush job and deadlines (Yang, Chen, Choi, & Zou, 2000).

Work Exhaustion

Exhaustion is defined as loss of energy, the feeling of being psychologically overloaded and the loss of individual's emotional resources of any kind of work.

Supervisor support

Supervisor support is defined as the degree to which employees perceive that supervisors offer them emotional support, encouragement and concern to cope up with the role and time pressures inherent in a job.

Family and life satisfaction

Family and life satisfaction refers to a pleasurable or positive emotional state resulting from the appraisal of various aspects of one's family experiences (Cripps, 1986).

BACKGROUND

Work-home role conflict had inter role conflict is a concept developed in the western countries and a majority of the studies have been conducted in the IT sectors and other industries in the western countries. Only a very few studies were conducted from men and women especially in Army section in USA. Not enough information is available to set concrete factors for work-home conflict in organization. No research was conducted in public service sector about work -family interference especially in women workers. Therefore, there is a need of study about the women workers in public service sectors And their work-home role conflict and to fulfill the gap of the research.

METHOD

The theoretical model proposes that the influence of work-home role conflict occurs in two stages- first- work-home role conflict produces psychological strain, or burnout, which in turn, leads to lower work and home satisfaction. The respondents were selected using simple random sampling method and the samples were divided into three stratum viz., central (North), East and West in Coimbatore district, Tamil Nadu. Each substratum was selected based on geographical existence (Taluk) of the respondents. Sample selected for the study is 460.

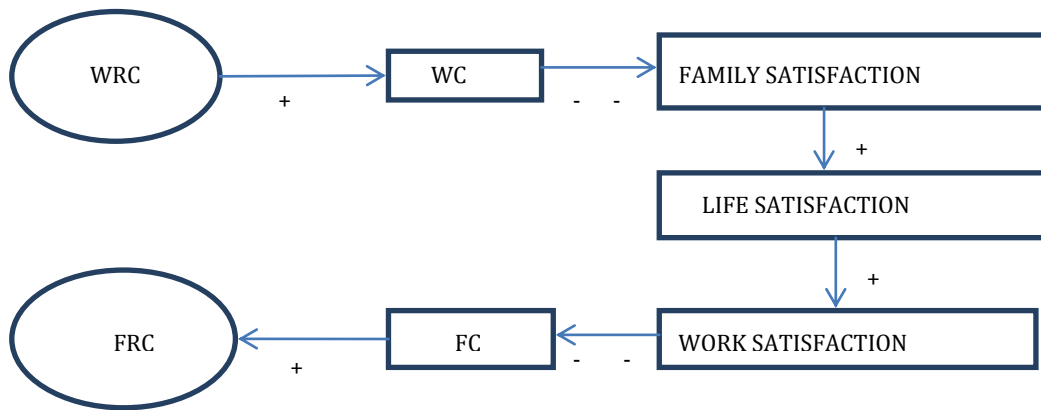


Figure 1. Model used for the study: Work - Family interference –developed by Frone et al. (1992a, 1997).
(WRC-Work Role Characteristics, FRC- Family Role Characteristics, WC-Work conflict and FC-Family conflict)

The questionnaire included items like Work conflict and home conflict developed by Nettemeyer et al. (1996), Job demand and Supervisors support developed by Yang, Chen, Choi, & Zou, 2000, family demand and work exhaustion developed by Cordes and Dougherty, 1993, Family support, Job satisfaction and life satisfaction. The respondents were asked to rate different items using 5-point likert scale.

ANALYSIS

Objective: To examine the work conflict work role characteristics

This objective was examined by testing hypotheses with correlation, regression and path analysis. This has been done to show the existing relationship among the study variables such as work demand, work exhaustion and supervisors support on work interference with family.

Testing hypotheses

The relationship between work conflict and selected variables are reflected by the following hypotheses.

- H0: Work role characteristics does not significantly influence WC
- H1: Work role characteristics significantly influence WC

Correlation analysis for predicting work conflict by work role characteristicsTable 1. *Results of correlation analysis for predicting work conflict by work role characteristics*

Variables	Job demand	Work exhaustion	Supervisor support	Work conflict
Job demand	1.000			
Work exhaustion	.394**	1.000		
Supervisors support	.225**	-.169**	1.000	
Work interference With family	.445**	.450**	-.425**	1.000

** - Significant at 1 %

The above table shows that job demand ($r = 0.455$, $P < 0.01$) and work exhaustion ($r = 0.450$, $P < 0.01$) are positively correlated on work interference with family. Whereas supervisors support is negatively correlated on work interference with family ($r = -0.425$, $P < 0.01$). In the point of work exhaustion, job demand ($r = 0.394$, $P < 0.01$) is positively correlated and supervisors support ($r = -.169$, $P < 0.01$) is negatively correlated with it.

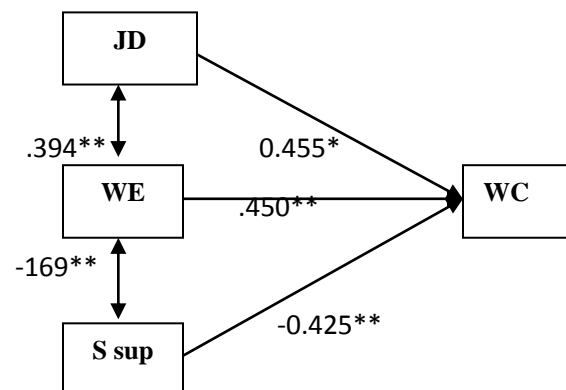


Figure 2. Showing the relationship between WC and Work role characteristics
(JD – job demand, WE - Work exhaustion, S sup –Supervisors support and WIF- Work Conflict)

Regression analysisTable 2. *Regression analysis results*

Variables	Regression coefficient	Beta coefficient	t-value (df=296)
Constant	31.155	9.635	
Job demand	0.808	0.505	10.929**
Work exhaustion	0.478	0.164	3.590**
Supervisors support	-0.980	-0.511	-11.858**
R ²	0.521		
Adjusted R ²	0.516		
F value	107.364		

** - Significant at 1 %

The table above shows that the significant (p) value gives an indication of the impact of each predictor variables like job demand ($t= 10.929$, $p<0.01$), work exhaustion ($t= 3.590$, $p<0.01$) and supervisors support ($t= -11.858$, $p<0.01$).

On examination of the beta coefficient from the multiple regressions model results that job demand and job exhaustion and supervisors support significantly influence on work conflict of the respondents. Supervisors support is the strongest predictor followed by job demand and work exhaustion on work conflict.

And also it indicates that out of the 3 explanatory variables, all the variables namely, job demand, work exhaustion and supervisor's supports have been significantly contributing to work conflict. The coefficient of determination R^2 value shows that these variables put together explained the variations of work exhaustion to the extent of 52.1 %.

Path analysis

Table 3. *Path analysis results*

Variables	Job demand	Work exhaustion	Supervisor support	Work conflict
Job demand	0.505	0.065	-0.115	0.455**
Work exhaustion	0.199	0.165	0.086	0.450**
Supervisors support	0.114	-0.028	-0.511	-0.425**

** - Significant at 1 %

It is seen from the above table, among the three explanatory variables, job demand and work exhaustion have been showed higher positive direct effect on the dependent variable of work interference with family. The job demand also had higher positive indirect effect through work exhaustion on the dependent variable. Similarly work exhaustion also had higher positive indirect effect on the dependent variable. Hence the two explanatory variables namely job demand and work exhaustion is substantially important in contributing variables for work conflict.

Objective: To analyse the family conflict by family role characteristics

This objective was examined by testing hypotheses given below with using correlation, regression and path analysis.

H0: Family role characteristics does not significantly influence FC

H1: Family role characteristics significantly influence FC

Table 4. *Results of correlation analysis for predicting family conflict by family role characteristics*

Variables	Family demand	Family exhaustion	Family support	Family conflict
Family demand	1.000			
Family exhaustion	0.363**	1.000		
Family support	-0.447**	0.223**	1.000	
Family conflict	0.607**	-0.589**	-0.326**	1000

** - Significant at 1 %

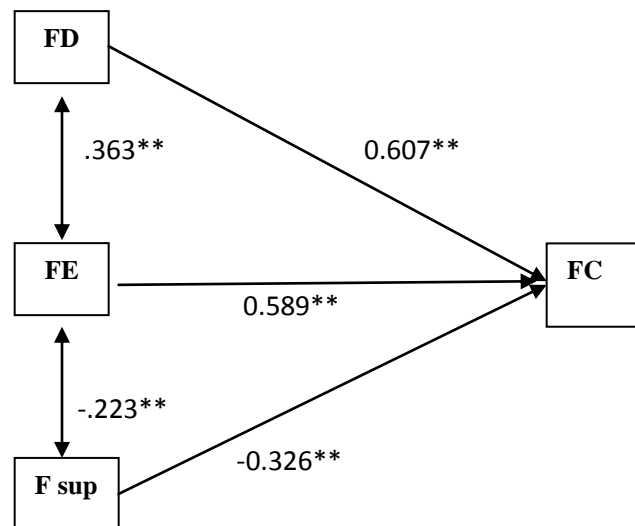


Figure 2. Showing the relationship between FC and family role characteristics

(FD – Family demand, FE - Family exhaustion, F sup – Family support and FC- Family conflict)

The above table explains that family demand ($r = 0.607$, $P < 0.01$) and family exhaustion ($r = 0.589$, $P < 0.01$) are positively correlated on family conflict. Whereas family support ($r = -0.326$, $P < 0.01$) is negatively correlated on family conflict among the women respondents. In the point of family exhaustion, family demand is positively ($r = .363$, $p < 0.01$) correlated and family support ($r = -.223$, $p < 0.01$) is negatively correlated with it.

In order to study the relationship and to establish the functional relationship between a set of independent with the dependent variable, regression analysis was performed and the results are given in table 4.2.2. The adjusted R^2 value indicates that the accounts of 52.2 percent of co-variance- a good model and it means that any time another independent variable is added to this model, the R^2 will increase. A standardized coefficient gives a measure of each other variable to the model. A large value indicates that a unit change in this predictor variable has a large effect on the criterion variable. The significant (p) value gives an indication of the impact of each predictor variables like family demand ($t = 10.534$, $p < 0.01$) and family exhaustion ($t = 9.901$, $p < 0.01$) - a big absolute t value and p value suggests that predictor variable is having a large impact on the criterion variable.

On examination of the beta coefficient from the multiple regression model results family demand and family exhaustion significantly influence on family conflict of the respondents. The statistical significance is found to be in the directions hypothesized. Family demand is the strongest predictor followed by family exhaustion on family conflict. The significance of R² as tested by F statistic indicates that, the regression model is significant. The R² value is 0.525 which is significant at 1% level. The results support hypotheses framed in for the objective.

Regression analysis for predicting family conflict by family role characteristics

Table 5. *Results of regression analysis for predicting family conflict by family role characteristics*

Variables coefficient	Regression coefficient	Beta (df=297)	t-value
Constant	-0.130		
Family demand	0.302	0.607	10.534**
Family exhaustion	0.640	0.425	9.901**
R ²	0.525		
Adjusted R ²	0.522		
F value	164.063		

** - significant at 1% level.

And also it indicates that out of the 3 explanatory variables, 2 variables namely; family demand and family exhaustion have significantly contributing to family conflict. The analysis of variance of multiple regression models for family conflict indicates the overall significance of the model fitted. The coefficient of determination R² value shows that these variables put together explained the variations of family conflict to the extent of 52.5 %.

Path analysis for predicting family conflict by family role characteristics

Table 6. *Results of Path analysis for predicting family conflict by family role characteristics*

Variables	Family demand	Family exhaustion	Family support	Family conflict
Family demand	0.438	0.153	-0.116	0.607**
Family exhaustion	0.159	0.422	0.088	0.589**
Family support	-0.196	-0.094	-0.036	-0.326**

** - significant at 1% level.

Table 4.2.3. explains that, among the three explanatory variables, two variables namely family demand and family exhaustion have been showed higher positive direct effect on the dependent variable family conflict. The family demand also had higher positive indirect effect through family exhaustion on the dependent variable. Similarly family exhaustion also has higher positive indirect effect on the dependent variable. Hence the two explanatory variables namely family demand and family exhaustion are substantially important in contributing variables for family conflict.

FINDINGS AND IMPLICATION

Correlations results found that job demand and work exhaustion are positively correlated on work conflict. Supervisors support is negatively correlated with work conflict. Higher job demand and work exhaustion led to higher WIF or WC (Greenhaus & Beutell, 1985). WIF or WC is associated with feeling of work exhaustion. Specifically, even though some might argue that the higher level of stress could, in turn lead to higher level of WC or WIF. Women with multiple roles have experienced more work and home role conflict. Karasek found that job demands as work stressor that results from psychological aspects of work such as repetitiveness and from the physical aspects of work such as physical exertion. Also he found that it is primarily predict strain, the factor within the model may also be extended to make predictors regarding spill over between work and family domain.

The regression analysis found that job demand, work exhaustion and organization support are significantly contributing to work-home role conflict or work interference with family. The big t value suggests that job demand has larger impact on work role conflict. Supervisors support is stronger predictor followed by job demand on WC or WIF. The path analysis found that job demand and work exhaustion have showed higher positive direct effect on work interference with family or work – home role conflict. The job demand also had higher positive indirect effect through work exhaustion on the work interference with family. Similarly work exhaustion also had higher positive indirect effect on the work interference with family. By taking into account high job demand is predictor regarding job characteristics associated with work family interference and job satisfaction.

In respect of correlation analysis found that family demand and family exhaustion are positively correlated on family conflict. Family support is negatively correlated on family conflict among the women respondents. Further family demand and family exhaustion results in higher FC. Family related sources of time based conflict are experienced more by married women than those of who are unmarried. Gutek et al., 1991; Herman and Gyllstrom, 1997) stated that parents experienced more FIW than non parents (Bohen and Viveros-Long 1981; Netemeyer et al., 1996) employees with eldercare responsibilities experienced more FC than employees without these kind of responsibilities. These arguments as well as findings of Frone and colleagues (1992a; 1997) give rise to the following hypothesis of high family demand is associated with high FC or FIW. This has been proved with the hypothesis framed in objective.

The regression analysis in respect of FC found that family demand is the strongest predictor followed by family exhaustion on family conflict. The path analysis results found that the family demand had higher positive indirect effect through family exhaustion on the family interference with work. Similarly family exhaustion also had higher positive indirect effect on the family conflict. Hence the two explanatory variables namely family demand and family exhaustion are substantially important in contributing family conflict and this will lead to increase the family interference with work.

Implications

To the employer or organisation

Organization can achieve by conducting some development programme, stress overcoming class and yoga for reducing mental stress in work and family. The organization need to design work place and human resource policies that would enable workers with family to carry on both family and work responsibility. The government can create work-life fund with the five years commitment to address the employee's issues. The state government has to adopt policies to fit in with not just the

nature of organization, profile of work force and other such factors but also with the local culture and environment. They can provide child care centres either on-site or off-site and school for their children within the campus or nearby proximity with subsidized or free of cost and also they may adopt maternity leave and its procedure like central government.

To the employee or respondents

The individual has to explore her values, aspirations and goals to understand what does she expect from work and life and then develop the suitable ways of balancing work and life. She has to clarify her values and take ownership of her actions. She also has to negotiate her roles within the organisation and family. The vast chunk of women coming in workforce will soon necessitate the intuitions of the family to reconstruction or redefined the pattern which will be necessary for a better and sound equilibrium between the demands of work and those of home. The vast chunk of women coming in workforce will soon necessitate the intuitions of the family to reconstruction or redefined the pattern which will be necessary for a better and sound equilibrium between the demands of work and those of home. Daily rituals are deleted and cylindrical occasions are universalized to invite their friends, neighbours and colleagues according to their convenient. The dietary habits have also changed significantly. Individual may adopt a planned approach to life. Provisions of a supportive home environment by spouse/ relatives may have a positive impact on spill over between family and work life.

CONCLUSION

The future research can extend the present work by focusing on guilt scale, gender influence, cultural values, believes and effects of program introduced regarding work life balance. This research carried out only women personnel in public service sector. In future, research can be done in male respondents also to find gender influence on work –home interference. Expecting organization support and government policy alone does not help women to play her role effectively without support from the family members and spouse. Facilitating cooperation and support in all aspects from the family members will help the working women to lessen her burden and break out her complicated multiple roles.

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The Academic, Social and Cultural Experiences of Postgraduate International Students in a Thai University

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ABSTRACT

The paper begins with an introduction of the rationale of the study, and reviews some empirical studies on international students at a higher education level. The theoretical framework is also addressed. The purpose of this preliminary study is to examine academic, social and cultural experiences of postgraduate international students who enrolled at a higher education institution in Thailand. Research methods used were open-ended questionnaire and data gathered during semi-structured interviews with random sampling technique of 10 postgraduate international students from Lao PDR and Vietnam. The study has revealed that postgraduate international students' respect for different cultures improve with the level of engagement in international interactions. Recommendations will be discussed for improvements in pre-departure training programs and degree programs in a Thai Rajabhat University.

Keywords: Academic experience, social experience, cultural experience, international students, post graduate students.

INTRODUCTION

This case study provides an insight into post graduate international students' perspectives of their educational experiences in terms of academic, social and cultural issues in a Thai Rajabhat University in Thailand, and possible guidelines for improvements to their learning experiences.

BACKGROUND

Many universities and organization are now encouraging students to study abroad. Most universities also welcome international students; some because they believe it fosters global understanding, and in the case of GMS countries, addresses preparation for entering the ASEAN community. Consequently, international students are enrolling in increasing numbers at a higher education level in Thailand. University policies underline the need to provide the environment and resources to cater for students' academic and social needs. Therefore development of quality education management is an important factor to enhance higher education potential to service quality

education for local, community and international students. Present higher education institutions are required to transfer into internationalized education provision in order to attract students and establish effective relationships. These strategies are one of quality education management (DeWit, 2002). Many studies on quality education management in cultural adaption address the importance of the abilities to communicate with others and cultural adaption (Nattavud, 2004; Russell, Thomson, & Rosenthal, 2008; Li & Gasser, 2005; Brown & Holloway, 2007; Abouchdid and Nasser, 2002). However, there is little research to investigate education management dimensions at higher education levels for international students, especially from Great Mekong sub-region (GMS) countries.

There are three areas of adaption mentioned in this research. They are academic, social and cultural experiences which are based on a conceptual model called Intercultural Communication Competence (ICC). In previous research, ICC can be categorized into six components: 1) communication skills, 2) knowledge of host culture, 3) language competence, 4) adaption, 5) communication effectiveness, and 6) social integration (Redmond and Bunyi, 1993 cited in Lewthwaite, 1996, p. 169). From the interviews of participants from fifteen different countries, “a person who is competent in one intercultural exchange possesses something within himself/herself that enables him/her to engage a different intercultural exchange competently as well” (Arasaratnam & Doerfel, 2005). In addition, Arasaratnam and Doerfel’s (2005) found that “those who were identified as competent intercultural communicators (from the other’s point of view) all possessed five qualities in common, namely empathy, intercultural experience/training, motivation, global attitude, and ability to listen well in conversation”.

Therefore this research aimed to investigate postgraduate international students in terms of academic, social, and cultural experiences which were relevant to strategies at a higher education level. The results from postgraduate international students’ perspectives in terms of academic, social and cultural experiences will produce effective education management and improve education marketing and influential factors on decision making for studying at Thai Rajabhat Universities. The research will also provide guidelines in making policy, planning, proactive strategies, effective public relations, and competing with demand education market within national and international levels. In addition, the research aims to propose possible guidelines for education management in terms of university academic management to meet future markets.

RESEARCH DESIGN

Research instruments

Information was gathered by a questionnaire, open-ended questions and semi-structure interview. The 24-item questionnaire was adopted from Lewthwaite (1996, p. 174) consisting of five parts. The first part collected respondent demographics regarding age, gender, nationality and how long the respondent had been studying in Thailand. The second part looked at academic experiences. The scale is with 5-point scale, 1= no real difficult and 5 = very difficult. The third part was a 6-item scale of language experiences which consisted of items such as, “Understanding lecturers”, “Understanding social Thai”, and “Reading academic literature”. The scale is a 5-point scale, 1= easy and 5 = difficult. The fourth part was a 7-item scale of personal or support experiences which consisted of items such as, “Use counseling/other support systems”, and “Homesickness”. The fifth part was a 3-item scale of adjustment ratings which consisted of items such as, “Feel well adjusted to academic study”. Data collection and Samples

The participants consisted of 10 postgraduate students (age 28 to 52) who are studying at Sakon Nakhon Rajabhat University. Most of the samples are Lao with only one respondent was from Vietnam. The students have been studying in Thailand an average of 4 months. The questionnaire was distributed in person and 100% of the questionnaires returned. Data were collected in October 2011.

Results

Academic experiences: How successful students are measured by the perceived difficulty experienced by the postgraduate students. It is thus a score that also reports personal characteristics and perspectives towards academic aspect in terms of communication skills and teacher/student interaction. As shown in Table, the frequency reports of “slight difficulty” for item 1 and 7 to “Big difference between own country and Thailand”. In the case of teacher and student interaction, the scale reports “slight difficulty” as well. The moderate difficulty item was reported for dealing with “teaching and learning styles”.

Table 1. *Academic experiences*

<i>Items</i>	<i>No real difficult 1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>Very difficult 5</i>
Big difference between own country and Thailand	4	3	2	1	
Assignments/Essays	2	2	4	2	
Tutorial/seminar presentations	2	1	7		
Difficult to meet Thai people	1	4	4		
Differences in teaching and learning styles	3	7			
Tests/exams		4	6		
Understanding content of courses		6	4		
Faculty staff	1	4	4	1	

From the interviews of ten participants, some students chose to study in Thailand because of financing incentives for international students, such as tuition fee reduction. Some wanted to educate themselves to meet their workplace expectations. Many studies present varied reasons of studying abroad; for example, having an interest in different culture, reconnecting to friends, no specific disciplines available at the educational system in the home country, or wanting to learn another language. The participants in this study have been exposed to many interesting academic and culture experiences. They have had to learn to adapt themselves to new rules and immigration laws, new language, new friends, new etiquette for new culture. These are difficulties that international students need to cope with as well as other academic challenges. In addition to being isolated from their social network, international students may often encounter language barriers, immigration difficulties, social adjustment and homesickness. However, the strategies reported in this study were that the preferred methods of family contact were via mobile phone or the internet. For international students' perspectives, they agreed that teacher and students' interaction and among cross-national cohorts were positive. From the interviews, they feel confident to ask Thai friends and supervisors for academic assistance.

Language issues: the scale can be seen as a measure of how successful the postgraduate students' academic success was. Presumably a person who is happy about language communication in all four skills- listening, speaking, reading, and writing, would recommend it to others. Two respondents

agreed that item six, “reading academic literature” was likely to be difficult. Eight participants agreed that they were able to cope with this item. The strategies employed by the participants when they encountered a difficulty in reading were asking co-national and cross-cultural friends. However, from the interviews, the participants agreed that they needed to learn writing Thai, which is an important skills in writing research proposal. However, the teaching and learning styles were likely to be flexible as some teachers were able to read Lao and allowed the participants to express themselves in Lao.

From the interviews, five participants commented that even though they are very happy with their study and stay in Thailand, they would not recommend it to others, due to all the financial problems they encountered, such as their personal financial situation, or the university policy on tuition fee provision for different types of organization or education institutions. The difficulty rating was on item six, “reading academic literature” as they reported a difficulty to understand academic Thai words. The strategies use to cope with this problem was to ask friends. All of them discussed language problems among co-nationals and sometimes use email to connect with cross-nationals. They mostly asked their supervisors. However, one participant found it was easy to read academic literature.

Table 2. *The postgraduate students’ academic experiences*

<i>Items</i>	<i>Easy 1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>Difficult 5</i>
Understanding lectures (Thai, not content)	2	6	1	1	
Speaking in class	1	3	6	1	
Written assignments	1	1	4	2	2
Taking notes in lectures		3	7		
Understanding social Thai	1	6	3		
Reading academic literature	1	4	3	2	

Social and cultural experiences: from the table below, most participants do not join any clubs on campus or community, as they felt indifferent to the Thai community compared to their own community. From the interviews, one of the participants wanted to form Lao communities within universities to provide international students with social networks. Most international students had limited time to interact with locals or getting to know the locals, as they had classes. They tended to know cohorts at the same field to help in studying.

Table 3. *Social and cultural experiences*

<i>Items</i>	<i>Not so different 1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>different 5</i>
Do not belong to clubs in community	5	3	2		
Do not belong to clubs on campus	4	3	3		
Use counseling/other support systems	1	1	4	2	2
Homesickness	4	2	3		
Religious concerns	4	3	2	1	
Loneliness/isolation	4	2	8		
Racism	4	3	3		

From the interviews, one of participants would get to know the locals, to learn language and the culture of the host country from his observation. In addition, all of them agreed that they needed to learn more about Thai language and culture, and thought the university should prepare them an intensive course before entering the mainstream. This would help them to adjust themselves to the academic situation well.

Table 4. *Overall adjustment ratings*

<i>Items</i>	<i>No anxiety 1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>High anxiety 5</i>
Feel well adjusted to academic study		5	5		
Feel well adjusted to Thailand	2	2	6		
Happy with living situation	4		6		

Overall results for postgraduate students' perspectives were likely positive. Most of them tended to adjust themselves well to academic study, new environment/culture and were happy with their living situation.

CONCLUSION

To sum up the results of the study; it would seem that studying abroad is likely a better idea. However, a preference for co-nationals is associated with a high number of experienced difficulties and a lower level of success. Students might benefit from interventions that seek to break up co-national groups. Most students mentioned that there were positive experiences when studying at SNRU. The social aspects of international students were greatly restricted by the academic lifestyle. Adaptation strategies may be the reason that why some international students have not finished their studies abroad (male, 51 years old). The suggestion for improving international students' social adaptation was a pre-departure course preparation. It might be a good idea to prepare students for the social and cultural climate that they are about to enter into before they leave their home country, preparing them for both the academic performance and the social behaviors that will be expected of them once in the host society. Universities and student organizations can help by offering them a short course about Thai culture before enrolling into the mainstream, and also giving international students precise information and instructions about where and how they can access information through the internet or facilities provision when in the host country.

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Exploring Academic Literacies of ESL Undergraduate Students

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ABSTRACT

While there have been a number of studies on undergraduate students' academic literacies in higher education worldwide, such studies are largely confined to the experiences of English-as-a-second-language (ESL) and non-native speakers of English (NNSE) students in the English as first language (L1) or target language milieu. Informed by theories of literacy as a social practice, this paper describes an exploration of undergraduates' academic literacy practices and experiences within the context in which English is regarded as a second language (L2) while the widespread use of Bahasa Melayu as L1 is predominantly evidenced. Specifically, this paper reports the findings of a doctoral study on how Malaysian undergraduate students acquire and exploit knowledge in their quest to meet the demands placed upon them by their higher learning institution. Employing a qualitative case study approach, this paper draws on data gathered from focus group and individual interviews with the students and supplemented by classroom observations. Key findings centre on the complexities of students' English language academic literacies, constituting a rich blend of multiple literacy practices, encapsulating a variety of academic discourses and mixed choices of language use to serve a wide range of learning purposes at the tertiary level. The research findings also call attention to the students' technical difficulties and pessimistic outlook on their academic literacy practices and competencies in English.

Keywords: Academic literacy, literacy practices, English language competency, Malaysian higher education.

INTRODUCTION

This paper reports a small portion of the findings of a doctoral study on English language academic literacies for employability of Malaysian undergraduate students. The study contributes to the body of knowledge pertaining to academic literacies through an exploration of the English language academic literacies of non-native speakers of English (NNSE) undergraduate students in acquiring knowledge within the context in which English is regarded as a second language (L2) while the widespread use of Bahasa Melayu as first language (L1) is largely evidenced. In particular, this paper reports the findings of a close analysis of a group of students' perspectives on their English language academic literacy practices and competencies upon completion of the compulsory English courses at a Malaysian public university, where Bahasa Melayu is the official language.

The point of the investigation on the students' academic literacies in English begins with the belief that there is a remarkable diversity residing in individual students' educational, linguistic and geographical backgrounds along with their varying racial and religious identity given their positions living in a multiracial and multicultural society like Malaysia (Gaudart, 1987). This study sees that it is crucial to look at academic literacies from the point of view of the key stakeholders, namely the students themselves, as they are active participants in the process of meaning-making in the higher learning academy (Lea & Street, 1998) and that their relationship with the dominant literacy practices and discourses of their academy is complex.

BACKGROUND

The term 'academic literacy' or 'tertiary literacy' (Hirst et al., 2004) in higher education is simply defined as "the ability to read and write the various texts assigned [in university]" (Spack, 1997, p. 3). Johns (1997) elaborates that academic literacy "encompasses ways of knowing particular content and strategies for understanding, discussing, organizing, and producing texts" (p. 15). Fundamental to these terms of academic literacy, this study sought to examine the multiple literacies (Gee, 1996) that incorporate reading, writing, listening and speaking practices occurring within the social and cultural contexts of the tertiary institution. This is important and germane as academic literacy practices are deemed to be "active, dynamic and interactive" in nature (Teacher Education Working Party, 2001, p. 4) which represent "particular views of the world, uses of language and ways of constructing knowledge within academic disciplines" (Curry, 2004, p. 51). Borrowing Zamel and Spack's (1998) definition of academic literacies which "embrace multiple approaches to knowledge" (p. ix), this study investigated students' multiple approaches to English language literacies where different languages and various discourses intersect within a tertiary setting.

The last decade has seen the development of a body of work on academic literacies worldwide. To this point, numerous case studies have been conducted on L1 and L2 compositions (Duff, 2008), particularly on how NNSE in higher education acquire the academic discourses, especially in the English language in order to achieve success at the tertiary level. A review of literature on studies pertinent to academic literacies indicated a number of studies in a diverse range of settings with equivalent orientation yet involving various participants, such as visa students (Ivanic, 1998; Leki, 1995; Spack, 1997), immigrants (Cummins, 1980; Currie & Cray, 2004; Johns, 1991), international graduate students (Angelova & Rianzantseva, 1999; Dong, 1996; Ferenz, 2005; Gosden, 1996; Riazzi 1997) and bilingual academics (Casanave, 1998; Prior, 1991).

Whereas these studies have been extensively valuable in their own respects, their focus has been primarily concerned with the experiences of English-as-a-second-language (ESL) and NNSE students in English speaking countries where English is regarded as L1 or the target language. Arguably, research on NNSE students' English language academic literacies in an ESL context, particularly in Asia, is still scant. Generally, NNSE students within this region must operate in environments where their mother tongue language or their L1 is used extensively in their communication with their teachers and peers, and yet they must read and write in English in most academic occasions. To cite Braine's (2002) words, "At present, I am not aware of triangulated studies focusing on these students" (p. 66). In the same vein, Kubota & McKay (2009) assert that it is necessary to shift the focus towards the investigation of how the discourse of English as an international language intersects with the local multilingual contexts such as in Asian countries where English does not serve as a major language.

Additionally, research in academic literacies as stated earlier has been less on examining students' English language academic literacies per se; rather it has predominantly concentrated upon the complex relationship between writing practices and learning and the production of written assignments among NNSE students. It is contended that this understanding needs to be brought more centrally into other elements of academic literacies to include reading, listening and speaking practices especially in the English language. Furthermore, the focus on students' writing alone might mask the significance of multiple academic practices in learning and the overall process of acquiring knowledge since all students negotiate a varied range of texts and discourses as part of their studies at tertiary education (Lea, 2004; Lea & Street, 1998; Leki, 2007).

Therefore, this study continues and extends the exploration on academic literacies by looking at NNSE undergraduate students' reading, writing, listening and speaking practices and competencies in the English language at a Malaysian higher learning institution. To elicit an account of the students' English language academic literacies, this study was guided by two general aims: (a) to explore the students' existing English language academic literacy practices and competencies at the exit point of completing English language courses at the university; and (b) to explore the students' perspectives on their current competencies in the English language.

CONCEPTUAL FRAMEWORK

The conceptual framework of the study is informed by theories of literacy as a social practice (Street, 1984) and social learning (Lave & Wenger, 1991) which view literacy and learning as situated activities. Literacy is generally understood in terms of social practices and typically embedded in social and cultural contexts (Barton & Hamilton, 2000; Heath & Street, 2008; Street, 1995). In this study, the practices of literacy and ways of understanding literate acts are seen as dependent on the social institutions in which they are acquired and used. This notion, parallel to the New London Group, recognizes literacy practices as specific social practices operated in particular social spaces, thus underlining the contextual and situated nature of those practices (Baynham, 1995; Barton et al., 2000). Recognizing that different literacy practices are required in different social contexts, this study presumes the need to look into the insider's account and contextualized meanings of literacy practices in order to gain comprehensive understanding and insights of the English language academic literacies of undergraduate students in the higher learning institution (Maybin, 2000).

The broad view of literacy, which establishes that literacy learning has social, cognitive and linguistic dimensions, provides wider dimensions for this study to look at academic literacies beyond the deficit views of individual students to consider many or multiple literacies that exist (Gee, 1996; New London Group, 1996). Returning to the basic tenet that literacy practices are interwoven and shaped by social institutions, this study assumes that academic literacies are acquired through socialization process embedded in social practices, which are patterned by an academic institution, and interactions between learners, as participants, and their academic discourse community.

METHODS

Aligned with the central aims of this study, the qualitative case study is deemed the most appropriate method to investigate students' academic literacies given its descriptive, dynamic, and authentic nature. Multiple data gathering methods were conducted constituting primary data collated from focus group and individual interviews and supplemented by the written summary sheets fulfilled by the students, and non-participant observation field notes taken by the researchers. Added to these were the contextual data derived from the documentary resources,

such as the course booklets, students' written assignments and results collected from the teachers and English course coordinators.

The key informants of this study were 21 third year students from the Engineering faculty at a public university in Malaysia. These Engineering students were chosen because they were the only group at the university who were specifically required to take up two English courses, Foundation English and English for Engineering, throughout their entire studies at the university. All student participants attained Band 2 in the Malaysian University English Test (MUET) , which is the lowest level scored among Engineering students at the university entrance. In the first year of their tertiary study, they were required to undertake a proficiency English course, Foundation English, which is specifically designated for all newly-enrolled students who obtained Band 1 or 2 in the MUET. The students were not required to enrol in any English course during their second year of study. Following a special requirement made by their Dean of Faculty, these students were subsequently asked to take on the English for Engineering course in their third year of studies, prior to their internship program.

In an attempt to develop an understanding of these students' English language academic literacy practices and competencies, this study was conducted at the exit point of completing the two compulsory English courses at the university, in particular, at the end of the English for Engineering course. The reason for conducting this study at this particular point is because there was no further English training at all provided for the students after their industrial training. Upon completing their third year of full-time studies, the researched students were scheduled to embark on their industrial training for ten weeks. Then, the students were expected to resume their academic program in the final year, dealing mostly with thesis writing in Bahasa Melayu.

Generally, the researched students came from diverse majors in Engineering studies including Chemical, Manufacturing, Electrical and Electronic, Mechanical, Civil and Structural Engineering and Architecture, and different ethnic backgrounds. The majority of them were Malays while three of them were Chinese. Nearly all of them came from a non-English-speaking environment, mostly located in the suburban and rural areas. The students' age ranges from 21 to 24 years old. It should be emphasized that for reasons of confidentiality in this study, the students are identified only by using alphanumerical codes.

In the tradition of qualitative research, the data obtained from the students were read reiteratively and analyzed rigorously through an inductive process of identifying the recurring and salient themes. The similarities and differences of perspectives among the students were identified and explored from an interpretive paradigm to develop common themes, which are discussed below.

FINDINGS AND DISCUSSION

Central to the findings of this study is the evidence of the complex nature of academic literacies experienced by the students comprising a rich blend of multiple activities, encapsulating a variety of academic discourses and mixed choices of language use, which the students had to manage in order to serve a wide range of learning purposes. In their quest to become educated in their major and to meet educational expectations, the students needed to shoulder multifaceted and heterogeneous academic duties dealing with diverse academic literacy practices incorporating reading, writing, speaking and listening practices, all of which were highly interrelated and interdependent. The following tables illustrate the summary of findings of the students' reading, writing, speaking and listening practices respectively.

Table 1. *Summary of findings of students' reading practices*

Reading resources	Language used	Roles	Reading difficulties
Reference books	English & Malay	To comprehend architectural principles To comprehend calculation procedures	Dealing with unfamiliar words
Internet journals	English	To design new inventions To understand technical details To complete course assessments	Understanding complex language structure
Academic magazines	English	To comprehend architectural principles To design new inventions To complete course assessments	Managing lengthy explanation Managing long texts
Textbooks	English	To comprehend calculation procedures To gather main ideas To prepare for exams	Nil
Lecture notes	English & Malay	To comprehend calculation procedures To gather main ideas To prepare for exams	Nil
Dictionaries	English – Malay	To obtain the meaning of words in English	Nil

Table 2. *Summary of findings of students' writing practices*

Writing genres	Language used	Nature of writing	Writing difficulties
Assignment	Absolute use of English (Mechanical, Chemical & Electrical courses) and Absolute use of Malay (Architecture courses)	Mathematical, technical and graphical representations	Applying accurate grammatical rules
Laboratory report	Choice of either English or Malay (Mechanical, Chemical & Electrical courses)		Limited vocabulary Constructing sentences Expanding sentences
Exam	Choice of English or Malay and A mixture of English & Malay (Mechanical, Chemical & Electrical courses) and Absolute use of Malay (Architecture courses)		
Thesis	Absolute use of Malay (all Engineering courses)		Translating terminologies from English to Malay

Table 3. *Summary of findings of students' speaking practices*

Speaking activities	Language used	Speaking predicaments
Oral presentation	Absolute use of English & Absolute use of Malay (Architecture students)	Limited vocabulary Applying appropriate & accurate grammar Constructing sentences Pronunciation problems
Group discussion	Mostly in English & occasionally in Malay or Mandarin	
Consultation	Mostly in Malay & occasionally in English	

Table 4. *Language used in students' listening practices*

Language used in lectures	Language used for teaching resources	Relevant quotes
Lectures conducted entirely in English whereby simple words and scientific terms were closely employed.	Absolute use of English.	<i>"All lectures and tutorials at our faculty are in English, even the notes..."</i> (FG1a)
Lectures delivered in combination of the Malay and English languages with the emphasis on explanation in the Malay language.	Absolute use of English.	<i>"All lecture notes are in English, but not all lecturers teach completely in English, they mix the languages"</i> (FG2c)
Lectures performed entirely in the Malay language.	Absolute use of Malay.	<i>"Lectures, classes, everything is mostly in Malay"</i> (FG4e)

The complexities of students' academic literacies

For comprehension, construction and production of knowledge to take place in their educational routine, the students were obliged to negotiate various literacy practices and competencies demanded of them while conforming to the diverse academic conventions in multiple circumstances (Curry, 2004). Quite often, writing practices are highly valued at the university given that students' grades are largely determined by their performance in written assignments, tests and exams (Evans & Green, 2007; Leki & Carson, 1994). However, it is argued that while the production of texts through writing practices is often evaluated and institutionally valued as evidence of learning, other academic practices provided significant contribution to the production of the texts as well, thus demonstrating the complexities of the students' academic literacies. In the process of completing the course requirements, the students were presumably expected to assemble as much information as possible to enhance their understanding and facilitate the composition and creation of their work. Hence, a combination of reading, listening and speaking practices for collecting information was carried out prior to the writing practices which constituted the production of texts as the ultimate output.

Explicit in the students' reading practices were reading various discourses and genres primarily conducted with the central aim of comprehending and gathering new information. Owing to their Engineering and Architecture discipline, the students' focal reading practices largely embraced technical, numerical and graphic details. These reading practices not only include deciphering and comprehending information from textbooks, journals and lecture notes but also involved searching for meaning of words from dictionaries. Thus, these demands point to the intricacy of the reading practices exercised by the students as revealed in the findings. Alongside these reading practices, the students obtained additional knowledge through the lectures that they attended and which were supplemented by the consultation sessions with their respective lecturers. These activities magnified their understanding and assisted the course of producing the written work assigned by the faculty.

In the same vein, the students' writing practices in the academic setting varied according to the different discourses and text production to include writing several genres, such as the laboratory report, assignments and thesis. Notwithstanding the fact that a great deal of technical, mathematical and graphic representation was applied across all genres, writing these genres required the students to cope with diverse literacy practices and competencies. Producing the laboratory report involved substantial scaffolding practices in which the students were simply engaged in finding and substituting the right information to be placed in the genres. Similar to

providing short answers in the examination, the laboratory report required minimal expressive production. Contrastively, the students needed extra effort and time to gather information by means of reading and communicating with their counterparts prior to constructing and writing their assignments. More often than not, the students were assigned group-projects which necessitated collaboration of ideas and effort as well as active communication among the group members to produce the written assignments.

Comparable to the Engineering student in Leki's (2007) study a heavy reliance on group-work projects was also evident in the case of the Engineering students in this study. It was commonplace for the students to communicate with their peers and lecturers within the classroom vicinity in order to accomplish and fulfill the requirements of their daily academic repertoire. Indeed, the findings reveal that most of the Engineering courses demanded that the students conduct oral presentations to complement the written work submitted to their lecturers for evaluation purposes. This denotes the value placed on the communicative ability expected by the academics apart from the written product mandated on the students. Additionally, with regards to the academic content, the findings revealed that clarity of the substantive content was significantly valued while language accuracy was deemed marginal.

Inevitably, the entire process of completing the course requirements called on the students' ability to select important and relevant information and to synthesize this information before creating and producing the new output. Taking into account the dynamic and evolving nature of these academic literacy practices, understanding the different discourses and academic conventions of their field was an added value for the students as these were not specifically being taught in their curriculum. Such circumstances indicated that to survive the academic world the students were generally expected to be competent and informed about these multiple and interrelated practices. Arguably, the development of academic literacy competency should be seen as a long-term endeavor that entails practice and refinement of knowledge while learning processes and strategies are transferred across multiple activities (Gilliver-Brown & Johnson, 2009). Further, Gilliver-Brown & Johnson contend that the expectations of academic literacy competency accelerate as tertiary students progress through their studies given the diverse literacy requirements and variations of written and oral conventions. The increased complexity creates a possibility that these variations will instigate confusions among the students, especially for those students whose levels of competence and confidence are less robust.

In summary, this study finds that the students' English language academic literacies are complex, embracing a combination of multiple literacy practices, which are highly interrelated and interdependent, and a variety of academic discourses using various language choices. It reveals that students' diverse individual, educational and social background and experiences build up the multiplicity and complexity of their English language academic literacy practices and competencies.

The multiplicity of language use

The complexities of the students' academic literacies described above also entail the use of multiple languages in the academic context. The findings demonstrate that the students' academic literacies comprise a set of practices and competencies that the students are required to learn and be familiar with alongside other expectations which include negotiating appropriate use of language acceptable in their discipline (Paxton, 1995). Adding to the existing diversity of the academic discourses is the considerable variation of language choices that the students had to conform to in order to 'fit' the educational milieu. While English is widely used as the lingua franca in the global world, it is extremely complicated in the context of the research participants' academic literacies.

In light of the language operated in the students' academic context, the findings recognize the tension between the English and Malay languages in the discipline area. Complying with the growth of science and technology in the global scenario, the faculty had officially acknowledged the use of English as the legitimate medium of teaching and learning while retaining the dominant status of the Malay language as the official language employed across the university population.

In view of the language used in the students' academic practices, the considerable variations of language choices were remarkable. In some writing discourses, an exclusive use of English such as in the assignments and examinations was evident, whereas this was not found in the case of the Architecture students since most of their content subjects were mainly operated in Bahasa Melayu. Moreover, there was an exceptional case, specifically in the examination, in which the blend of both languages was permissible. The findings also identify the comprehensive use of Bahasa Melayu in thesis writing across all departments in the Engineering Faculty.

In addition, the findings also mark absolute discrepancies in the medium of instructions which necessitated the students' management of multiple languages used in the lectures, tutorials and teaching resources. Indeed, the choice of language use in these contexts depends highly on the discretion of their respective lecturers. Furthermore, the findings manifest that the students' reading practices also entailed a substantial amount of English while some blend of English and Malay was also discernible. It is interesting to note that the students' were likely to converse in their own mother tongue especially with their colleagues who come from equivalent racial backgrounds when discussing their group projects albeit the projects were designed and written in English. Concurring with Chen & Hird's (2006) study, the findings unmask the students' common practices of code-switching while deliberately reserving their use of English when working in group discussions in the classroom.

As exemplified in the findings, the students were engaged with various forms of printed and digital resources which were integrated to suit different learning purposes. These take into account the plethora of mathematical, technological and scientific information in conjunction with the development of ICT which are extensively written in English. Thus, this points to the need to master the English language as a vehicle to gain access to the scientific and technological information in order to achieve academic success. The findings indicate that digital resources were highly preferred by the students because of their ease of access while the lecture notes were very much favored due to their user-friendly and precise features.

Implicit in the variety of language expectations of the faculty was the assumption that the students enrolled in the tertiary education with the standard level of competencies in both the Malay and English language. The tacit academic requirements seem to suggest that the students should possess and be competent in both languages to perform effectively and successfully in the variety of academic discourses. In reality, the students were obliged to encounter challenging tasks in their quest to acquire knowledge while attending to various demands put on them to survive in the academic world.

In tune with the study conducted by Zamel and Spack (2006), the findings of this study demonstrate that the students' academic literacies were further intensified by the fact that the students entered the tertiary institutions with varying degrees of linguistic proficiency together with multiple identities and life experiences. This remarkable diversity influenced their processes of acquiring English language and knowledge of their discipline. Zamel and Spack (1998) argue that what is often viewed as a universal approach to knowledge at tertiary education does not always resonate with

students' previous experiences. Indeed, the students' linguistic acquisition pathways are seen to be multiple and complex.

In essence, the variations of language choices within the educational environment complicate the students' English language academic literacies. While the English language is used to conform to the flow of globalization, the Malay language is principally upheld to keep to the university's convention. This study discloses an inconsistency of language use between the English and Malay language in the medium of instructions, teaching materials and academic discourses within the tertiary educational setting.

This study also notices that the students encountered various difficulties in dealing with English language academic literacies. These quandaries of managing unfamiliar words, understanding complicated language structures, managing lengthy explanations and reading long texts are evidenced in the students' reading practices. Although they did not have much problem in their listening practices, the students had to endure various challenges, attributed mainly to their constraints in applying accurate grammatical rules alongside constructing and expanding sentences, when dealing with writing and speaking practices. Their restricted vocabulary also contributed to these quandaries.

In regard to the English language, the students on the whole considered themselves as incompetent and they had a pessimistic outlook on their marginal academic literacy practices and competencies in the language. English is indeed largely perceived as a complicated language. This study unveils the students' plight with linguistics knowledge, in terms of grammar and vocabulary. With respect to communicative competence, the students are generally discontented with their meager ability to conduct oral presentations and even to converse and express themselves in English. It is also discovered that the students had to devote a considerable amount of additional time when engaging in English language discourses given their restricted productive abilities particularly in writing and speaking practices. Additionally, the students were also confronted with their overwhelming fear of communicating in English. In reality, the students' deficiencies in English have restricted their capability to perform satisfactorily in the academic arena, thus affecting their overall academic achievement.

CONCLUDING REMARKS

This study has approached the issue of the English language academic literacy competencies and practices from the perspectives of the students engaged in the acquisition of knowledge at the tertiary level. In doing so, it has drawn attention to dimensions of the students' reading, writing, speaking and listening practices and experiences in the English language. The findings highlight the intricacies of the students' academic literacies which entail a variety of activities, academic discourses and language use. The findings provide insights into the students' predicaments and concerns in dealing with the requirements of English language literacies at tertiary education. This study suggests that English language literacy learning is complex and highly contextualized particularly in the multilingual context of education such as in Malaysia.

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Collaborative Action Research for Changing Science Teachers' Understanding and Practice of Inquiry

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ABSTRACT

This interpretive case study examined the changes of three science teachers' understandings and practices of inquiry-based instruction (IBI) as a result of their participations in the professional development program, entitled the collaborative action research program. The findings of this study were obtained from multiple data sources including individual interviews, teachers' lesson plans, teachers' written reflections, classroom observations and group meetings. The data were analyzed by using within-case and cross-case analyses. The results demonstrated an improvement of teachers' understandings and practices of IBI after attending the professional development program. The three teachers conceived and incorporated most of the key features of IBI into their practices. As a result, the professional development program that included basic elements of action research was seen to be effective in promoting science teacher's understandings and practices of IBI in classroom settings.

Keywords: Collaborative action research, inquiry-based instruction, professional development, scientific inquiry, science teacher.

INTRODUCTION

Context of the study

During the period of this study (school year 2008-09), the education in Thailand has been reformed for almost ten years. The aim of the education reform is to foster the well balanced development of the Thai people, the principle that all learners are capable of learning, the notion of self-development, and the learners-centred approach (Office of the Education Council (OEC) 2003). With regard to science subject area, the Institute for the Promotion of Teaching Science and Technology (IPST) has responded to the government policy by launching a science core curriculum, so-called "the National Science Curriculum Standards (NSCS)", in order to set standard criteria for teaching and learning the science subject (IPST 2002a). According to the NSCS, science teaching and learning should emphasize the learner as the person who learns and discovers scientific knowledge by him/herself. Students are expected to learn "science" both content knowledge and the process for acquiring the knowledge. To reach these expectations, the NSCS suggests that science teachers

should change their roles from the lecturers to the facilitators who support and facilitate student's leanings by designing the learning activities, giving the advices, and preparing the learning materials that support students to learn science through inquiry which ultimately lead students to construct their own knowledge.

The IPST (2002b) assist science teachers to incorporate scientific inquiry in their classrooms by providing 5Es inquiry process as a guideline of inquiry-based instruction (IBI). The 5Es inquiry process comprises of five phases similar to the BSCS 5Es instructional model (Bybee et al., 2006) which are: 1) engagement, 2) exploration, 3) explanation, 4) elaboration, and 5) evaluation. Besides the 5Es inquiry process, the IPST suggests the use of various teaching methods to promote inquiry teaching, for examples, field work, problem solving, and reviewing documents. Although the IPST offers multiple modes of inquiry, they do not give specific prescriptions for teaching science through inquiry in the classroom, so science teachers can create modes of inquiry that fit their local classroom situations. Thus, the teaching actions of each teacher will necessarily differ based on factors in the local environment, such as teacher knowledge, student ability, and concepts of study.

Statement of the problems

Despite the fact that teaching science through inquiry has long been promoted in Thailand, its practice throughout the science classrooms has not been fully enacted (OEC 2001). A number of studies consistently report that there is an inadequate usage of scientific inquiry in Thai science classrooms (Bongkotphet, 2009; Ketsing & Roadrangka, 2008; Soparat, 2008). According to the literature, one of the main barriers that impeded science teachers' implementation of inquiry was the confusion of the teachers regarding what teaching science through inquiry was and how to transfer the approach into classroom practice (Anderson, 2002; Bybee, 2000; Ketsing & Roadrangka, 2008; Wee et al., 2007). The Nation Research Council (NRC) (1996) indicated that teaching science through inquiry required science teachers to have not only science content knowledge, skills necessary to teach inquiry, but more deeply, an understanding of what scientific inquiry was about. Once this understanding was unclear, it would act as a major impact on the adoption and implementation of inquiry in classrooms (Anderson, 2002; Keys & Bryan, 2001; Wee et al., 2007).

Another significant barrier for enactment of scientific inquiry was inadequate professional development programs to support science teachers (Anderson, 2002; Christensen, 2005; Keys & Bryan, 2001; Roehrig & Luft, 2004). Many professional development programs that had been conducted in Thailand followed a classic approach in which teachers were presented with new concepts and demonstrated with new methods by outside experts (i.e., university academics) (Yutakom & Chaiso, 2007). The professional development was usually held in a hotel, which required a high expense for some teachers to attend the program (Pillay, 2002). Many teachers have to leave their class for attending the program. In addition, the professional development programs did not have continuous assessments for teacher's performance or understanding after the programs. As a result, the professional development which is effective in helping teachers to understand and implement inquiry in their actual classrooms is needed.

Effective professional development program

According to the NRC (1996), professional development that is effective to advance teachers' knowledge and the use of inquiry should include some features that promote lifelong learning. These features are 1) providing opportunities for teachers to examine and reflect on their instructional practices from both each individual and their colleagues; 2) giving some chances for teachers to receive feedback about their practices and to understand, analyze, and apply the

feedback to improve their practices; 3) providing opportunities for teachers to experience tools and techniques for self-reflection and collegial reflection; 4) promoting the sharing of teacher expertise through the use of mentors, teacher adviser, coaches, lead teachers, and resources teachers; 5) giving chances for teachers to access to existing research and empirical knowledge; and 6) providing opportunities for teachers to learn and utilize skills of research to generate new content knowledge and pedagogical content knowledge. In this regard, professional development is related to teacher's life in school, provides opportunities for teachers to learn through designing, implementing, and reflecting on their instructional practice. In addition, it is involved teachers to take responsibility for their own professional development.

In agreement with the NRC (1996), a number of desirable features of professional development programs in Thailand have been highlighted. The OEC introduces the Plan, Do, Check, Act model (PDCA model) as a new approach for in-service teacher professional development (Puntumasen, 2004). There are a number of principles underpinning this approach including: relating to real situation and actual needs of teachers and schools; taking place in teacher's actual context; being part of the teacher's normal practice in school; involving teachers' willingness to engage in the program; promoting the sharing of teacher expertise of lead teachers; providing opportunities for teachers to plan and carry out the program; providing opportunities for teachers to use various teaching techniques, materials, media and activities; providing opportunities for teachers to have opening communication regarding instructional practice both individually and collaboratively; using the recurrence of planning, doing, checking, and acting cycle (PDCA); promoting teachers to use outcome or feedback obtained from each cycle to improve their practice of the next cycle; supporting the use of supervision, monitoring and evaluation; and aiming to reach the quality and standard of teaching profession as well as students' capabilities.

Several features of effective professional development provided by the NRC (1996) and the OEC is incorporated basic elements of action research (Kemmis & McTaggart, 1988; 2000) and collaborative action research (Oja & Smulyan, 1989) which include a) focus on practice, b) emphasis on professional development, c) self-reflection, d) democratic project leadership, e) time and support for opening the communication, f) collaboration, and g) recurrence of plan, act, observe, and reflect (also referred to as the action-reflection cycle). According to Oja and Smulyan (1989), action research focused on practitioners' problems and centred on the actions of practitioners in situation. It supported teacher to make changes, to solve their own problems, and to improve classroom practice. Thus, action research helped teacher to enrich their teaching profession.

Many studies reveal that action research and/or collaborative action research is an effective approach for professional development (Briscoe & Peters, 1997; Christensen, 2005; Savoie-Zajc & Descamps-Bednarz, 2007; van Zee et al., 2003). Briscoe and Peters (1997) reported that collaborative action research increased teachers' ability to analyze and improve classroom practice. A study by van Zee and her colleagues (2003) showed that a collaborative partnership between pre-service teachers and their mentor teachers facilitated pre-service teachers' self-perceptions, teaching science through inquiry, and taking ownership of their own learning. According to Christensen (2005), collaborative action research was a feasible way of changing teacher practice. It helped teachers to promote scientific inquiry in laboratory lessons. By doing action research, teachers gained new knowledge which helped them solve their problems, broaden their knowledge base as professionals, and learn research skills which can be applied to their teaching (NRC, 2000). Hence action research involves teachers into lifelong professional development. It also stands to be an appropriate form of professional development in terms of improving teachers' understanding and practicing of inquiry.

In this study, a professional development program, known as the collaborative action research program (CAR Program) was established. This program was characterized by the basic elements of action research (Kemmis & McTaggart, 1988; 2000) and collaborative action research (Oja & Smulyan, 1989). The CAR Program aimed at promoting the changes of three case study teachers' understandings and practices with respect to IBI in their actual classrooms. The article will present the way in which the three case study teachers understood and implemented IBI in their classrooms, as a result of their participation in the CAR Program.

RESEARCH QUESTION

What are the three science teachers' understandings and practices of inquiry-based instruction as a result of their participations in the collaborative action research program?

METHODOLOGY

Research design

The methodology used for investigating the change of teachers' understandings and practices about IBI was interpretive methodology (Marshall & Rossman, 2006). The method of the study was qualitative case study (Merriam, 1998).

Participants

Participants of this study were three science teachers (Mr. A, Mr. B, & Mr. C) who taught general science subject to 7th–9th graders in two different public schools in Bangkok. The teachers were selected because they were willing to participate in the professional development program due to the reason that they wanted to improve their knowledge and the use of inquiry in classrooms. All teachers taught in suburban lower secondary schools that served a predominantly Buddhism students from working-class families. Mr. A was 29 years old and had 7 years of science teaching experiences. Mr. B was 32 years old. He was an experienced science teacher in his 11th year of science teaching leading into the 2008 academic year. Mr. A and Mr. B were colleagues. They both taught at the same school. Mr. C was 51 years old. He had 11 years of science teaching experience. The three teachers' class size varied from 30-40 children. Many students of the three teachers had an average to low achievement scores in science while they were in elementary grade levels (grade 4th-6th).

The collaborative action research program

The Collaborative Action Research Program (CAR Program) was a professional development program established in this study. The CAR Program was designed to promote the changes of the three case study teachers' understandings and practices with respect to IBI in their actual classrooms. The program was developed according to the basic elements of action research (Kemmis & McTaggart, 1988; 2000) and collaborative action research (Oja & Smulyan, 1989) which include: focus on practice, emphasis on professional development, self-reflection, democratic project leadership, time and support for opening the communication, collaboration, and repetition of the action-reflection cycle.

There were five persons who were involved in the CAR Program. These people were called the collaborative action research team (CAR Team). The CAR Team comprised of three science teachers and two science educators. The first and second authors of this article were the science educators

involved in this program. By engaging in the CAR Program, the three teachers learned to change their understandings and practices with regard to IBI through the three time repetition of the action-reflection cycle and attending a number of meetings with the CAR Team. There were four meetings that occurred at central meeting site (also referred to as central meetings). The rest of the meetings were held at individual teachers' schools (referred to as one-to-one meetings). The aims of the first central meeting were: 1) to encourage the teachers' awareness of the importance of IBI in science; 2) to set up the key features of IBI of the CAR Program; and 3) to have the teachers learn IBI through reflection on their own instruction and communication with each other. The aim of the following central meetings was to provide the teachers with the opportunity: 1) to share their inquiry-based lesson plans, teaching experiences, and difficulties in understanding and implementing the lessons; 2) to assist and support each other in improving inquiry-based lessons; and 3) to learn IBI through reflection on their own instruction and communication with each other. For one-to-one meetings, the primary aims of the meetings were to facilitate individual teachers to work through the action-reflection cycle and to assist them regarding the points that they found difficulties in understanding and practice.

The CAR Program encompassed a period of time of approximately 8 months (July 2008 – February 2009). It was composed of four phases: Preparation, CAR Cycle I, CAR Cycle II, and CAR Cycle III. In the Preparation phase, the teachers' initial understandings and existing practices with regard to IBI were investigated. The findings from this phase were used for comparing and contrasting with the results of individual teacher's understandings and practices in the following three phases. For the CAR Cycle I, CAR Cycle II, and CAR Cycle III, the teachers learned to change their understandings and practices with regard to IBI through the three time recurrence of the collaborative action research cycle (also referred to as the action-reflection cycle) and attending a number of meetings with the CAR Team. In each action-reflection cycle, individual teachers planned, acted, observed, and reflected on their own instruction. After complementing each cycle, the teachers presented their lesson plans and teaching experiences for discussion with the CAR Team in a series of central meetings that were part of the CAR Program. Consequently, the teachers took an active role in their learning and working with each other during the central meeting while the researchers' role was to facilitate and assist individual teachers in their learning of IBI through the work in the action-reflection cycle and the meetings of the CAR Team. A diagram of the CAR Program is provided in Figure 1.

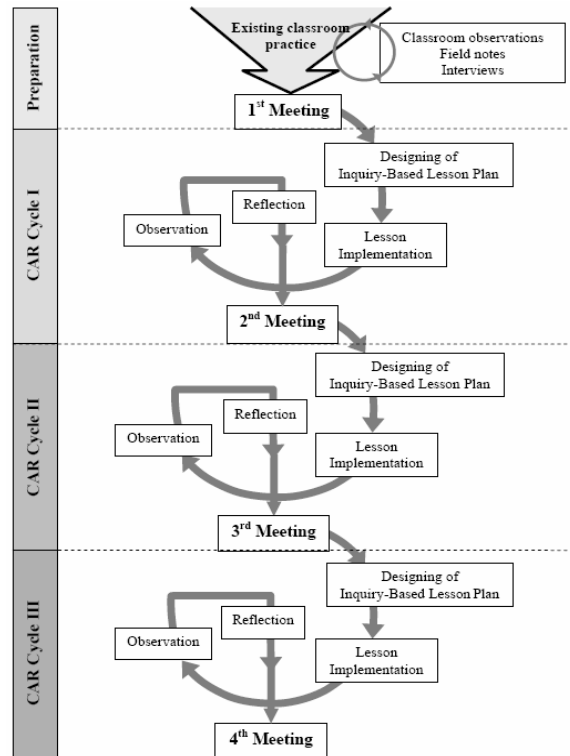


Figure 1. Diagram of the CAR Program.

Key features of inquiry-based instruction

The aim for having these key features were to guide the case study teachers in planning, implementing, observing, and reflecting on their IBI and to provide the researchers a framework for collecting and analyzing data. The key features of IBI were derived from the essential features of classroom inquiry defined by NRC (2000, p. 24) and the 5Es inquiry process guided by the IPST (2002b, p. 79). The key features of IBI of the study covered four aspects involving: 1) classroom lesson introduction, 2) investigation, 3) conclusion/ explanation, and 4) communication. A brief description of these features is displayed in Table 1.

Table 1. *Key features of inquiry-based instruction*

Instructional Process	Descriptions
Lesson Introduction	1. Inquiry process begins with question(s) that students are interested in and/or curious about.
	2. Inquiry process begins with scientifically oriented question(s).
Investigation	3. Scientifically oriented question is answered by scientific investigation.
	4. Students, the teacher, or both parties design(s) an investigation.
	5. Students conduct an investigation and collect data.
Conclusion/ Explanation	6. Students, the teacher, or both parties analyze(s) data gathered from an investigation.
	7. Students formulate a conclusion/explanation from evidence.
Communication	8. Students communicate and justify their conclusion/explanation with other students.
	9. Students evaluate their conclusion/explanation in the light of alternative ones.

DATA COLLECTION AND ANALYSIS

This article provides results from the three phases of collaborative action research with the teachers: CAR Cycle I, CAR Cycle II, and CAR Cycle III. These three phases covered the period of time the case study teachers received the professional development experiences from the CAR Program. To answer the research question, individual cases designed and implemented one inquiry-based lesson plans per phase. For Mr. A, he taught on the topic of chemical reactions between metal and acid; reflection of light; and refraction of light, respectively. For Mr. B, his lessons involved: a study of Mendel's work; the benefits and impacts of genetics; and living things in the school's garden. Mr. C's lessons dealt with: heredity, ecosystems, and environmental problems in the community. The teachers' inquiry-based lesson implementations were observed and video-recorded. After implementing each lesson, the teachers were interviewed individually regarding their understanding of IBI. The interviews were audio-recorded and transcribed verbatim. The individual teachers were given a DVD of their instruction. The DVD allowed the teachers to observe their own instruction and reflect on their practices via reflective journal. At the end of each phase, the three teachers brought their lesson plan and teaching experience to share and discuss with the CAR Team during central meetings. These meetings were video recorded. As a result, the data were collected from multiple sources, including individual interviews, teacher's inquiry-based lesson plans, teacher's written reflections on their instructions, classroom observations, and central meetings of the CAR Team. The data from individual teachers was initially evaluated through a within-case analysis and then followed by a cross-case analysis (Marshall & Rossman, 2006; Merriam, 1998).

FINDINGS AND DISCUSSIONS

For this article, the common findings that emerged from a cross-case analysis are reported and discussed. The findings are illustrated by considering the teachers' understandings and practices of IBI according to the four aspects of the key features of IBI: classroom lesson introduction, investigation, conclusion/explanation, and communication.

Classroom lesson introduction: Motivating students' interesting, clarifying investigated question, & eliciting students' prior knowledge

The findings across the three case study teachers showed that after receiving the professional development experiences, all three teachers consistently agreed that it was important to motivate students' interest in the concept being focused upon and clarify the questions in which students intended to answer. This understanding was evidenced in Mr. A's and Mr. C's information, as follow:

Researcher: For this lesson, what is the main question that you want students to answer?

Mr. A: I want students to know the products of chemical reactions between metal and acid. So the question is, "What are the products of reactions between a metal container and an acidic food?"

Researcher: Do you think students are interested in this question?

Mr. A: Yes I do because the question is from the students. I revise their questions. At first students ask me, "What's going on if we put a stainless steel spoon [metal] in orange curry [acidic food], what's the product of this reaction, and is it dangerous?" I then adjust their questions into, "What are the products of reactions between metal

containers and acidic food?” However, in the experiment we use hydrochloric acid and zinc as samples of acidic food and a metal container. The question is then slightly changed into, “What are the products of reactions between zinc and hydrochloric acid?”

(Mr. A’s interview #2 for the CAR Cycle I: November, 2008)

For the teaching and learning process, I began by motivating students’ curiosity. I divided students into groups . . . I raised issues for discussion. However, I found it was difficult to ask questions because normally I did not ask questions. I typically assigned them to design the activity. But, when I used this approach I felt students had more interest on the learning activity even though some students did not answer the questions. It was probably because my questions were not clear . . .

(Mr. C’s narration during the central meeting #3: January, 2009)

In addition, Mr. A and Mr. B perceived a new understanding that they should also elicit students’ prior knowledge. This understanding was evidenced in Mr. A’s narration of his lesson during the second meeting as illustrated below.

In the engagement phase, I asked students about their prior knowledge which included chemical reactions, reactants, and products...students were able to answer the questions. They knew chemical reactions, reactants, and products. After that, I elicited students’ knowledge about metal and non-metal by showing many objects in the classroom and asking students to classify...I discussed with students about the chemical reaction between metal and acid found in our daily lives such as a stainless steel tea spoon in vinegar...after that I asked students questions about how we could test the reaction...

(Mr. A’s narration during the central meeting #2: December 2008)

This understanding was reflected in Mr. B’s interview with regard to his instruction for the CAR Cycle II. As Mr. B stated:

I introduced this lesson by showing pictures of Thalassemia patients because I wanted students to feel the disease was close to their lives. When they saw the pictures, students began to think. Some students thought the patients looked like them. Students were interested in the lesson. By doing so, I also recognized how many students knew about the disease.

(Mr. B’s interview #3 for the CAR Cycle II: January, 2009)

The findings across the three case study teachers showed that after having professional development experiences from the CAR Program, the three teachers perceived that they should introduce inquiry-based lessons by motivating students’ interest, clarifying questions to investigate, and eliciting students’ prior knowledge of the concept being focused on. The teachers’ understandings and practices were consistent with one of the essential features of classroom inquiry defined by the NRC (2000). According to the NRC (2000), learners were engaged in inquiry-based classroom through scientifically oriented questions. The NRC (2000, p. 24) defined, “scientifically oriented questions are questions that lead themselves to empirical investigation, and lead to gathering and using data to develop explanations for scientific phenomena.” The NRC also noted that the questions must be able to be addressed by students’ observations and scientific knowledge gathered from reliable resources. The three teachers’ understandings and practices were also compatible with the BSCS 5Es instructional model (Bybee et al., 2006) and the 5Es inquiry process (IPST, 2002b). Both science teaching models began with an engagement phase. In this

phase, in which science teacher used a short activity to promote students' curiosity and access students' prior knowledge

Instruction: Having students design & conduct hands-on investigation

The findings across the three case studies showed that after participating in the professional development program, all three teachers agreed that students should learn science through hands-on activities. The three teachers also accepted that students should be involved in the design of the investigation. This new understanding was evidenced in Mr. A's and Mr. C's information, as follow:

In this lesson [chemical reactions between metal and acid], I guided students to design the experiment. I guided them to use zinc as a sample of a metal container and hydrochloric acid as a sample of acidic food. Students planned to put a piece of zinc into a test-tube of acid, and observe the reaction...I assigned students to use a data table. But, students decided what they wanted to observe. They wanted to observe gas, colour of the solution, dregs in the solution, corrosion of zinc, and test the pH of gas. I then allowed them to adjust the data table on the worksheet to fit the things they wanted to observe.

(Mr. A's interview #2 for the CAR Cycle I: November, 2008)

...In this lesson, students planned the survey. They think of where they were going to survey, what they were going to collect, and how to collect the data. As usual, I provided them freedom to think. Students talked with friends in groups. After that, I asked them to present their plan to others...if their designs were not good, I asked the others to advise and adjust until I felt it was ok. In the third period, we then conducted the survey...

(Mr. C's narration during the central meeting #3: January 2009)

For Mr. A, he also developed a technique for helping students to understand the investigation, as illustrated below.

Mr. A: I drew pictures to help students track the steps of investigation. In the past, I only told them what to do and I had to tell them many times because students did not listen to me. Even though students read the experiment on a worksheet, they did not know what they were expected to do. When I used this technique, it helped me a lot.

Mr. C: I think it is because they couldn't imagine.

Mr. A: No, they couldn't imagine. It seems like they are able to understand pictures better than writing.

(Central meeting #3: January 2009)

For Mr. B, he changed his notion regarding methods of scientific investigation. Before receiving the professional development experiences from the CAR Program, Mr. B believed experimenting was the only appropriate method for students to learn science. However, after he experienced the professional development program, Mr. B agreed that there were various methods of inquiry students could employ for addressing questions. This understanding was reflected in his lesson plans and classroom instruction in which Mr. B had students answer investigated questions by reviewing documents (e.g., textbooks and worksheets) and conducting a survey.

The findings across the three case studies showed that all of the teachers understood that they should have students learn science through hands-on investigations. The three teachers also accepted that students should be involved in the design of the investigation. This understanding

corresponded with the NRC (2000). According to the NRC (2000), scientific investigation could be developed by teacher, students, or both parties, depending on the expected learning outcomes. For Mr. B, he also extended his understanding regarding methods of scientific investigation. Mr. B perceived that there were various methods of inquiry students could conduct for addressing questions. This understanding aligned with the IPST (2002b). According to the IPST (2002b, p. 81), there were various methods of scientific investigation teachers could use in inquiry such as observation, survey, experimentation, and review of information from reliable sources.

Conclusion/Explanation: Having students analyze data, formulate explanation based on evidence, and compare their conclusion with prior knowledge

The findings across the three teachers indicated that after participating in the CAR Program all three teachers maintained their understandings that students should take an active role for analyzing data and formulating conclusions. In Mr. A's lessons, he improved his strategy for helping students to formulate explanations based on evidence as illustrated in the interview below.

Researcher: How do you help students analyze data and make conclusions?

Mr. A: I asked students to write their data on the board. I then gave them "questions after the experiment" and assigned students to answer the questions in their groups. After that, we discussed together in order to answer the questions. After the discussion, I gave students time for making a conclusion in their groups. I finally randomly selected some students in each group to tell his/her conclusion. During this period, I helped students to revise their conclusion until I felt they were able to make an appropriate explanation.

(Mr. A's interview #2 for the CAR Cycle I: November 2008)

In Mr. B's classes, he helped students analyze data and formulate conclusions by leading discussions. As Mr. B wrote, "At first, I had students share their information from textbooks and worksheets. I wrote their information on the board. We then discussed the information and generated appropriate conclusions together" (Mr. B's reflection #5 for the CAR Cycle II: January 2009). Like Mr. B, Mr. C changed his technique for helping his students analyze data and formulate conclusions by using leading discussions.

With regard to students' prior knowledge, the three teachers accepted that they should have students compare the new knowledge learned from investigations with their prior knowledge. As evidenced in the discussion during the second meeting below:

Researcher: I agree with you that we may move this activity [students observe picture of an animal (pillbugs) and write what they know about the animal] to the last stage, but only when students already have prior knowledge regarding pillbugs.

Mr. B: Instead of picture, I think we should have students observe the real pillbugs at first. We can move the first activity to the last stage or cut it out.

Mr. A: I think we can keep the first activity but I think it's better to have students observe pillbugs in the first period.

Mr. C: Let me clarify; in this point I think the aim of the first activity is to elicit students' prior knowledge while the observation in the activity

[observing real pillbugs] aims to have students learn the concept. After that, we have students compare between what they initially understand with the knowledge they learn from the observation. So, if we cut the first activity, it means we don't have any information about students' prior knowledge.

Mr. A: I see, so we couldn't connect between the new knowledge and prior knowledge.

Mr. C: Yep.

Mr. B: So, we use the first activity to assess students' prior knowledge, correct?

Mr. C: It isn't really teachers assessing students. But, we want the information to have students assess themselves. To have students compare their current knowledge and their new knowledge. By doing so, students are able to see whether or not their prior understanding is correct.

Mr. B: Hm...I see, but it is still looks complicated.

(Central meeting #2: December 2008)

After experiencing the professional development program, all three teachers maintained the same notion that students should be responsible for analyzing data and making conclusions. They also perceived that conclusions were generated based on evidences obtained from investigations. In addition, the three teachers conceive that they should have students compare their conclusions with prior knowledge. The teachers' understanding aligned with one of the essential features of classroom inquiry (NRC, 2000). According to the NRC (2000), learners formulated explanations from evidence to address scientifically oriented questions. The explanations must be consistent with investigational evidence. This finding was also compliant with the BSCS 5Es instructional model (Bybee et al., 2006) and the 5Es inquiry process (IPST, 2002b). In the explanation phase of the two teaching models, learners were encouraged to formulate conclusions/explanations based on evidence gathered from investigation and/or reliable resources.

Communication: Giving students the chances to evaluate & justify their data and explanations with others

During the three different phases, students in the classrooms of the three teachers had chances to evaluate and justify their data and conclusions with other students. The findings across the three case study teachers showed that all of the teachers maintained their understanding in that students should share their data and conclusions with others. However, the three teachers' notion with regard to the aim of sharing was changed. Before experiencing the professional development program, the three teachers asked students to present their data and explanation because they want to assess students' correctness of conducting investigation. After the CAR Program, the presentation was aimed to provide students chances to evaluate and justify their data and conclusions with the other groups of students, as evidenced in Mr. A's and Mr. B's information below.

Researcher: What do you see when students share their data with others?

Mr. A: They have more information. Some groups have missing data, so the others could help to fill in the gaps. Some groups do the experiment incorrectly. When they see data from other groups, it activates them to think about what went wrong. Communication helps students to have a more complete set of data. It also helps students to learn to listen to and accept other students' ideas.

(Mr. A's interview #4 for the CAR Cycle III: February, 2009)

1. Each group of students presents their data of living things [by sticking pictures on the board].
2. Students work in groups to classify the living things based on their criteria.
3. Students present their classifications [by sticking classification diagrams on the board].
4. Students and the teacher discuss about the data and classification.
5. Students compare the findings with other groups as well as their prediction.

(Mr. B's lesson plan #6 for the CAR Cycle III: February, 2009)

Mr. C's response during the last interview reflected that he also wanted students to justify and evaluate their understanding with each other, as illustrated in the excerpt below.

Researcher: Did you have students communicate their data and conclusions in this lesson?

Mr. C: Yes, I did. But, practically, students did not communicate much in this lesson.

Researcher: Why do you think they did not communicate?

Mr. C: Because students just talked to me, and answered my questions. They did not consult with their colleagues in their groups. Students did not brainstorm and exchange ideas. I did not see students talk to each other in that way.

(Mr. C's interview #4: February, 2009)

With regard to communication, after the CAR Program, the three teachers maintained their understanding in that students should evaluate and justify their data and explanations with other groups of students. The findings showed that, in practice, the three teachers tended to provide students opportunities to communicate their data and conclusions more than in their lessons before having the professional development experiences. The three teachers' understandings and practices were consistent with one of the essential features of classroom inquiry (NRC, 2000). According to the NRC (1996, p. 27), learners should communicate and justify their explanations with others. The NRC indicated "sharing explanations provided others the opportunity to ask questions, examine evidence, identify faulty reasoning, point out statements that go beyond the evidence, and suggest alternative explanations."

When comparing the teachers' understandings and practices with the key features of IBI of this study, the results indicated that the three teachers' understandings and practices were aligned with all of the key features of IBI. However, the teachers' practices moved back and forth between the notions of teacher-directed inquiry and student-directed inquiry. For teacher-directed inquiry, the

teacher provided a question, hands-on investigation, and materials for learners. Nonetheless, the learners have chances to think logically, to select a method for recording data, and to analyze data (Tafoya et al., 1980, cited in Bell, 2002). Teachers allow students to formulate explanations on their own. They do not inform learners of investigational outcomes beforehand (Colburn, 2000). Students-directed inquiry had some similarities with teacher-directed inquiry. The addition was that in this type of inquiry learners formulated their own problem or question to investigate. Learners devised their own investigation to address the question. The teacher acted as a facilitator who provided learners with materials as needed. Colburn (2000) pointed out that student-directed inquiry was parallel with the way scientists study natural world.

When comparing the time in which individual teachers began to develop their understandings and practices in relationship to the key features of IBI, the findings indicated that Mr. A seemed to develop most of the key features of inquiry after experiencing the first cycle of the collaborative action research and maintained these new understandings and practices throughout the CAR Program. For Mr. B and Mr. C, the findings pointed out that the two teachers began to incorporate many of the key components of IBI during the second or third cycle of the collaborative action research. The fact that individual teachers were different in terms of the time it took to develop their skill with IBI may relate to the teachers' background. Mr. A had a Bachelor's degree in Science (Applied Biology) and he just completed a Master's degree in Science Education one year prior to the CAR Program. Thus, Mr. A may have had more extensive or deeper content knowledge in science and he may have been familiar with scientific inquiry as an aspect of a pedagogical tool.

CONCLUSION

The results found among the three case study teachers indicated that after the three teachers received professional development experiences from the CAR Program, their understandings and practices were broadened in all aspects of the key features of IBI. In particular, the teachers' understandings and practices moved back and forth between the notions of teacher-directed inquiry and learner-directed inquiry. The findings across the three teachers shown that, during lesson introduction, the teachers had activities to promote students' interest and eliciting students' prior knowledge. All of the teachers provided students opportunities to design investigations. Students were encouraged to formulate conclusions based on evidence gathered from the investigations. The teachers gave chances for students to think logically and critically about the investigations. Students were provided with opportunities to evaluate and justify their data and conclusions against alternative ones. These results suggested that the CAR Program was an effective professional development program for promoting the case study teachers in terms of understandings and practices of IBI. The study also implies that the incorporation of the basic elements of action research and collaborative action research within a professional development program is useful for enhancing the teachers' understanding and practice of IBI in classroom settings.

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Every Contact Leaves a Trace: IPA as a Method for Social Work Research

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ABSTRACT

Morris (2006) argues that there is more than one way to conduct systematic social work research: positivism, post-positivism, critical theory and constructivism. It is in constructivism, through the use of Interpretive Phenomenological Analysis (IPA) that I situate my research topic to try to interpret and make sense of Muslim students' lived experience in New Zealand schools.

In the study of forensic science, Locard was famous for saying that with every contact, a trace is left behind (Newton, 2008). The premise behind Locard's theory is that we always take something with us and we also always leave something behind. In my study of Muslim student's lived experience in NZ schools, I see it as something located within Locard's theory whereby in each student's contact with another, be it individuals or groups, a trace is left behind. Through IPA I hope to discover how Muslim students make sense of this trace, interpret it and understand it.

An IPA study is about trying to understand the experiences of an individual in a certain phenomenon, how they made sense of it and what meanings those experiences hold (Smith, 2004). It has an idiographic focus and is based on two important underpinnings, phenomenology and hermeneutics.

IPA as a method in social work research is new and rare (Houston & Mullan-Jensen, 2011), however, it is very much aligned with social work values of striving to give a voice to minorities, to empower and learn from each other. It allows them to tell their stories, through a relationship that is built based on trust and respect – and for social workers, the opportunity to be more aware and empathetic, allowing them the opportunity to self-reflect and improve their practice.

Keywords: Qualitative social work research, social constructivism, phenomenology, hermeneutics, interpretative phenomenological analysis (IPA), cross-cultural research.

INTRODUCTION

Describe This paper provides a brief discussion of a qualitative study that uses social constructivism as a base and Interpretative Phenomenological Analysis (IPA) as a tool for social work research with Muslim students on their lived experience in New Zealand schools. In using IPA as a tool for social work research, I see it as basically about going back to the basics of social work practice: starting with the client and in the process draw on the similarities of characteristics in IPA and social work

practices to build a strong research-informed practice outcome. As this paper attempts to explain how IPA is suited to social work research, and for ease of understanding, the term “client” is used generally to refer to users of social services.

I see IPA as being particularly suited for social work research especially in a cross-cultural context with minorities and the vulnerable. This is because IPA has phenomenology and hermeneutics as its theoretical underpinnings and idiography as its focus, where the focus is on a particular event or situation. It gives participants the opportunity to describe their individual experiences of a particular situation through their world-view, how they feel about it, what meanings they ascribe to it and how this impacts on their future actions and behavior. It puts them at the forefront of the research, they being the expert and the researcher the curious party (Smith and Osborn as cited in Smith, 2008).

In starting with the client, I am also taking my starting point from the study of forensic science, where Locard was famous for saying that every contact leaves a trace. He argued that when two objects come into contact, there is a trace or residue left on each other and upon careful and detailed examination, this can be identified, provided the integrity of the evidence is not contaminated (Newton, 2008). In my study of young Muslims experience in New Zealand schools, and in a cross-cultural context, it is about the use of IPA to obtain very detailed and rich information in order to discover the “trace” that was left behind when individuals encounter each other.

An IPA study is about exploring the individuals’ lived experience, what Van Manen (1990) regard as tapping into the unique nature of each human situation. Dilthey (as cited in Van Manen, 1990) suggested that at its most basic level, lived experience is about “our immediate, pre-reflective consciousness of life: a reflexive or self-given awareness which is, as awareness, unaware of itself,” (p.35). He further said that “lived experience is to the soul what breath is to the body,” (p.36). In this aspect, Van Manen (1990) sees lived experience as the breathing of meaning into an event/experience and the meanings people place on it can only be illuminated when people go through a process of reflection. He argues that research of a phenomenological nature will have lived experience as a starting point and end point where lived expression is transformed into a textual expression of its essence through a subjective and reflective process of interpretation (Van Manen, 1990). Houston and Mullan-Jensen (2011) also argue that “at the heart of qualitative investigation into social work is an attempt to understand meaning but in the context of the wider social processes that shape it” (p.2). Mason (as cited in Houston & Mullan-Jensen, 2011) further argues that “social experience and lived realities are multi-dimensional and our understandings are impoverished and may be inadequate if we view these phenomena only along a single dimension,” (p.2). By taking an all-round view, through IPA, which has hermeneutics and phenomenology as its base, the participant’s psychological insights can be obtained alongside an understanding of how human and social structures play their roles (Houston & Mullan-Jensen, 2011).

Using IPA is also an attempt to step out of my comfort zone, having gone through social work education in the early nineties where positivism and quantitative methods took central stage. The many new issues cropping up in social work practice today has become more and more challenging and perplexing, and it has been helpful to take a step backwards and look at the big picture from a different angle, what Morris (2006) suggests as a range of methodology. Liamputtong (2010) argues that we are now living in a time of social turmoil, and that as social scientists, we cannot afford to ignore what is so obvious to us – poverty, health and social inequalities – that we should make it our moral compass to try to better the lives of so many others out there and that qualitative research is one way of doing it. The tagline for the University of Kansas’ School of Social Welfare says it so aptly: “*because people deserve lives with dignity*,” (“Kansas University”). Skidmore *et al.* in Thompson (2000) argue that the very heart of social work is about dignifying the human process and it is my

belief that in conducting social work research, this aspect is intertwined and I see IPA as being able to deliver especially when the research has a cross-cultural context.

It is my argument that IPA as a tool for social work research aids in reflection on our practice and its values through starting with the client, allowing them to tell their stories as they are, helps build rapport and trust and provides a level of intimacy between researcher and participant in a way that ultimately leads to a unique lived experience itself for both participant and researcher. It dignifies the human process – through compassion and respect for another human being, regardless of their background, creed or color and a strong belief that inherent in all of us, there is worth and that everyone has a story.

BACKGROUND

Before I go further into my arguments as to why I choose IPA as a method for social work research with minorities, it is best that I first try to outline briefly how I see social work. The International Federation of Social Workers (IFSW) defines social work as the following:

The social work profession promotes social change, problem solving in human relationships and the empowerment and liberation of people to enhance well-being. Utilising theories of human behaviour and social systems, social work intervenes at the points where people interact with their environments. Principles of human rights and social justice are fundamental to social work. (“Global standards”, 2004)

The Kansas State University describes social work as a profession for those with a spark of idealism, a belief in social justice, and a natural love of working with people (“Kansas State University”). Thompson (2000) meanwhile argues that there is no single, simple answer to the question ‘What is social work?’ Both he and McLaughlin (2007) sees it as a ‘contested concept’ – that is eventually the definition of social work and what it is will depend largely on how powerful groups and institutions negotiate and dominate to lay claim on what they see it as.

Thompson (2000) nevertheless argues that social work has an existential basis in that the fundamental elements of human existence cannot be left out when trying to understand social work practice especially the ontological aspects. Similar to the definition of social work by IFSW, he argues that human existence, seen through the ontological lenses, is made up of two aspects, personal (individual) and social (environment). It is about individuals in society, and it is intertwined and cannot be separated. Heidegger (as cited in Lopez & Willis, 2004) argues that the important part of the phenomenological inquiry is the relation of an individual to his/her *lifeworld*. He defines *lifeworld* as the world that an individual lives in that invariably influences its realities. It is the belief that humans cannot separate themselves from the world thus Heidegger’s term *being-in-the-world* (Lopez and Willis, 2004). In contemporary social work too, from the early social work of Mary Richmond in the UK to Jane Addams in the USA, it is argued the social side of human existence and its impact on the lives of individuals can never be left out (Fook, 2002).

Whichever way we define social work, I believe that the concept of the human individual that incorporates a belief in its worth and strength of the spirit, of its ability to overcome adversity and fear lays the foundation for the start of social work. Angelou (in Trevithick, 2000, p. 4-5) says that, “As human beings, we are complex and unique individuals and always more than our suffering.” This is what contemporary social work advocates through the Strengths Perspective, what Saleebey (n.d.) defines as “everything you do as a helper will be based on facilitating the discovery and embellishment, exploration, and use of clients’ strengths and resources in the service of helping them achieve their goals and realize their dreams” (p.1). In this aspect, I am also arguing that this

belief in the human worth and its courage is the main part of dignifying the human process and must not only be seen on the part of the client, but also in the social worker. It should be about two parties coming together, pursuing positive change and willing to work toward it, respecting each other's space, abilities and limitations while admitting that the past is a lesson learnt and finding strength from it.

EPISTEMOLOGY

The epistemological foundation of my research is social constructivism that sees reality as dynamic and socially constructed (Granvold, N.D.). Knowledge is brought about through social constructivism where individuals, influenced by their ethnicity, past history, socialization, culture and beliefs, rely on understanding each others' actions and assigning meaning to them. Freeman and Mathison (2009) argue that in taking a social constructivist position in research, it is about a belief that there is no objective reality and that "all knowledge and beliefs about the world are active human constructions and, as such, are mediated by the social, historical, institutional, and economic conditions within which these constructions occur" (p.1) and it recognizes that the research participants are active in the co-construction of meaning and understanding. Without knowing what the meaning is, we will not be able to comprehend the phenomenon or act at hand. Here meaning and understanding must come hand in hand. It is what Weber (Elwell, 1996)) calls "subjective understanding" or *verstehen*. Greene, Jensen and Harper (1996) argue that in working with clients who are from ethnically-diverse backgrounds, the use of the reflective self is an important element. They argue that a person's definition of reality and self are socially-constructed and embedded in it is the individual's ethnicity.

As such, for my study on young Muslims' lived experience in New Zealand schools, in choosing the social constructivism paradigm, the philosophical focus is on the participant's socially constructed reality, that is, interpreting the experience or story from their words, how they experience the world, their interactions and the settings where it all occurs. It is a study of human consciousness and its place in a social context. In line with a hermeneutic inquiry, the focus is not on human subjectivity but what the narratives imply about what the individual experiences every day and how they place meanings on it. This is also consistent with the constructivist epistemology that says knowledge exists at both the explicit and tacit levels (Granvold, N.D.). Being a Malaysian and having an understanding of Islam and the Muslim way of life through education and family ties, also makes it easier for me to delve into the complexities and sensitivities of cross-cultural research on the Muslim students' *lifeworlds* in New Zealand schools. My experience as a new migrant and student in New Zealand coupled with my daughter's on-going experiences in school also provided further insight into why I need to take a social constructivist stand in my research.

Phenomenological studies have an idiographic focus (of a particular situation) and a psychological context whereby the narratives of the participants will be elucidated in order to capture the essence of the experience (Creswell, 2007). It is concerned with the ways in which human beings gain knowledge of the world around them and argues that certain forms of knowing could be more constructive than others due to different approaches to human understanding (Willig, 2001).

The interpretive phenomenological paradigm in qualitative research is most suited for my study of lived experience as it is my view that all individuals have a story to tell and that their stories are unique. Through developing an empathetic understanding, I hope to interpret the individual's construct of experiences and the only way to do justice to this experience is through giving it an idiographic focus.

Ricoeur (as cited in Herda, 1999) describes hermeneutics as an art of establishing indirect meanings where one goes beyond the words and perspectives of both 'insiders' and 'outsiders.' In my research, I would need the insider experience of Muslim students in schools in New Zealand. This consists of detailed and intricate description of their school experience, their interpretation of the experience, the meanings they place on it and how this in return affects their actions and behavior. The relationship between me and the participant is dynamic and brings about constant mutual critical reflection, typical of a hermeneutic tradition. The characteristics of the qualitative interpretive phenomenology paradigm in relation to the inquiry are not only appropriate as a match but deliver justice to the inquiry itself which is about investigating and interpreting the experiences of Muslim students in a school context.

Houston and Mullan-Jensen (2011) argue that qualitative social work inquiry can only benefit if it combines strengths of various elements such as interpretative and phenomenological traditions with mining the insights from discourse of social structures. In this aspect, I see students as creators of their own world and I will not know their world until I understand the meanings in their world. Research of an IPA nature is very much grounded in humanism and challenges the ability of the researcher to delve into the world of the participants and obtain first hand stories; stories that can help build better relations and an enlargement of everyone's world view. It is the ability to soften and sensitize the experiences that makes it worthwhile and truthful, giving the lived experience character and centre stage. The narration of an individual's lived experience entails varied levels of emotions, recalling of events, assigning and reassigning of meanings and reflection of the experience – all this is what quantitative research cannot do. In my opinion, it is the assigning of meanings and values that makes the research stand out and appealing.

The intention here is to achieve understanding of the phenomenon at hand and for both parties to benefit from the critical reflection process. While it does not aim to generalize, the reflection process will guide one to understand not only oneself but in relation to the other. Shahideh (2004) suggests that people have a "responsibility to remain open to new understandings and seek different meanings and interpretations about the events that have shaped our past history" (p.4). In my research, I hope to discover Gadamer's (2000) "fusion of horizons" where the concept of horizons is used to show how understanding forms. The horizon is defined as, "...the range of vision that includes everything that can be seen from a particular vantage point. A person who has no horizon does not see far enough and hence over-values what is nearest to him," (pp. 301-302).

Interpretative Phenomenological Analysis (IPA)

Interpretative phenomenological analysis (IPA) is a branch of phenomenology philosophy founded by Jonathan Smith. It is concerned with how individuals make sense of their experience in their personal and social world and it has an idiographic focus (Smith, 2003). Idiographic here means to focus on the particular incident being studied.

An IPA study is concerned with the phenomenological aspects where its key focus is in exploring experience in its own terms (Reid, Flowers & Larkin, 2005), (Smith, Flowers & Larkin, 2009). It is characterized by a 'bottom up' approach (inductive) and does not set out to prove a hypothesis but rather attempts to provide detailed insight of the subjective world of the participant through the reflected personal experience of the subject. Husserl's 'back to the things themselves' provides the guidance for IPA researchers (Reid, Flowers & Larkin, 2005).

The findings of an IPA study are recognized as the interpretation of the researcher, as it is about the researcher attempting to make sense of the participant trying to make sense of their experience, what Smith calls double hermeneutics (Smith, 2003). He further suggests that in IPA, one needs to

assume that the researcher is interested in learning something about the participant's psychological world. He suggests that this may be in the form of beliefs and constructs that manifests in the participant's narrative or it can also be when the researcher holds that the participant's story can itself represent a piece of the participant's identity. He suggests that meaning is central and that the aim is to understand the content and complexity of the meanings and not the frequency.

As it has an idiographic focus, IPA normally employs purposive sampling with homogeneous samples and semi-structured interviews for data collection. This is followed by transcription of interview sessions at semantic level following the recommendations by Smith and Osborn (as cited in Smith, 2008).

Data Analysis in IPA involves various stages where the first stage is the reading and re-reading of the text. It is at this stage that a researcher will need to get familiarized with the account. This means engaging in an interpretive relationship with the text as suggested by Smith and Osborn (in Smith, 2008). At this stage, the researcher's initial thoughts and observations in response to the text will be recorded. It is a free textual analysis and there are no rules regarding what is to be commented upon (Smith and Osborn in Smith, 2008). The second stage of analysis is about identifying the label themes that characterize each section of the text. The third stage will be the attempt to introduce structure into the analysis. The themes identified in stage two will be listed and their relation to one another will need to be worked out. In the fourth stage of analysis, a summary table of the structured themes together with the quotations that illustrate each theme is to be laid out. As recommended by Smith (2008), only themes that capture something about the quality of the participant's experience of the phenomenon under investigation are to be included. This will largely be influenced by the researcher's interests and orientation in line with the hermeneutic tradition of declaring the researcher's presuppositions.

In the last part of the analysis, it will move from the final themes to a write-up and final statement outlining the meanings inherent in the participant's experience. Smith and Osborn (in Smith, 2008) suggests that there is no actual divide between the analysis and the writing stage as the analysis will be expanded during writing. In this stage, the researcher will translate the themes into a narrative account and the themes are explained and illustrated with subtleties and tacit knowledge expressed. The crux of the participant's responses is collated from this table of themes. This will be in the form of a narrative argument supported with verbatim extracts from the transcript to support the case. As cautioned by Smith and Osborn (in Smith, 2008), there will be a need to distinguish clearly between what the participant said and the researcher's own interpretation of it. To address issues of rigor, participants will be asked to check and recheck data and recording and data interpretation. The enlistment of second and third readers will also be carried out. This will ensure the researcher attains a rich and detailed understanding of the human experience.

IPA's suitability as a social work research method with young Muslims

I am comfortable with this methodology as it shares a lot of similarities with social work concerns such as reflexivity, engagement and empathy. Reflexivity here as defined by Archer (2007) is "the regular exercise of the mental ability, shared by all normal people, to consider themselves in relation to their (social) contexts and vice versa" (p. 4). She argues that this process of "internal conversation" is deemed important as it forms the basis upon which a person's future course of action is determined. In relation to my research, it gives me the opportunity to continuously have this "internal conversation."

The flexibility in IPA itself allows room for a dynamic context of social work research. An IPA approach will give social work researchers a different angle for exploring a phenomenon. Creswell

(2007) talks about the five broad designs in qualitative research and depending on which design has been chosen, this will provide different angles to the same story. I see it as akin to allowing our subjects the chance to relive their roles in real life and us researchers as the audience, engaged, as the story unfolds and at the same time attempting to make sense of their sense making (interpretation and reinterpretation). This aspect of engagement is of extreme importance in social work and relies heavily on the social worker's ability to communicate with the client. Trevithick (2000) argues that communication is one of the fundamental skills a social worker must have. Without good communication skills, engagement and rapport cannot be forthcoming. Empathy is also part of interpersonal communication skills. It is about the attempt to put ourselves in another person's shoes, to feel, see and understand from the other person's perspective, as sensitively and as carefully as possible and it goes beyond sympathy (Trevithick, 2000).

While IPA has a standard framework for the processes, what makes it challenging from a social work perspective is the development and sustainment of the relationship between researcher and subject. Just as in a social worker – client relationship, if the social worker fails to build engagement, the elucidation process will not be complete or rather disclosure will not be forthcoming. It accepts that it is impossible to gain direct access to research participant's life worlds and that the researcher is very much a part of the research process through the implication of the researcher's own world view. It accepts that the phenomenological analysis produced is always an interpretation of the research participant's experience (Willig, 2001). This is what makes IPA in qualitative research unique and in my view relevant for school social work with young Muslims as it does not impose its world view on the participant but interprets it for the understanding of all. I see it as providing a safe environment for them to share, open up and reflect on their experiences, but on their terms. If at any time the participant feels the need to withdraw from the research process or have certain parts of the recording deleted or kept private, this prerogative is solely with them. This is the client confidentiality pact, similar to social work practice.

IPA is a core trademark in nursing and psychology research while Grounded Theory has been the favoured method in social work research. However, I see the double hermeneutics element in IPA is extremely helpful for social work with Muslim clients as it can provide detailed insight into an individual client's world and their sense making. Herda (1999) sees the flexibility of the hermeneutic process as allowing the research participants the opportunity to view their problems in a different way.

Also, through using IPA as a social work research method with Muslims, I hope to explore further Heidegger's concept of situated freedom. His concept of situated freedom sees humans as embedded in their world, of which he termed it *lifeworld*, thus their subjective experiences are inextricably linked with social, cultural and political contexts. Situated freedom here means that while individuals are free to make choices, this freedom is not absolute but circumscribed by the specific conditions of their daily lives (Lopez & Willis, 2004). Crabtree, Hussain and Spalek (2008) suggest that Heidegger, Merleau-Ponty and Sartre all share the view that individuals are constantly faced with making choices even though the outcomes will not be clear. This places the concept of individual freedom and social conformity in Islam on the same wavelength as Heidegger's thoughts on situated freedom. In Islam, the concept of individual freedom and social conformity go hand in hand (Crabtree, Hussain & Spalek, 2008).

I would argue that if an individual subscribes fully to the guidelines of the Islamic teaching then their freedom of choice is a matter of choice borne out of a conscious decision to act as a moral Muslim. I see it as a choice within a choice. How far is this choice circumscribed in Heidegger's term is what I hope to find out through my research. While Heidegger argues that this freedom is not absolute, I

hope to find out if the Muslim students view it as such? Do they feel stifled that they need to adhere to certain ruling(s) that circumscribe their choice-making or does this concept of being circumscribed not exist in their vocabulary?

Through IPA, I hope to draw strength from the system within a student's life through attempting to elicit the people or situation that brings about resilience in the student. It is the search for strength or resources of strength in the individuals lived experience that makes social work research of an IPA nature worthwhile. This is the more contextual and holistic way of investigating human suffering and hardship, the "person-in-situation" kind of approach that was suggested by Mailick (as cited in Fook, 2002). I see it as double edged: to get a firsthand account of an individual's lived experience so as to enrich the practices' knowledge base and to bring about learning for both participant and researcher. Freire (1973) pointed out that when active participation accompanies learning, it brings about critical reflection of the personal experience. I believe this is true especially when people are put into a context to look back and to reflect. It is here that I believe my choice of an IPA study is very apt.

Also, a phenomenological study on a Muslim will be incomplete without an understanding of his/her faith for without the epistemological understanding of how the faith confirms the individual's knowledge, an ontological illumination of its *lifeworld* will not be clear (Crabtree, Husain & Spalek, 2008).

CONCLUSION AND FUTURE IMPLICATIONS

Present As Houston and Mullan-Jensen (2011) put forth, IPA as a method in social work research is new and rare, where thus far, they say, has been adopted by Nicholas Oke in his study on foster carers' perceptions of family, commitment and belonging in successful placements and by Gabrielle Dima in her study on the experiences of young people leaving care in Romania. Both studies were completed in 2009.

They however propose that the IPA method for qualitative social work inquiry, when aligned with a sociological theory of agency and structure, such as the Theory of Social Domains, will benefit social work greatly especially when combined with a hermeneutic questioning stance. While my research is still in the analysis and writing stage, I believe there is room for this alignment and as social work researchers, our ultimate aim is to inform practice (Morris, 2006) and in wanting to do so, we must not be afraid to venture further afield, even if it is to forensic science (positivism). Our lives are all intricately intertwined and meshed with one another.

I would like to end with an extract of a poem by John Donne, For Whom the Bell Tolls. No man is an island, entire of itself;
every man is a piece of the continent, a part of the main;
if a clod be washed away by the sea, Europe is the less,
as well as if a promontory were,
as well as if a manor of thy friend's or of thine own were;
any man's death diminishes me, because I am involved in mankind, and therefore
never send to know for whom the bell tolls;
it tolls for thee.

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Overcoming the “Shame” Factor: Empowering Indigenous People to Share and Celebrate Their Culture

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ABSTRACT

This paper explores the tenuous relationship between Indigenous perspectives and educational institutions. It discusses the importance of developing respectful dialogue between the two, along with the fundamental necessity of working within a community as opposed to upon it. These principles are demonstrated through the creation of a joint community cultural celebration involving local Indigenous communities, schools and their University. An evaluation of the event demonstrated how knowledge was enhanced and respectful relationships developed. The project “birrbam burunga gambay” – to play and learn together, involved over 350 people who participated in a shared cultural experience, where Indigenous perspectives were showcased by people within the local community. The project stimulated a sense of pride within the Indigenous people because their traditional knowledge was valued and respected by the local community. The result was a sense of connectedness for Indigenous people with the university and local schools, which arose from the close communication and consultation the project embodied. Respect for Indigenous people and their traditional knowledge and skills were shown by the local community at the cultural event. By overcoming the shame factor, birrbam burunga gambay has empowered Indigenous people to share and celebrate their culture with the wider community.

Keywords: Indigenous perspectives, education, culture, connectedness, cultural celebration, sharing culture, reconciliation.

INTRODUCTION

As the need to embed Indigenous perspectives grows within our educational institutions (Queensland Government, 2008), the practicalities of achieving this have not yet begun to emerge. The effect of embedding Indigenous perspectives at a local level, rather than as an “add-on” to policy, on the educational achievement of Indigenous children is yet to be explored. In addition to this, the effect of embedding Indigenous perspectives on the educational achievement of Indigenous children requires a meeting of cultures within and outside of the classroom. For many years Indigenous people have been seen as underachievers in school and this has led to a limited number of career choices after formal secondary schooling.

To change this outlook for Indigenous people, government policies to embed Indigenous perspectives have been put into place in schools (Australian National Curriculum Board, 2009; Queensland Government, 2008). The onus has been placed on the classroom teachers to provide opportunities for children to learn about Indigenous culture in order to recognise Indigenous perspectives and foster respect for Indigenous people and knowledge (Australian National Curriculum Board, 2009).

Many teachers have the appropriate pedagogical skills and attitudes to embed Indigenous perspectives, but are hesitant to do so as they feel they lack the knowledge needed to do this effectively (Cummins, Gentle, & Hull, 2008). The solution maybe, is to encourage Indigenous peoples to share and celebrate their culture with educators to increase understanding and enhance the future health and well-being for all. This leads to the next question of “how Indigenous knowledge is shared sensitively and respectfully within local communities and what effect will this have on the educational aspirations of young Indigenous children?”

LITERATURE REVIEW

Learning to value one’s self is a critical tool in enhancing self-esteem and raising one’s aspirations for the future (Bandura, 1977a). This may be of a personal or professional nature, in an academic or social context. Children and adolescents develop their sense of self based upon a range of perceptions they amass from others and their experiences. Self-esteem is affected by the social context and social comparisons an individual makes (Sigelman & Rider, 2009). When the terms ‘race’ and ‘culture’ are used as a form of social comparison, it can typically marginalize some people, whilst providing others with power and control (McMaster & Austin, 2005).

The post-invasion history of Australia’s Indigenous peoples is chequered with racial discrimination, oppression and marginalisation which have occurred across several generations. The long-term negative impact of this on Australia’s Indigenous people can be seen in the areas of health and education (Andersen & Walter, 2010). Poor health impedes attendance at school, which in turn inhibits learning and educational achievement (Harrison, 2011). This then perpetuates the cycle of poverty and disadvantage within the Indigenous population. As self-esteem is affected by the social context and social comparisons available (Bandura, 1977b), it should come as no surprise to understand how both individual and collective self-esteem of Australia’s Indigenous peoples is low.

Self-esteem, self-confidence and self-concept are all words that are sometimes used as inter-related terms or synonyms to describe the same phenomena. However, these terms possess fundamental differences; hence a clear definition of these terms is required. This study determines self-concept as one’s perceptions of one’s traits as a person, while self-esteem as one’s evaluation of one’s worth as a person (Sigelman & Rider, 2009). Self-confidence relates to how assured one feels about particular abilities, so this can change depending upon the ability under examination, and the group in front of whom the ability is to be demonstrated (McClelland, Atkinson, Clark, & Lowell, 1953).

Self-esteem is related to self-confidence, which also affects motivation to improve performance (Woods, 2001). The McClelland-Atkinson Model of Achievement Motivation (McClelland, Atkinson, Clark, & Lowell, 1953), means for Indigenous people that their behaviour in educational settings is often driven by the motivation to avoid failure rather than seek success. This extends to dodging embarrassment caused by making a mistake in front of a group of people. This is often referred to as avoiding ‘shame’. This greatly influences self-confidence and self-esteem, as it “dominates how many Aboriginal children think, talk and behave in the classroom” (Harrison, 2011, p. 54).

For Indigenous people, the avoidance of shame is often exhibited in their behaviour (Hughes, More, & Williams, 2004). For example, they may be hesitant to have a go at something in public unless they know they have got it right. They may appear unenthusiastic to cover their fear and vulnerabilities. Furthermore, how they behave in an educational context is very much dependent upon who is looking and listening to them (Harrison, 2011). Contemporary education theories rely upon the learner taking risks and evaluating the outcomes (McGee & Fraser, 2011). Indigenous people will approach these gradually and can often get left behind as a result. The lower educational achievement of Indigenous students then perpetuates the cycle of decline in their educational attainment.

Many educational institutions within Australia have made policy changes to curriculum relating to Indigenous perspectives, in an effort to heighten awareness of Indigenous culture in our society. The Melbourne Declaration on Educational Goals for Young Australians (MCEETYA, 2008) has made a commitment to improving educational outcomes for Indigenous youth, especially those from low socio-economic backgrounds. The Queensland Government has similarly pledged to embed Indigenous perspectives within the curriculum (Queensland Government, 2008) in order to improve educational outcomes for Indigenous peoples. Other bodies under government auspices, for example the Australian Law Reform Commission and Reconciliation Australia also work towards heightening awareness of Indigenous culture and knowledges.

A study by Thompson (2010) found several strategies recommended by Indigenous elders, social-epidemiologists, psychiatrists and sociologists to assist in developing greater knowledge and understanding of Indigenous culture within the community and are outlined as follows: create opportunities to strengthen connections with country; establish cultural activities; legitimise traditional systems; recognise the need for connectedness, hope, efficacy, safety, calm, dignity, responsibility, truth, empathetic listening and working together (Thompson, 2010). Earlier studies have identified similar strategies to share Indigenous culture in schools (Garnett, Sithole, Whitehead, Burgess, Johnston, & Lea, 2009; Kreig, 2009; Spencer, 2000).

Thompson's strategies (Thompson, 2010) may offer a blueprint upon which to work towards sharing and celebrating Indigenous culture. Federal, state and regional governments have moved legislatively to close the gap and overcome Indigenous disadvantage in Education and Health in Australia. The players at the grass roots level have been called to take up the challenge. This has caused the community to ask themselves many questions. How can districts heighten awareness of Indigenous culture and knowledges at local levels to support a more culturally aware community? How can respect for Indigenous culture and knowledges be generated within the whole community? How can communication and collaboration be nurtured within the community? How can community-based activities be a building block to give power back to Australia's Indigenous people? Will this enable Australia's Indigenous people to improve their education and health prospects? If self-esteem is crucial to motivation and performance, then recognising and celebrating Australian Indigenous culture and overcoming the 'shame' factor is imperative to improving educational outcomes. What type of community project can promote respect, generate connectedness and develop pride and a strong sense of self within the local Indigenous community? How can this be showcased to the wider population whilst retaining respect for Indigenous people and their culture?

To begin to answer these questions it was crucial to nurture respect for Indigenous people and their culture, in order to generate positive self-esteem. Several studies have drawn positive connections between self-identity for Indigenous students and school outcomes (McRae, 2002; Purdie, Tripcony, Boulton-Lewis, Gunstone, & Fanshawe, 2000). Developing community-wide respect for Indigenous culture can lead to enhanced self-esteem within the Indigenous community. This is supported by

Garrett & Wrench(2010) in their study on inclusion where they found affirmations of respect for all Aboriginal and Torres Strait Islander people fostered a positive sense of self-efficacy (Garrett & Wrench, 2010).

Birrbam burunga gambay sets out to cultivate respectful relationships between the University, the Indigenous community and schools within the local community. The project aimed to:

Generate respect for local Indigenous leaders within the community by providing a platform for them to showcase their knowledge and expertise.

Celebrate the history, culture and achievements of aboriginal and Torres Strait Islander peoples in the region.

Run a festival which brought all participating schools together and replaced the many smaller disparate events currently run by individual schools.

Empower teachers within schools to foster networks with local Indigenous people and resources, so they could run similar events to share and celebrate Indigenous culture.

Raise Indigenous students' motivation to complete their high school studies and aspire to tertiary education.

METHODOLOGY

Permission and support of the Community Education Advisory Council (CEAC) at the Fraser Coast Campus of the University of Southern Queensland was sought and given to organise and conduct a Naidoc Celebration on campus. To give further respect to the Indigenous community, the event was named by the traditional custodians of the land, in the language of the Butchulla people, "Birrbam burunga gambay" – to play and learn together. Discussion and support for the event was also gained from the local primary schools, along with funding from the University of Southern Queensland.

A design-based research approach(Kervin, Vialle, Herrington, & Okely, 2006) was used in this project primarily for the purpose of refining the organisation of the festival so that it could be conducted on an annual basis. This research design enabled educators to solve problems while also creating design principles that may guide and inform future practice in that area" (Kervin, Vialle, Herrington, & Okely, 2006). In the context of this study the principal challenges being addressed are as follows:

What type of community project can promote respect, generate connectedness and develop pride and a strong sense of self within the local Indigenous community?

How can this be showcased to the wider population whilst retaining respect for Indigenous people and their culture?

As part of a design-based approach it was also essential to identify design principles that would enable future events involving the celebration of Indigenous culture and people to be successfully organised and run collaboratively, and these events should be sustainable over time. These design principles involve both quantitative and qualitative actions to bring about respectful inclusion and celebration of culture. The design-based research approach has four clearly identifiable phases (Reeves, 2000) (see Figure 1).

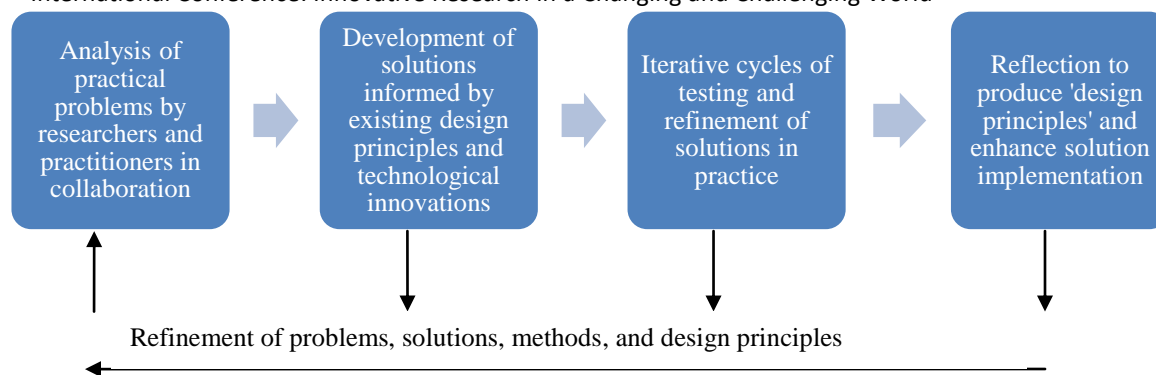


Figure 1. Design-based approaches to research

Phase 1 of this project developed as a result of discussions with several disparate groups within the community, those being practising teachers; Indigenous support workers, Elders, CEAC and children. Practising teachers who were interviewed identified a lack of knowledge of Indigenous culture as a key barrier to embracing and embedding Indigenous perspectives in their classroom. Indigenous support workers raised feelings of frustration as they felt their role was valued only in the school during Naidoc week. They wanted to have a more consistent role in assisting teachers to embed Indigenous perspectives throughout the year. Community Elders wanted to encourage Indigenous children to value education and complete school so that they could access further education and “get good jobs” to “do better for themselves and their mob”. The CEAC identified a need to bring higher education to the community and for Indigenous children to “open their eyes” to what is possible for their future. Non-indigenous children wanted to learn and understand about Indigenous culture, whilst Indigenous students loved Naidoc as they felt “deadly” that week, because they did activities which were meaningful to them.

In order to draw together all of the information relating to local community needs regarding Indigenous perspectives and education, a SWAT analysis was conducted. Several key issues were identified as a result, which then enabled the researcher to move to the second phase of the research design methodology.

After conducting a SWAT analysis through interviews and discussion, a search for solutions to these issues through an extensive literature search ensued. In this second phase of the research design process, the researcher identified two major factors in celebrating Indigenous culture. The first factor was “respect”. Sharing and celebrating Indigenous culture would only be possible if the local Indigenous community was willing to communicate their knowledge and skills to others. It is also only possible if respect for Indigenous people is actively nurtured and cultivated by the power brokers in educational circles. No longer can educators demand respect, for this is something that must be earned, especially within the Indigenous community. The second factor is “within” community. Any celebration or sharing of culture must come from within the community, not thrust upon community by an external source. If any showcase of culture comes from sources outside the local community, then it leads to further frustration and resentment by all parties. Hence, any sharing and celebration of culture in a community must arise from an identified need within the community, not an external group wanting to act upon it to achieve their own goals. For a project to come from within the community, a sense of ownership by the community needs to develop, which brings with it commitment by the whole community to the program objectives (Garrett & Wrench, 2010).

A plan was developed to address these needs in the form of a Naidoc cultural celebration involving over 350 Year 7 students from the local area. The events within the celebration reflected the diversity of knowledge and skills within the local Indigenous community. Over 14 local facilitators assisted on the day, whose knowledge and skills were shared with local school children and their teachers. In addition to the facilitators, approximately 12 secondary school Indigenous students acted as chaperones for the children on the day.

The third phase of the design based methodology involves interactive cycles of testing and refinement of solutions in practice. To develop a program that generates respect and is owned by the local community, several solutions were put into place. Teams of facilitators were set up for each area of culture that would be shared and celebrated in ways that are conducive to Indigenous ways of learning (Hughes, More, & Williams, 2004). The activities selected also aligned with areas of strength identified by McRae et al. (2000). These areas included language, music, dance, art, story-telling and careers. The facilitation teams consisted of Indigenous community members with specific knowledge of the culture area, along with an experienced teacher who possessed the skills to help construct meaningful educational experiences for children.

Respect was generated through many meetings and discussions with facilitation teams to ensure attitudes to the project were consistent with the overall aim of the project – “Birrbam burunga gambay” – to learn and play together. Respect for all facilitation teams was further enhanced with a grant which enabled payment for the services of all people within the facilitation teams. This demonstrated a respect for Indigenous knowledge by attaching western values associated with respect, those being time and money, to the facilitators and their expertise. Throughout the testing and refinement stage of this project, observations and interviews were conducted with chaperones, facilitators and participants to allow for ongoing modification of the activities throughout the day. Observations were conducted through participant observation and researcher bias was checked by listening to the community about what had happened during the organisation and implementation of the birrbam burunga gambay project.

The fourth phase of the design-based approach was to reflect on the project to enhance further applications of it. All participants in Birrbam burunga gambay completed evaluations of their cultural experience. Facilitators, teachers and students all engaged in feedback on the event. A debrief with facilitation teams was also held subsequent to the event, where reflections were gathered and ideas formulated for future events.

RESULTS

From discussions and interviews with local community stakeholders, a SWAT analysis was conducted which identified needs and outcomes required by the community (see Table 1).

Table 1: *SWAT analysis of community indigenous education perspectives*

Strengths	Weaknesses
<ul style="list-style-type: none"> • Accessible Indigenous community • Very talented individuals within the local Indigenous community • Local school community open to Indigenous input because of the government legislation involving embedding Indigenous perspectives within classrooms • Local schools respectful to Indigenous 	<ul style="list-style-type: none"> • Indigenous people feel alienated from educational institutions • NAIDOC not celebrated at the University • Indigenous people feel they have no voice and no power within education systems • Indigenous people asked to volunteer their time over Naidoc, and this is the only time they feel they are needed by schools. • These volunteers do not feel valued by

<p>perspectives</p> <ul style="list-style-type: none"> • A number of young Indigenous role models within the University community 	<p>community, and exist on the fringes of the community, and hence feel they are not respected</p> <ul style="list-style-type: none"> • Always asked to do "volunteer" work by schools who try to get things "on the cheap", leads to further feelings of diminished self worth, which contributes to the cycle of poverty and powerlessness
<p>Opportunities</p> <ul style="list-style-type: none"> • Provide Indigenous peoples with a platform to demonstrate and showcase their culture in an environment that commands respect • Use the collaborative power of the local community to develop a cultural festival to showcase Indigenous perspectives • Obtain funding for an event which can develop local community Indigenous perspectives within educational institutions in the area • Assist local schools to learn more about Indigenous culture and create new networks of support in schools • To demonstrate to the local community the extensive prior knowledge of the facilitators, and the significance of culture and place in Butchulla country • To develop a sense of respect for Indigenous knowledges amongst the local community • To develop a sense of connectedness to the University with local Indigenous peoples 	<p>Threats</p> <ul style="list-style-type: none"> • Educational structures seen by Indigenous peoples as being the "source of unequal power" and perpetuating social inequalities • Gaining the trust of the Indigenous community to maintain respect for Indigenous culture and addressing the needs of their community • Funding to generate support for the project • Logistics of holding an event of such magnitude

As a result of this analysis, some key needs were identified, and are as follows:

Schools and teachers within the community need knowledge and skills to celebrate Indigenous culture, thereby empowering local schools and teachers to embed Indigenous perspectives in their classroom.

Local Indigenous community need to see University as a welcoming and viable option for their future learning pathways, thereby developing a sense of connectedness to further education.

Whole community need to understand and respect Indigenous culture in order to raise self-esteem and educational opportunities for Indigenous people, thereby enhancing pathways to reconciliation.

Observations made by the researcher during the event of the Indigenous students and chaperones reflected marked differences in attitudes and demeanour during the course of the day. Initially Indigenous students and chaperones were hesitant to join in activities, especially dance, as they thought it was "shameful". These students stood at the back of the small activity groups, which consisted of approximately 30 students, with their heads down and shoulders slumped forward. They were reluctant to participate in the dance activities. At the end of the festival, the local Indigenous dance group concluded events with more dancing and asked the whole group for volunteers to dance with them. All Indigenous chaperones and students came forward to dance in

front of over 350 people, along with some non-Indigenous students. Their body language communicated confidence and pride in their culture, for example, their heads were held high, shoulders were back and there were smiles on their faces. This change in body language is evidence of an increase in a sense of self worth and confidence in their abilities. When interviewed at the conclusion of the day, Indigenous chaperones all commented on how it was a “deadly day” and they were “proud to be part of it”. All asked if the event would be conducted again next year and offered to be involved again in the running of the event. Further discussions relating to how they felt about the University and their study aspirations revealed that most felt more confident about working hard at school so that they could attend a University like this.

At the conclusion of the event students and teachers were asked to complete an evaluation on the Birrbam burunga gambay event. Frequency distributions were conducted on responses to the questions, and the results are summarized in Figures 3 & 4.

When participants were asked if they enjoyed the activities, over 96% liked most, if not all of the activities (Figure 2).

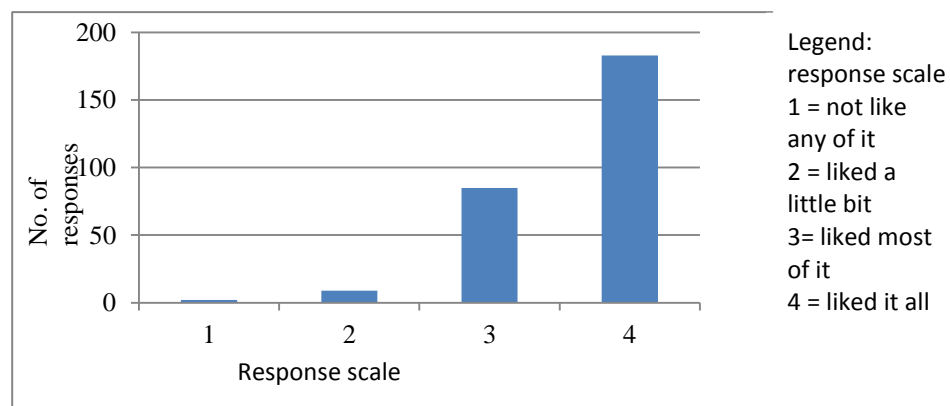


Figure 2. Question: Did I enjoy the activities today?

When participants were asked if they learnt much about Indigenous culture, over 92% learnt a “fair amount” if not “loads” (Figure 3).

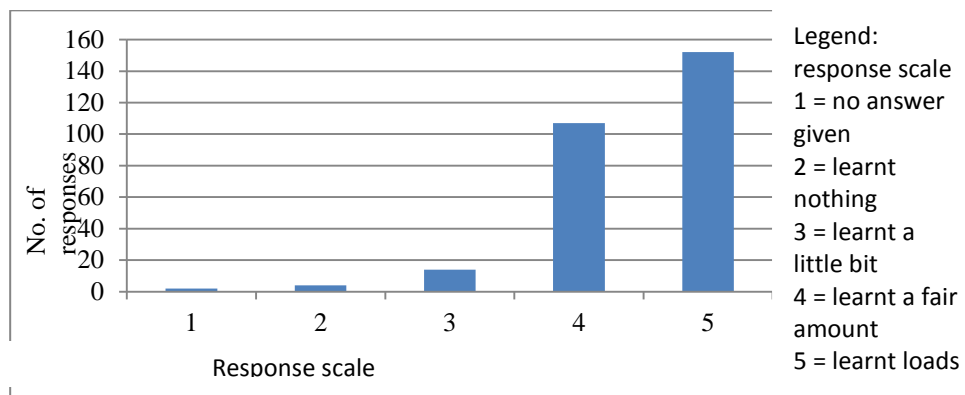


Figure 3. Question: Did I learn much about Indigenous culture today?

Facilitators were asked to reflect on the event and to share these at a debriefing meeting. All facilitators felt this had been a very positive event for all participants and facilitators and expressed a commitment to be involved in future events involving the University and schools.

DISCUSSION

The results of the evaluations collected and analysed from all participants, along with observations and interviews with Indigenous children and chaperones, coupled with discussions and reflections on the event with facilitators, all indicate the project achieved the intended outcomes. The “Birrbam burunga gambay” project celebrated Aboriginal and Torres Strait Islander culture through showcasing and sharing their knowledge and skills in language, music, dance, art, story-telling and careers to the school community in the area.

The impetus for the project grew from listening to the needs of disparate groups within the community and synthesizing ideas and activities that addressed these needs. The project established sound links within the community by enhancing communication and developing relationships built on trust and respect between the University, schools within the surrounding community and local Indigenous community groups. This supports the findings of McRae et al (McRae, Ainsworth, Cumming, Hughes, Mackay, Price, Rowland, Warhurst, Woods, & Zbar, 2000) who found that positive partnerships were a crucial element in success. The planning and delivery of activities occurred in conjunction with Indigenous facilitators and Indigenous chaperones. Their contributions were recognised by incorporating specialist Indigenous tutors to deliver activities to children at the festival. This established ownership, pride and a sense of belonging to the University, which gave rise to a sense of connectedness within the community.

The project empowered schools, teachers and undergraduate students in the Bachelor of Education program to embed Indigenous Perspectives in their classrooms by providing them with hands on activities, resources and personnel, to increase their knowledge, understanding and experience of Indigenous culture. In this way Birrbam burunga gambay has helped to pave the way for reconciliation by raising the awareness of the participants’ knowledge, skills and attitudes in relation to Australia’s Indigenous Peoples.

The sense of connectedness the project generated within the community can be attributed to key principles upon which birrbam burunga gambay was organised. Primarily, that it is developed from an identified need from within the target group, and members of this group are actively involved in the planning and delivery of the event. Secondly, that value is given to Indigenous knowledges by formally recognising the specialist skills and knowledges that people within the community possess. In taking this approach, a level playing field is developed, where respect and value is cultivated, and gives rise to empowering Indigenous people to share and celebrate their culture. These circles to success should underpin any event whose outcomes involve establishing credible pathways to embedding Indigenous perspectives and promoting reconciliation within a community.

CONCLUSION

Overcoming the “shame” factor to empower Indigenous people to share and celebrate their culture relies heavily on cultivating a two-way respect between Indigenous people and the education community. A crucial factor in overcoming the shame factor is the need for such an event arises from within the community. This resulted in a sense of ownership by local Indigenous people and commitment to the project. This engaged the local Indigenous community in the event as they had identified a vested interest in sharing and celebrating their culture. By also addressing the needs of the local school community in the project, it ensured schools were prepared to commit time and resources to the event.

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Many in the community have suggested Birrbam burunga gambay become an annual event and one that incorporates people from neighbouring areas within the region. Further to this, several government and non-government agencies within the region have asked to be included in future projects and pledged to contribute future funding towards Birrbam burunga gambay.

Birrbam burunga gambay showcased Indigenous perspectives to the wider education community and developed a deeper understanding and respect for Aboriginal and Torres Strait Islander culture. This stimulated a sense of pride for Indigenous people and their knowledges, whilst developing a sense of connectedness with the university and schools. By overcoming the shame factor, Birrbam burunga gambay has empowered Indigenous people to share and celebrate their culture with the wider community.

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Death of a Salesman: Generating Cultural Literacy among Teacher Trainees in Tertiary Education

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ABSTRACT

Cultural literacy involves the ability to understand a culture that is foreign. One of the ways to promote cultural literacy is through literary works. It is paramount for teacher trainees to obtain cultural literacy especially when dealing with multicultural classroom. This study explores the role of literary works in generating cultural literacy which will assist future-to-be teachers to become culturally sensitive. The objectives of this study are: 1) to examine how culture of the society is portrayed in the play, and 2) to investigate whether the culture portrayed in the text is relevant to the current society. The instrument used for data collection is online discussion forum. The findings suggest that the literary works contribute to the trainees' cultural understanding of that particular society. It was also found that the trainees were able to see the relevance of the culture portrayed in the play to that of the current society. The findings also revealed the trainees critical evaluation on the article writer's opinion on the play. The writers believe that literary works are very rich in language use and aesthetic values which help the trainees to understand other cultures and become critical readers.

Keywords: Literary works, cultural literacy, teacher trainees, online discussion forum.

INTRODUCTION

Literary works are widely used among ESL (English as Second Language) learners. Even before the introduction of literature component in the Malaysia secondary school syllabus, literary works have been heavily utilized particularly as a Literature course in tertiary education setting. Literary works include a wide variety of genres such as poetry, short stories, plays, novels, fables and films. The aesthetic values, which are pertinent in literary works make them great teaching and learning resources in the classroom, in particular teacher trainees education. These, among other aspects of literary works (plot, setting, theme, literary devices) assist in developing literacy, predominantly cultural literacy. It is paramount for teacher trainees to obtain cultural literacy as it will help them understand the use of language to convey meanings (which can be both literally and figuratively).

BACKGROUND

A number of research has been carried out to investigate the use of literary works in language learning both in L1 and L2. A literature-based curriculum has been proven to function as a vehicle to enhance multicultural tolerance and competence (Collie & Slater, 1990; Langer, 1995; McKay, 1986; Wesche & Paribakht, 2000). The incorporation of literary texts in language instruction is strongly recommended for developing students' linguistic and cultural awareness (Hadaway, Vardell & Young, 2002). Although most research adopted literary texts as the tool, it is believed that literary works in general would conjure similar findings.

Literature may also serve to enhance students' cultural competence in the target language because it represents the social context in which characters think, behave, or believe (Collie & Slater, 1990). Scott and Huntington (2000) pointed out that learning L2 culture through poetry was effective in developing affective awareness of the target culture and in reducing rigid concepts about the target culture. Viewing literature as "mirrors and windows," Galda (1998) asserted that literature provides a window into other cultures and a reflection of readers themselves. As well as illustrating cultural information in context, literature often "challenges cultural norms, ... enables the L2 readers to reflect about cultural stereotypes," and "forces readers to rethink accepted norms" (Swaffar, 1992, p. 245).

On the other hand, there were researches who defy the above conception. A study with French literature college students by Davis (1992) revealed students' difficulty in understanding text due to lack of cultural and historical knowledge about the target culture or insufficient target language competence. It hindered students' access to literary experience or even resulted in misunderstanding of the whole story. Thus, there is a need to fill this gap of differing views.

METHODOLOGY OF THE RESEARCH

Forum discussion was used as the method of this study. The trainees had to study the play, *Death of a Salesman* for 5 weeks and complete the tasks given. The tasks included classroom discussion (group work) and online forum discussion. The respondents for this study were 50 teacher trainees of Teaching English as Second Language (TESL) program. The play by Arthur Miller was chosen because it contains cultural elements which are the central point of this study. A newspaper article was also used to help the trainees in discussing the issues, in particular the second research question, which was part of the tasks.

FINDINGS AND DISCUSSION

Based on the classroom discussion, the culture of the society is portrayed through:

The theme of the play

Conflict among family members

It is very apparent that conflict is the central theme in the play. From the beginning of the play, the readers were introduced to the conflict between the father, Willy Loman and his son, Biff. The misunderstanding started when Biff could not realize his father's dream of making it big in business. His inability to follow his father's footstep had created tension not just to both of them but also Happy, another son and Linda, Willy's wife. Although Linda and Willy may not seem to have any conflict, but deep reading would reveal that both were having conflict but it is more to internal

conflict. Linda was always being denied to interfere especially when Willy was talking to both of his sons, Biff and Happy. He always shouted to her to shut her mouth and Linda would quietly obeyed him without any objection. However, Biff disapproved of his father's demeanour and once he shouted at his father for ill-treating his mother. Both instances of the conflicts portrayed the culture of the American society at that time. Father-son dispute can be considered as normal as children may not see eye to eye when it involved job and future plans.

Conflict on financial status

After the Great Depression ended early 1940s, life had started picking up for the Lomans. It is obvious that Willy Loman had achieved success in his business, travelling all over America. The Chevy, refrigerator, washing machine and silk stockings were all evidences of Loman's family financial status at that time. Willy was able to have all those 'luxuries' with the help from his earning as a salesman. He hoped that his two sons were able to continue his legacies but his dream was dashed. Not only his sons were not interested in business, he was laid off from work due to his old age and incapability to drive long distances. Consequently, he had made attempt to kill himself but to no avail. However, fate had its victory when Willy finally died, committing suicide while driving. This conflict portrayed the culture of that particular society as money and possessions were symbol of status. Owning things (although may not be of the best quality) was essential in order to be looked up by other people in the society.

The characters in the play

Willy Loman

Portrayed as an egoistic and snobbish salesman, the character of Willy Loman could be the reflection of other salesman of his age. He was well-known and respected when he was young but as he withered, Willy could no longer bear the responsibility as a husband and father. He could no longer provide for the family and he even had to borrow from Howard, in which he pretended that it was his wages. He could be said as snobbish as he refused to accept the job offered by Howard and refused to let go of the responsibility of providing the family to his two sons. Thus, his characteristics can be said to reflect the role of husband/father during that time.

Linda Loman

Linda was portrayed as a devoted wife to Willy who always stood beside him. Although the children detested Willy's behaviour of hushing Linda whenever they were talking to Willy, she always defended him in return. It seems that it did not bother her at all as she kept defending Willy till the end of the play. She was portrayed to be so vulnerable that she never went against Willy's words. Miller painted a picture of a wife figure during that time, who had to obey and oblige the husband no matter in what circumstances.

Biff Loman

Being the son of a once-successful salesman might have put a stress on Biff Loman. His life started to fall apart when he flunked math and to make matter worse, he found out about his father's affair. Devastated, he did not finish school and started working. However, he never did succeed in his job. He was lured into Happy's plan of borrowing money to start off a Loman's sports business, which gave Willy a hope that his sons would follow his footsteps. Eventually both of them were drawn into Willy's American dream which later brought to a hopeless ending. Miller portrayed the culture of

the American younger generation in that of Biff, who tried to relive the dream of the father, specifically and the society, in general.

It is quite interesting that almost all respondents were commenting on these three characters and did not mention Happy Loman. This may be due that although he is the second son, his characters are more like his father. Thus, highlighting Willy Loman can be the reflection of Happy Loman.

Online Discussion Forum

For the second research question, the respondents were given an online newspaper article “‘Salesman’ Comes Calling, Right on Time” by Charles Isherwood, taken from New York Post dated 23 February, 2012. They were asked to decide whether they think the culture portrayed in the play is relevant to the current society and also to comment on Isherwood’s opinion in the article. 40 out of 50 respondents agreed that the play is relevant to the current society. They believed that the conflicts highlighted by Miller are relevant until today and each family would have at least one of the conflicts to deal with. They also believed that the characteristics portrayed by the Loman family and the people around them, so exist in the current society. Although time has passed, for more than sixty years since the play was written, the attitude and behaviour of people in the current society do not change. Ten of the respondents, on the other hand, claimed that the play does not reflect the culture of the current society especially the role of Linda Loman. They believed that Linda’s characteristics may not be appropriate in today’s world as most married women are now working, earning own money. Thus, they do have a say in the family matters and not easily shoved away by the shouting of the husband. Married women today are more independent and they would fight for their right instead of keeping mum, just like Linda Loman. Apart from that, when asked to comment on the article writer’s point of view,

“Thanks to the explosion of social media, being “well liked” has become practically a profession in itself. Many of us are willingly to become versions of Willy Loman, forever on the road- that is online- selling ourselves and advertising our lifestyles.” (Isherwood, 2012)

majority of them disagreed. Thirty of the respondents disagreed with the opinion, while seven agreed and 13 had mixed responses. These responses, however, illustrate that the culture in the play has its relevance to today’s society. Among the negative responses given were:

social website is also website that provides a platform for users to express their feelings, no matter happiness or sadness. It is basically a platform for sharing things..... I strongly disagree with the opinion as the writer did not consider this issue in a big picture.

Many of us are willing to advertise our lifestyle on Facebook just to share our happiness with other people but not to become versions of Willy Loman. I don’t think that most of the people tend to become a version of Willy Loman by posting a status or a picture. They are just using the convenience of technology so that they are able to keep in touch with others.

Social media such as Facebook makes us more convenient to communicate with other people, not to vanquish the tormenting self-doubt like Willy Loman. In addition, Facebook updates are to let those who concern about us to know our latest condition and could not be compared with Willy Loman's characteristics.

However, it is also vital to highlight those responses which agreed with the writer’s opinion.

...adults or teenagers- are trying to sell themselves through social media to claim that they are “well liked”. Society thinks that with the existence of thousands of friends on Facebook or followers on Twitter will make them confident that they are “well liked” by others. Simply put, the self-worth of a person is reflected from the way people look at them, and not as how they

look at themselves. Sadly, this is a tragedy of our society which does things to satisfy others but not for self satisfaction.

People evaluate you based on your status, your pictures - a proof of what you have done. These kinds of people are not enjoying the true meaning of life. They live under people's expectations and pretense.

...some people tend to upload pictures and stories to show that they are popular, like Willy, he thinks of himself being well liked by others when the truth is he's just an ordinary person.

...some of them are only trying to gain attention they lack in; maybe just like Willy Loman himself. All the 'likes' on these websites are maybe just the way they look for some attention and care due to some complications, which maybe can be related to Willy.

The responses above show that respondents were able to evaluate the article writer's opinion critically. Those who disagreed, in particular, were able to justify disparagingly by looking at social media in a positive perspective and the users are not being the version of Willy Loman. Those who agreed, on the contrary, although insignificant believed that some social media users were turning into Willy Loman, as they use it to satisfy others; friends and society in general. These opinions are derived from the respondents' experience in using the social media. They were able to relate their experience to the discussion question and this proved that they were able to look at it critically. This is also a good practice for the respondents to evaluate reading materials, read between the lines, evaluate and decide between facts or opinion and lastly to agree or disagree with the opinion. These skills are fundamental so that respondents should never always believe what they read.

It can be concluded that the play has succeeded in capturing the culture of that particular society during that time. The trainees were able to identify how culture is portrayed through the theme and the characters. Miller was able to portray the characters in such a way that they reflect the society in general. In addition, the trainees were able to see the relevance of the play to today's society although the play was written in 1949. This does not only help them to understand the culture and society during that era but also the society today. The forum discussion is a good platform for the respondents to critically voice out their views.

FUTURE RESEARCH DIRECTIONS OR RECOMMENDATIONS

It is recommended for future research to use different literary works, perhaps of a different setting and background. It may generate different findings and a comparative study with *Death of a Salesman* would also provide fruitful insights. The online forum discussion could also be implemented through other means such as social media, Facebook. Since Facebook is the common social networking used among students, it could be utilized as a medium for the discussion.

CONCLUSION

The findings have proven that literary works are great tool in generating cultural literacy due to its aesthetic values. They are also excellent to be used as discussion point among ESL learners. Not only learning a new culture but at the same time, learning how to provide evidence of their interpretations, such as evaluation of the characters, story, or critical analysis of the theme. They will learn to offer textual evidence for their arguments and practiced the strategy in the discussion. Discussion forum is a comprehensive tool to be used in ESL classroom as this will give the learners,

especially introvert learners who are shy to speak up in class, the chance to 'speak' in the online discussion. Learners who are weak in the language may also have the opportunity to prepare the answer before posting it to the online discussion forum. The supplementary material given to learners may assist their understanding of the literary work. The use of newspaper article in this study could generate the critical thinking of the learners. They are able to make connection of the article to the play that they are reading. By making the connection, learners should be able to check on their existing understanding of the play with that of the newly incoming information about characters, incidents, the novel as a whole, or the author intention. When the former understanding agreed or differed with the new information of the play, learners are to provide quotes as a counter or supporting evidence of their reinterpretation of the text. Thus, it would be useful to adopt literacy as a course/subject, in particular for TESL (Teaching English as Second Language) program as it would prepare the teacher trainees to deal with multicultural classroom. It will be more constructive to include literary works as the materials in assisting cultural literacy.

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Innovative Snack with Nutraceutical, Lycopene: Commercial Study by Focus Group Discussion

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ABSTRACT

Gac (*Momordica cochinchinensis* Spreng.), or also known as Fak Khaao in traditional Thai medicine wisdom. Its aril stored Lycopene¹ at 408 µg/g. However, the taste of Gac fruit is very bitter with strong smells. This pursue children to eat Gac fruit, the snack added Gac extract is used because eating habit of children is always reluctant to eat bitter.

This research is aimed to develop an innovative gummy snack and study potential market. First part is developing the ingredient, eliminate undesirable flavor from Gac. The solvent extraction is a process to extract phytochemistry from Gac fruit, solvent used being Ethyl acetate. Lycopene-absorbance test by Spectrophotometer at wavelength of 505 nm, found Lycopene contained 4.654 mg/g in the extract. The second part is applied qualitative research to design product and study the commercialization, by using focus group discussion which each specialized experts interview altogether 7 experts in related field as marketing, dietitian, food product developer, entrepreneur, etc. An experts trial testing products and evaluate the acceptance and find out the conception to commercialize the innovation. They were satisfied with this innovation and acknowledge gelatin added Lycopene, from the Gac extract, is healthy. To commercialize, they concluded that this product is suitable for ageing consumer group (age over 50 years) and provide suggestion to product development and marketing strategies.

Based upon the results of this study, the data analyzed the possibility of launching innovation's product to market. Thereafter, we can consider the costs profit to appropriate investments.

Keywords: GAC fruit, nutraceutical, lycopene, momordica cochinchinensis spreng, commercialize, innovation.

INTRODUCTION

It has been found that Fak Khaao (*Momordica cochinchinensis* Spreng.), or also known as Gac fruit, has been used in traditional Thai medicine wisdom such as treatment of typhoid fever, scarlet fever and smallpox. In Vietnam, people consume GAC's aril to treat the symptom of vitamin A deficiency. Since its aril and seed membrane stored the enrich Carotenoids. Mean values obtained were 2,227 µg Lycopene, 718 µg β-carotene, and 107 µg α-carotene.

Now a days, more and more people has become health conscious. Even snacks and confectioneries consumption, they tend to choose a snack with high nutritional value. This contributes the snack market in Thailand highly competitive. ²According to the statistic in 2012, the market grows by 7% in current retail value terms to reach Bt25.1 billion in 2011. Increasing number of healthy products continues to 10% of the healthiest snack growth, in current retail value terms in snacks market in 2011. There is a significant demand on health and wellness snack in new launches for instance value-added ingredients, benefits and nutrition. Regarding to this, it is popular to make functional food from GAC. However, there is challenge that this fruit is popular for certain groups who love health diet, not for young consumer because of the unpleasant test and smell.

Gac fruit or Fak Khaao is a valuable potential source of antioxidants. It is typical plant found in Thailand and South East Asia that made the production cost lower than tomato. This study aims to find out the product design concept for prototype development and commercialize.

BACKGROUND

The first healthy product in the categories of sugar confectioneries is gelatin gummy or pectin gummy or related, because of gelatin made from the collagen insides animal's skin and bonds, it divided by type of materials are from pork skin type and cattle hides and bones type. It consists of 19 amino acids and linked with long peptide bond that is easy to digestion. In additional, chewing effected on the initial learning that helps more focus and concentrate. Jess R. Baker, and other (2004) reported that gum chewing during encoding a word list improved their recall performance. Moreover, following gum chewing, memory functions appeared to be enhanced via context-dependent effects. Yoshiyuki Hirano, and other (2008) found chewing is associated with activation of various brain regions, including the prefrontal cortex, it increased the BOLD signals in the middle frontal gyrus in the dorsolateral prefrontal cortex during the *n*-back tasks. Chewing may accelerate on recover the process of working memory besides inducing improvement in the arousal level by the chewing motion. Based on this principle, product made from gelatin can apply to use for both of mature and younger group. It has nutrition and chewing it is a good activity for working memory processing. Therefore, we have selected gelatin gummy for application and added Gac fruit for more functional.

To solve the bitter problem of Gac fruit, we used the solvent extraction, Ethyl acetate. The extract was evaluated by ³Nitiya Rattanapanan's (2011) Lycopene analysis principle, the principle argues that Lycopene concentration of 1 percent were measured the red color intensity in measurement cell size 1 cm at a wavelength 505 nm, using the Spectrophotometer. And reading the ordinary ray: OD is 0.282 used that is an absorbance coefficient for analysis Lycopene. For the Gac extract, read OD is 1.396. The result Gac's Lycopene contain is 4.654 mg/g or 4,645 g/kg that more than tomato's Lycopene contains 1,450 g/kg. We used 2 g of Gac extract into gummy 70 g. Thereafter, the product is not bitter and easy to add flavoring and smell substances. It can adapt to apply in many applications.

METHODOLOGY

To evaluate product acceptance, the data was collected from interviews and focus group discussions. The process works as follows:

Research Objective

This research was guided by 3 objectives namely;

- To evaluate the acceptability of the product.
- For the experts suggestions and comments used in the design and product development.
- To assess the feasibility and commercialization of this products.

Experts Respondent Screeners

The focus group consisted of 7 persons who hold expertise in different fields

- From business section.
- Mr. Arnut Mangkornhong, Trade foreign manager at Delicup Co.,Ltd
- Ms Kittiwat Suwansanya, Product development manager at Delicup Co.,Ltd
- Ms Karnjana Hongyok, R&D manager at Indy's Kitchen Co.,Ltd
- From academic section.
- Dr.Patarakit Komolkiti, Professor/Innovator at Department of Industrial Design, Faculty of Architecture, Chulalongkorn University.
- Dr.Sirima Pongprapa, Professor at Department of Food Technology, Faculty of Science, Chulalongkorn University.
- Dr.Nuttida Chotchoung, Professor at Department of Food Technology, Faculty of Science, Chulalongkorn University.
- Dr. Peter Gun, Chairman at Master's degree program, Content management and value creation, Bangkok University.

Process

The data was collected from a focus group of experts discussion based on each content by the questionnaire was prepared. The process of data collection is as follows:

- Send invitation to participants with written and attached the information about this innovation concept, purpose of the focus group. And wait for confirmation of acceptance.
- Moderator has conducted the focus group discussion, to encourage the idea, comment on issue or deep discussion for best detail and suggestion. Recorder on each issue. The experts are trial testing and evaluating the product acceptance by the provided questionnaires are as follow:

Part 1: The evaluation of the product acceptance and satisfaction.

Part 2: Questionnaire on attitudes and habits of eating healthy.

Part 3: Interview on consumption and influencing factors on innovative snack added Lycopene and feasibility to commercialize.

RESULTS

Focus Group Discussion

The data was collected from a focus group of experts discussion based on each content by the questionnaire was prepared. The process of data collection is as follows:

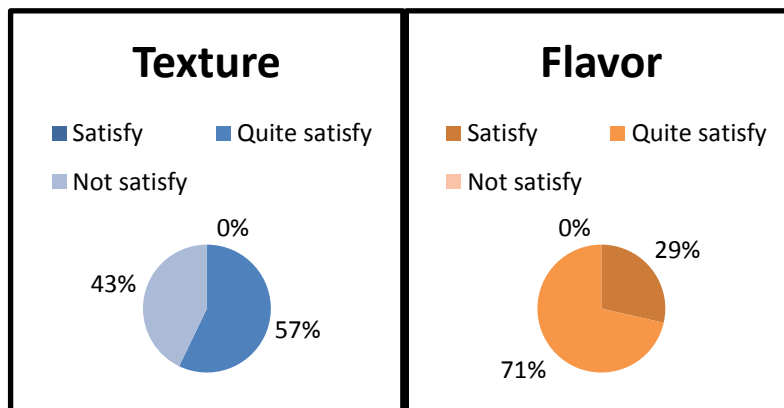
Part 1: The evaluation of the product acceptance and satisfaction.

Table 1. Evaluation of the product satisfaction by each expert

Factors Experts list	Texture	Color	Flavor	Smell	New	Overall Satisfaction
Ms Kittiwana Suwansanya	5	8	5	8	9	6
Mr. Arnut Mangkornhong	1	5	5	5	9	5
Dr.Patarakit Komolkiti	5	5	5	5	5	5
Dr.Sirima Pongprapa	1	5	5	7	7	6
Dr. Peter Gun	5	6	7	7	4	6
Dr.Nuttida Chotchoung	2	5	4	7	6	5
Ms Karnjana Hongyok	6	7	8	8	8	8
Average	3.6	5.9	5.6	6.7	6.9	5.9
S.D	2.1	1.2	1.4	1.3	2.0	1.1

- Opinions on product acceptance and satisfaction

All experts were satisfied with this innovation and acknowledged gummy added Lycopene, from the Gac extract is healthy. After trail testing, they are most satisfied with this product. They quite were pleased with smell, color and flavor. Artificial flavor has not been added to this product and natural fruit juices have been used. Most experts commented that texture is too rubbery. The amount of gelatin should be altered and adding glucose instead. However, the degree of rubberiness is depending on target group i.e. more rubbery texture may appeal to younger group.



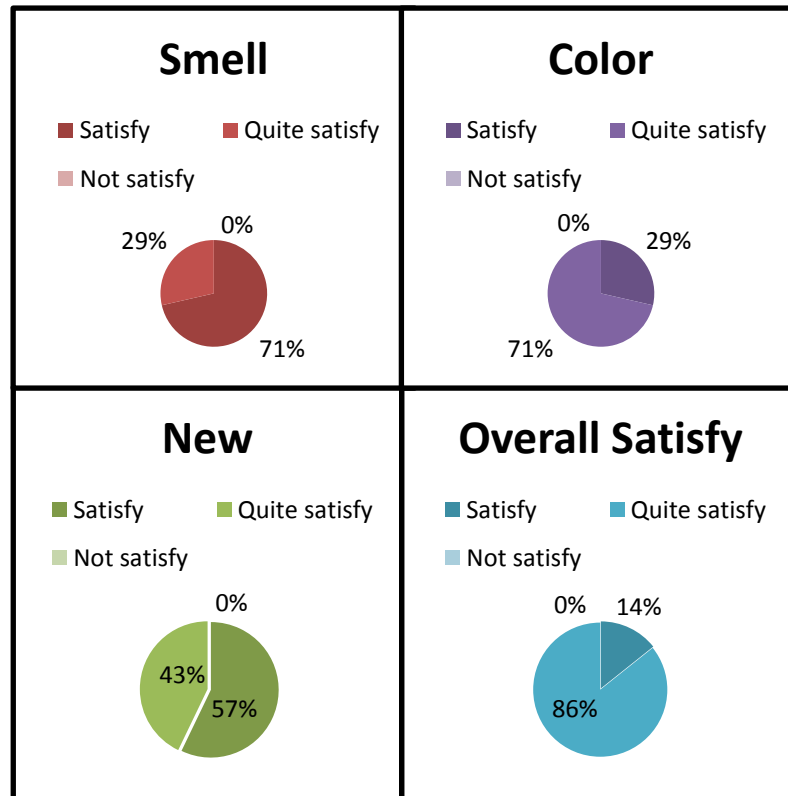


Figure 1. Results of acceptance and satisfaction to the product by expert.

- Would you be interested in consuming the product, if it has been improved as suggested?

Majority of experts are interested with the exception of one (she dislikes gummy). The focus group participants have agreed on pricing of the product, for 70 g of gummy to 25-100 Baht. However, these pricing depends on target group and distribution channels.

Part 2: Questionnaire on attitudes and habits of eating healthy

- Do you normally consume health promoted products?

Five persons consume health promoted products 1-2 days a week, with exception of one that consumes on daily basis, whilst the other two do not. The consumers of these healths promoted products given reasons that they do that to maintain their health. The non-consumers' arguments were their normal dietary are already sufficient with vitamins and minerals that meet the requirement of nutrient needs, and it is not necessary to consume those products.

- Healthy snacks and sweets familiar to consumers:

Fiber snack bars, bottled chicken essence / bird nest and healthy beverages, dried fruits and vegetables, cereals, yogurt, powdered drinks and healthy drinks.

- What is your opinion on health promoted food, snacks and sweets?

Experts said that the use of word "Health" catches attention from the consumers, but these products usually yield effect very slowly and quality of these health promoted snacks depend on price range, the higher the market price, the higher percentage of nutrition. The factors that attract consumers who are "in" to healthy products are first flavor then price.

The experts also concluded that the consumption of healthy food products is popular because of the lifestyle of these present days, which can be busy and complex. Taking healthy food or beverage seems to be one way to maintaining their health without spending extra effort and time.

- Have you ever seen, heard or have tasted Gac Fruits before?

Four of the Focus Group experts have never heard of Gac Fruit before, three of them have heard of it, but only one of these three had actually tasted Gac Fruit, but none of participants realized that Gac fruit is enriched with high “Lycopene”, even more than tomato. This is probably the reason why it earns the name “Fruit from Heaven”.

Part 3: Interview with factors influencing the consumption of vegetables, healthy snacks, innovative products, and feasibility and value of the investment.

- What are factors affecting choices of consumers on health products?

Reliability on such product and/or pricing are reasonable or not, but most important issue on consumable products are their tastes and appearances. Health promoted sweets are still being viewed as junk food despite of what is in it such as nutritional ingredients, vitamins or minerals

- Have you ever seen this type of product in the market?

One of the experts have offer the example of similar product “Sedo” made in Germany and suitable for teething toddlers, it is gummy candy induced with Vitamin C or L-ascorbic acid. Vitamin C in tablets form is acidic and high in Maltodextrin which cause tooth decay. However, the combination of ascorbic acid in gelatin emulsion does not do so. Research says that chewing any type of gum stimulates brain activities.

- What will make you purchase Innovative snacks with Lycopene?

The characteristic of Lycopene from Gac fruit in antioxidants. Build consumers awareness on product added Lycopene. Marketing strategy needs clear indication on target group with health conscious.

- Do you think adding extract of Gac fruit in gummy increase value to the product? Does it give you the advantage in the market?

Experts opinions are positive towards the matter, based on Lycopene’s property, plus Gac fruit are relatively new in Thailand.

- What is your main target group?

An aging consumer group (age 50+) who are more prone to natural declining health, by taking the health supplement the target group shows a higher yield in health benefits than the younger group.

- What will attract consumers to this innovative product?

“Antioxidants” which promotes health and beauty.

- What is the right marketing strategy for this product?

Experts have commented that positioning of the product should be leaning towards health supplement instead of sweets, and emphasizing on restoring and promoting health.

- Future research on developing this product.

Lower and better the cost of production method. Research on what other product you can induce with Lycopene from Gac fruit.

CONCLUSION

Innovative snack with Lycopene has to improve on its texture by reducing gelatin and add glucose, also add more variety flavors. All of the experts were satisfied this innovation product and acknowledged gummy added Lycopene from the Gac extract. They will be willing agree to pay for this product, if it has been improved following these suggestions.

Marketing expert comments that confectionery featured with nutrition aka functional confectionery are seen as normal sweets, and nutritional adding is just a bonus. They are not willing to pay higher price for sweets with health benefits. Meanwhile, some parents are more open minded in spending more on vitamin gummy.

Change target group to an ageing consumer group, age 50+, who are more prone to natural health declining. Steering product image from children sweets to nutraceutical or healthy food supplement.

Development on investment innovative snack with Lycopene:

Research on developing Gac fruit extract that is able to dissolve in both water and oil base. Focus on becoming supplier rather than distributor. Study investment of this product is still at an early state. More research on Gac fruit extract is still needed to lower the cost of production. For future research, look into involving this product with chocolate and aims for higher market group.

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Covert Research: Don't Throw the Baby Out With the Bathwater

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ABSTRACT

Covert research is not a method generally used in research due to ethical considerations, but it should not be undermined as a valuable research method in certain research circumstances. This article argues for the use of covert research as a complementary method in research when issues of gate-keeping and access to data obstruct the research process. Furthermore, it is argued that covert research facilitates emergence of rich, nuanced data in a research context where there is an eclipse of data and where the sampling strategy can elicit concerns around trustworthiness. The data for this article draw from a multi-layered ethnographic doctoral study (2005) on teacher migration between South Africa (SA) and the United Kingdom (UK) at the height of teacher recruitment from developing countries in the south to developed countries of the north, when there was an absence of research data on the phenomenon. Covert research was used to glean critical data on the characteristics of teachers being sought by recruitment agencies for UK schools, the route traversed by migrant teachers in their recruitment from SA to the UK, as well as the role of recruitment agencies and their strategies in facilitating migration of South African teachers.

Keywords: Covert research, teacher migration, recruitment agencies, ethics, gate-keeping, access.

INTRODUCTION

Covert research has been defined as “research processes in which researchers do not disclose their presence and identity as researchers and participants have no knowledge of their research identity” (Holloway, 1997, p. 39). Covert research is not a method that is well known or frequently practiced in research (Smith, 2001). When discussing and crafting methodology for research, it is generally overlooked and shied away from. In fact, if researchers had to attach methodological status to the various research styles, I have little doubt that covert research will occupy the lowest rung on the ladder for many. This is largely due to baggage attached to the use of covert research which centres on ethics and morality.

Covert research: Dirty words in research

Covert research attracts negative criticism in the social sciences due to a host of ethical and moral reasons (Holloway, 1997), of which the most frequently cited centre on informed consent (Calvey, 2008). However, it is common knowledge that “ethical issues in research are often challenging”, especially in qualitative research “when research adopts unconventional forms” (Wertz et al., 2011,

p.354). Several authors discussing ethical practices in research refer to covert research as “deceptive” (Van Deventer, 2009; Herrera, 1999; Homan, 1991) creating a connotation of dishonesty. Hence it is understandable when researchers such as Calvey (2008, p. 907) claim “it is my contention that covert research is effectively stigmatized in the research world.”

It has been argued by proponents of covert research, as in the Hawthorne experiment, that the presence of the researcher alters the context of the research, and this has been perceived as a limitation (Van Deventer, 2009). It is then a distinct advantage if there is non-disclosure by the researcher in a study, thus allowing for data to be untainted by the disclosed presence of the researcher. Indeed this point, in addition to other justifications for the use of covert research, are presented by the Economic and Social Research Council (2010, p. 21), which states that “covert research may be undertaken when it may provide unique forms of evidence or where overt observation might alter the phenomenon being studied. The broad principle should be that covert research must not be undertaken lightly or routinely. It is only justified if important issues are being addressed and if matters of social significance which cannot be uncovered in other ways are likely to be discovered.”

A key principle purported by many critics of covert research is that the use of such research should not be a researcher’s ‘first port of call’ when developing the research design for a study (Herrera, 1999). What also emerges is the view based on the value that covert research can offer to society if there is an important phenomenon being studied and other research avenues were unable to yield valuable insights. The latter view has for some time been espoused as a defence for the use of covert research, namely as reference to the ‘gains’ in data and uncovering what might never have been known (see Herrera, 1999). This is a frequently cited view, again articulated and expanded on by Wells (2004), who presents a strong argument that covert research should be perceived by researchers with respect to both the quality of data that will emanate and research essentialism instead of the usual morality and ethics debates. It is indeed the former reason that resonates with my use of covert research, in addition to numerous other challenges (which I explain below) that I experienced in undertaking to examine the nature of the phenomenon of teacher migration between South Africa (SA) and the United Kingdom (UK).

In this article I argue for the use of covert research as a complementary research method. Covert research was not initially part of the research design for the study, but the various challenges I encountered called for flexibility and creativity in the research design. Recently Kvale and Brinkman (2009) contended that qualitative research (including ethics) must be approached from the perspective of a ‘craft’, which calls for innovative responses and malleability in addressing research challenges. Hence I used covert research for a multiplicity of reasons: there was an absence of data on the phenomenon and authenticity was premium, the sampling strategy was possibly skewed, and issues of gate-keeping and access to data obstructed the research process. Hence, my contention is ‘don’t throw out the baby with the bathwater’ – covert research should not be dismissed, because there are a myriad of reasons that prop up the value of its contribution to research.

This article is organised as follows. The first section briefly outlines the ethical dimensions generally associated with covert research. The next sections are based on an ethnographic study on the nature of teacher migration between SA and the UK, wherein I account for my reasons for using covert research. Thereafter I present the findings that emerged as a result of the use of covert research. The final section concludes with a call to remove the deficit discourse associated with covert research, given the value of using covert research in particular research contexts.

THE STUDY: TEACHER MIGRATION BETWEEN SA AND THE UK

The purpose of the study (2005) was to explain teacher migration between SA (in the post-apartheid era) and the UK.

The critical questions that informed the study were as follows:

- i) Which teachers are leaving SA?
- ii) What are their reasons for leaving SA?
- iii) What are teachers' experiences in the UK?
- iv) Why are teachers returning to SA?

Questions ii, iii and iv had a hermeneutic focus in that the research pursued an understanding of teachers' thoughts, decisions and actions. These were accomplished by examining data prior to teachers' migration, upon their migration to the UK and after their return to SA. The methodological tools initially included in the study were questionnaires, interviews, observations and a focus group discussion.

An eclipse of data on the phenomenon

Democracy in SA (which dawned in 1994) facilitated ease of movement across national boundaries for professionals that did not exist during apartheid. Media and political hype in SA over concerns about the loss of the highly skilled in the fields of health (nurses, doctors etc.), teaching, engineering, accounting and information technology – known as the 'brain drain' – led to some empirical studies on health professionals and scientists (Crush, 2004; Kahn et al., 2004). However, there were no studies or data available on teacher migration between SA and the UK, which was eliciting some political and media attention via the then Minister of Education, Kader Asmal (Curtis, 2003), who labelled the UK as 'poaching' teachers from SA. Many industrialised countries like the United States of America, UK and Canada have an ageing teaching fraternity (Ochs, 2007) and resorted to the unfettered recruitment of teachers from less developed countries to replenish their coffers, drawing large-scale criticism at Commonwealth level which led to the development of the Teacher Recruitment Protocol in 2004). The recruitment of teachers from SA to the UK was thus a phenomenon of national concern that required empirical research.

Before commencing fieldwork it was necessary to ascertain whether teachers who were exiting the profession in SA were a sizeable fraction of the teacher workforce, as there were no statistics on teacher migration. The following section outlines the rationale for a baseline study and also justifies incorporation of a research method (covert research) that was not initially decided upon at the outset of the study.

Attempts at a baseline study

Prior to conducting fieldwork an attempt was made to review the existing data and policy on teacher attrition. This happened in two ways: firstly, in trying to obtain data to ascertain how many teachers had left SA; and secondly, in trying to elicit data from recruitment agencies regarding teachers recruited to the UK. Such teachers' professional details were necessary since this would reveal the subjects taught by teachers which were in demand in the UK. Findings in each segment of the baseline study are presented below.

Attrition Statistics

It was envisaged that attrition statistics would be examined with the assistance of the Department of Education (DoE). It was necessary to ascertain what percentage of the teacher workforce had exited, and whether this was significant in itself or when added to SA attrition statistics¹. This would inform issues of teacher shortage and a potential brain drain. According to Boe, Bobbit and Cook (1995), teacher attrition is a component of teacher turnover (changes in teacher status from year to year). Teacher turnover may include teachers exiting the profession, but may also include those who change fields or schools. In this study teachers exiting the teaching profession through either boarding or retirement were not considered. The DoE in Pretoria (SA) willingly submitted their provincial resignation statistics. However, as teachers were under no obligation to stipulate their reason/s for resignation, it was impossible to calculate the number who had resigned from SA to teach abroad, and to locate the population. Thus sampling for the research proved a challenge.

Sampling

A major issue with regard to sampling is to determine a selection that best represents a population, thus allowing for accurate presentation of results (Bless & Higson-Smith, 1999). This is termed a representative sample. To ensure a representative sample, the use of a correct sampling frame is vital. There are no reliable data available regarding teachers migrating from or returning to SA. Teachers were not declaring their intention to migrate to the UK in advance, due to departmental investigations. Also, teachers who resigned were not under obligation to specify their reasons. Due to the absence of a sampling frame from which to select individuals, the application of a random method of selection was impossible. For the purposes of this study a non-probability sampling technique was applied since the SA migrant population was difficult to trace. The technique of selection which was utilised was snowball sampling, which is commonly used in qualitative research (Babbie & Mouton, 2010).

Snowball sampling was selected for its appropriateness in locating members of the teaching population. Since the researcher is a teacher, she had some colleagues and acquaintances that had migrated. These teachers also assisted in the location of the sample. The procedure consisted of collecting data on a few members of the population that could be located, and then asking those individuals to provide information to locate other members of the population within the province of KwaZulu-Natal, SA. The researcher also attended recruitment seminars where she interacted with prospective migrant teachers, and selected participants for the study based on teachers' willingness to be a part of the study. Ultimately I couldn't help but be concerned that I may have a skewed sample, and I also worried about the trustworthiness of the data being generated. I felt it was imperative to be able to triangulate the data that were emerging from the migrant teachers (interviews and focus group discussions) as I was engaging in ethnography.

Embarking on an ethnography

According to Cowl (1996) ethnography is a way of life of some identifiable group of people, and that is exactly what the research aimed to achieve - a picture of South African teachers who were migrating to the UK and their resulting experiences. Ethnographic research, according to Daymon and Holloway (2002), entails extended periods of fieldwork in a group or community with the researcher observing and asking questions about the manner in which people interact, collaborate

¹ Attrition is the termination of teachers' services through any of the following: expiry of contract, death, resignation, retirement, medical boarding, suspension or discharge.

and communicate. But it is not only fieldwork, ethnography is also a description (a written story or report) about a particular group of people, and in this study this group was migrant teachers.

One of the main characteristics of ethnography is the researcher striving to achieve a 'thick' (Geertz, 1973) description. A thick description in the present study meant describing through a detailed account the recruitment process, experiences of and connections between relationships that join people, for example, social networks of family or other teachers in the UK and recruitment agency support, which facilitated the migration and supported the movement of participants. McHugh (2000, p. 74) contends that migration researchers have favoured demographic approaches to migration, thereby "shying away from alternate forms of meaning and understanding." Both Fielding (1992, p. 205) and McHugh (2000, p.73) agree that "only ethnographic research can reveal the subtle details of the experience of migration". The research study responded to this criticism by using an ethnographic approach to move beyond statistical trends, by providing a rich and authentic explanation of the migration of teachers between SA and the UK. Thus, in attempting to elicit rich data recruitment agencies were perceived as being able to provide valuable insights.

Accessing recruitment agency data

It was also anticipated that the attrition data from the DoE could be triangulated with information received from the four recruitment agencies. However, recruitment agencies at the local level (SA) were unwilling to divulge statistics about the number of teachers in the different learning areas that they had recruited. They feared that it would have repercussions for their companies and provide information for their competitors. Smith (2001, p. 221) alluded to gate-keeping when she stated that "gatekeepers tend to deny and delay researchers because they are concerned, not unreasonably from their point of view, about the uses to which the research data will be put. They cite the need for confidentiality for firms". Recruitment managers also stated that all documentation was forwarded to the UK and that there was an absence of any kind of statistics at agencies in SA. All queries for the study were directed to the human resources departments in the UK. However, no responses were forthcoming in spite of numerous attempts by the researcher via email.

It was obvious that recruitment agencies held many answers to understanding the migration of South African teachers to the UK, but that they were reluctant to reveal such information, since it would be quoted for the purposes of research. The decision was then made to embark on covert research to extricate the necessary data. Covert research was utilised to glean recruitment data from agencies and to understand the route traversed by migrants in recruitment, as well as the role of agencies and their strategies in facilitating the migration of SA teachers to the UK.

Going undercover as a prospective migrant teacher

It was not difficult to move from being an 'outsider' (researcher) to an 'insider' (prospective migrant teacher) as I was a qualified teacher with 13 years of experience. This was a professional ethnography as I had the requisite teaching qualifications and experience, which constituted a form of sociocultural capital. Covert researchers maintain that they can detect 'tacit' consent from their subjects (Herrera, 1999, p. 336), and in my instance I had the teaching qualification which afforded me entry into the recruitment seminar. Furthermore, I applied to the agency and was granted an interview with a recruitment agent as the interviewer and myself as the interviewee; I merely reversed roles intermittently to validate certain claims made by either the agent or the migrant teacher. Also, the recruitment agents are not 'strangers to deception' (Herrera, 1999, p. 337), as I also discovered via the recruitment seminars, focus group discussions and interviews with migrant teachers.

The researcher assumed the status of a prospective migrant teacher and attended recruitment seminars and mingled with prospective migrant teachers. Discussion centred on their reasons for migration and their emotions prior to departure. The researcher was thus privy to pre-migrants' concerns voiced at seminars, and the marketing strategies used by agencies to attract SA teachers. After attending seminars the researcher filled in the necessary documentation that was mailed, and awaited a response for an interview. In this manner the lived experiences of the prospective migrant teacher (Geertz, 1973) were illuminated.

The most frequent covert research method involves participant observation (see Calvey's study on bouncers, 2008). However, the covert research method that I engaged in differed, in that it was 'participant interview', specifically fashioned for the purposes of validating the interview data that I sourced from migrant teachers and uncovering the profile of migrant teachers and role of recruitment agencies in teacher migration. When I was granted an interview with the recruitment agency the questions were diplomatically interwoven as queries to the recruitment agent to gather insight into the type of teachers that agencies were specifically attempting to recruit, and the way London schools were presented to prospective migrants. In this manner the researcher (as a prospective migrant teacher) gleaned information from three recruitment agencies via covert research, after one interview with limited data from a recruitment agency.

Smith (2001, p. 222) has succinctly warned that "as an ethnographer you can't help but worry that you may be getting only a partial view and so strive to supplement or cross-check data with other types of data". Thus data from recruitment seminars were enriched and triangulated with data derived from other sources, namely migration questionnaires, interviews and a focus group discussion. As Herrera (1999, p. 336) pronounced: "the question is not so much whether a study is covert, but how covert it is." In this particular study, it was partly and not entirely covert.

FINDINGS

This section provides empirical evidence on the role of recruitment agencies in the migration of teachers from SA to the UK. Rich data on the recruitment of teachers emerged through the use of covert research in unison with data derived from migrant interviews and a focus group discussion.

The persuasive influence of recruitment agencies

The important role of recruitment agencies in the migration of SA teachers was revealed. Recruitment agencies entice SA teachers to go abroad in pursuit of a host of goals. These include earning British pounds, still the strongest currency at present and in the early 2000 with an exchange rate of approximately 12 South African rands for a pound², travelling to and within Europe, and professional opportunities such as career advancement through gaining global teaching experience. Each of these categories is discussed below.

The Money and the Perks

Recruitment agencies were largely responsible for the hype created post-apartheid about the benefits of teaching in the UK (covert research, 24-05-02; 12-11-02; 25-03-03). The carrot dangled by recruitment agencies in their weekly advertisements in newspapers had many facets: the earning potential, exciting perks such as free flights, accommodation and the opportunity to travel as a migrant teacher within the UK and to Europe. Prior to 2008 there was an increasing momentum in

² September 2003 exchange rate.

the human capital flight of professionals from SA. A cursory glance through national newspaper, the Sunday Times (no authors since they are advertisements, 08-09-02; author, 01-09-02) revealed attractive advertisements by recruitment agencies which were aimed at SA teachers, offering them rewarding packages to teach in the UK: "Taking your career on holiday, ... extend your teaching skills, ... join countless other teachers, ... comprehensive support programme, ... the best package you'll find ... free" and promises of a daily rate of 100 pounds.

The recruitment strategy offering various perks was a distinct pull factor to UK schools: a currency conversion of 100 pounds into rands makes for a very attractive salary for a South African teacher. While the agency advertisements assured a minimum of 100 pounds a day, the salary deductions of the teacher were not divulged, which thus gave the wrong impression about the migrant teacher's earnings. The disposable income was seldom discussed during recruitment seminars. Interestingly, migrant teachers Ben and Mersan (focus group, 10-04-03, UK) confirmed that the salary rate per day is set at 180 pounds. However, when the 'researcher as migrant teacher' queried the salary during the participant interview with the recruitment agent (covert research, 29/05/03, SA), the reply was: "Where did you hear that? Perhaps you misunderstood the amount, you might have been told 118 pounds. We could never pay that figure". Indeed, it appeared that recruitment agencies were making a sizeable profit of sixty-two pounds per day for each teacher. This was in addition to having the school pay the recruitment agency for procurement of a teacher.

An agency information package for migrant teachers did affirm that London rentals were excessive, with the estimated amount provided as a guideline between 80 to 120 pounds for a double shared room in a house. If the migrant teacher intended renting a flat or a house then the costs were greater. Migrant teachers were informed in agency interviews that they would be given the option of occupying agency accommodation when they arrived in the UK. Migrant teachers would frequently share accommodation in order to save costs. Furthermore, approximately 30% of the migrants' earnings will be deducted for tax and obligatory national insurance. What was quite interesting was the clause in an agency contract which stated that "any information given is only intended as a guide and as such the accuracy of this information cannot be guaranteed and should not be relied upon". Hence the agency was attempting to absolve itself of any claim of deception.

The recruitment of teachers is not a gratis service, although it may be presented in this manner during introductory recruitment seminars (covert research, 24-05-02, 11-12-02, 06-06-02). A recruitment agency is a business and the aim is to make a profit, but it is never revealed as a business exploit. There were agencies that feigned free recruitment of teachers. The agencies claimed to offer a complimentary service, but upon securing a job for the migrant teacher the agency was responsible for the teacher's salary, and the school was only the site for the service. An agency newsletter elucidated the working contract: "at the end of each week you will need to fill in a timesheet indicating the number of days you have worked. You will need to post them every Friday ... we process the timesheets every second Monday with the money being deposited in your account the next Friday". Thus, the school had entrusted the agency to acquire the teacher and would pay for this procurement. In addition, the school would pay a daily rate for each migrant teacher reporting to teach at the school. All agencies failed to reveal that when a teacher is positioned in a school, for every day that the teacher is present at the school, the agency would receive an additional payment of approximately 50 pounds per day (focus group discussion, 07-04-03). Return migrant Colet (interview, 24-08-03) passionately declared: "Agencies are a rip-off! The school paid 175 pounds per teacher per day, however, the agency only paid the teachers 90 pounds".

Clearly, some of the clauses in the contract which bound the migrant teacher to recruitment agency rules were unfavourable, such as the regulation dealing with leave from school. The migrant teacher is not entitled to paid sick leave, which is not declared to teachers. A teacher is paid according to the number of hours he/she has worked, which is indicated on the time sheet. Furthermore, migrant teachers who are supply teachers (temporary positions at schools) are not permanent members of staff and do not therefore obtain holiday pay, which in effect means a reduced salary (focus group discussion, 07-04-03; migrant interview with Ben, 06-06-02).

Ultimately, recruitment agencies were attempting to create an impressive economic drive to persuade local SA teachers to go to the UK. This is a contention of Gould (2002, p. 3), who cautions South African teachers to be “aware of slick sales representatives.” A migrant teacher from SA who posted an article on the Internet also declared a similar view (Suntimes, 2002). The article counsels migrant teachers as follows: “agencies get up to 180 pounds per teacher per day ... ensure that your agency provides you with support when you need it”.

Also in the limelight during the same period was a group of migrant teachers from Africa who were exploited by a recruitment agency (Garner, 2003). The agency recruited teachers from African countries (including SA) with the promise of regular work. Upon arrival in the UK the teachers were informed that work would not be regular. Furthermore, after a period of time when their visas expired, they were not renewed. These teachers were then requested to leave the UK. The article alleged that “the treatment of the teachers has been disgraceful and many were living in poverty because they could not find work”. (Garner, 2003). The Deputy General Secretary of NASUWT (one of the teacher unions in the UK) described their dilemma as “the worst exploitation of a group of teachers that I have ever come across” (Garner, 2003). One agency contract did specify in their abundant terms and conditions of employment (five pages in total) that there could be episodes when work will not be easily available.

All three recruitment agents were quick to emphasise the many perks that their business could provide (covert research, 24-05-02, 11-12-02, 06-06-02), such as arrangements to assist in obtaining accommodation, help in opening a bank account and the provision of holiday jobs. An agency also offered ‘a less 14% tax concession’ to teachers and flight arrangements such as reduced rates to travel to the UK. At times recruitment agency undertakings did not materialise, as confirmed by Colet (migrant interview, 24-08-03). She stated that they (a group of migrant teachers recruited by the agency) were abandoned at the airport although they were promised free travel by the agency, and the cost to her was 70 pounds in taxi fare. She revealed that migrant teachers were also disappointed when other promises were not adhered to, such as free cell phones, bank accounts and free accommodation for two weeks when they were recruited in SA. This was not provided upon arrival in the UK, and migrant teachers had to cope on their own without agency support.

It emerged that some of the strategies used by recruitment agencies to offer assistance to teachers were attempts to reduce the costs of migration by offering accommodation, cheaper flying rates and tax concessions. However, what some recruitment agencies did not tell migrant teachers was that the support in accommodation was at a boarding establishment, at an excessive amount. The rental was on average 400 pounds per month according to migrant teachers Hannah and Charlie (interviewed on 17-08-03 and 22-08-03 respectively). The price of the airline ticket that migrant teachers were charged was higher than the average price quoted by travel agents, and this migrant teachers only realised much later. Hence the gratis services that were presented by the agency were strategically included in the costs of migration.

Migrant teachers did divulge that there were a few agencies that provided a few free services. Upon migration some participants (post-migrant interviews, Lyn 03-04-03, Rena 08-04-03) explained their

appreciation for their agencies' support in arranging transport from the airport, acquiring holiday visas and organising gatherings for foreign teachers to assist in their socio-cultural integration into schools. It became apparent through the data from covert research, interviews and focus group discussion that the recruitment of teachers was a profitable industry and was broadened to various supplementary services that were offered to migrant teachers at a price.

The value of the teacher as a commodity for the recruitment agency to sell to UK schools was revealed. As Rene, a post-migrant in the UK, stated during a focus group discussion (07-04-03, UK): "They [recruitment agency] charge a fee to the school and you feel so cheap, it's so terrible." In this instance the migrant teacher conceptualised herself as a commodity, but it led to her feeling worthless as she felt that this diminished her professional status. In SA Rene was a Grade 12 teacher and she perceived herself to be professionally on a higher ranking than other level one teachers. It should also be noted that she willingly left SA and migrated to the UK. However, she was either unaware of the commodification of teachers in the UK or simply ill-informed.

Covert research as a prospective migrant (12-11-02, 25-03-03, 28-03-03) revealed that in order for the teacher to be perceived as a valuable commodity, there were numerous documents that required detailed explanations of various aspects of the migrant's personal and professional nature. The introductory package mailed to the prospective migrant teacher was quite considerable. There were some documents which were common to all agencies, such as the curriculum vitae, a police clearance, certified copies of professional qualifications and letters of recommendation for work. However, the distinguishing features of each agency were the lengthy profiles in which South African teachers had to discuss their teaching methods, their educational philosophy and the disciplinary measures they would utilise. Indeed, the aim was to explore the teacher's personality in an attempt to ascertain suitability as a teacher in UK schools. It could also be used to establish whether the migrant would be an investment for the business and adjust, instead of hopping on the next available flight back to SA. Of course, this could have been a genuine endeavour to place SA teachers in UK schools or for recruitment agencies to settle on whether the migrant teacher was a useful asset.

Interviews (post-migrants Rene 07-04-03 and Sera 14-08-03, SA, and return-migrant Mala 21-08-03, SA) and covert research (04-04-03, UK) revealed that recruitment agencies were responsible for omitting key information from their seminars and interviews before migrants' departure to the UK. Travel costs to and from schools in the UK varied if a teacher intended using public transport to reach the school. Depending on the area, it may be necessary to travel by train and bus across different travel zones, and this will impact on the costs of a travel card. As post-migrant, Sera (interview, 14-08-03, SA) stated that she "lived three hours away from school and had to take a train, two buses and a walk to get to school".

Recruitment agencies were involved in gate-keeping strategies with reference to the recruitment of teachers to specific learning areas. In 2000, in order to attract Maths teachers to UK schools teachers were offered 4000 pounds as an incentive to teach the subject. However, the need for Maths teachers in secondary schools was still great in 2002/2003 (The Royal Society, 2007). Teachers in the Maths and Science fields were declared to be in demand, as recruitment seminars in SA highlighted jobs for teachers in specific fields where there was a need in the UK. Gate-keeping was also evident at the level of recruitment by virtue of race. A manager (interview ProTeachers, 11-07-02) referred to having 10% of their enquiries from African teachers, yet failed to recruit any due to English being a second language for Africans in SA. In respect of Indian teachers, English is their first language, so this did not apply. It was unlikely that African teachers were aware of this type of racial and linguistic discrimination. Furthermore, the National Director of Teacher Development of

the DoE (S. Nxesi) stated that most of the 58 000 underqualified teachers come from formerly African colleges (Sukhraj, Mkhize and Govender, 08-02-04: 01). The implication is that the majority of unqualified teachers are African. Hence, due to their lack of a recognised teaching qualification, they will not be eligible for recruitment, since the advertisements mention the need for specific professional qualifications. It is therefore strange that the UK does not recognise SA teachers' qualifications. Upon migration, SA teachers were informed that they would need to undertake the Qualified Teacher Status (QTS) exam if they wanted to be recognised as teachers in the UK.

There were some recruitment managers who were honest in assisting prospective migrant teachers. Their efforts included making personal telephone calls to prospective migrants (covert research, 06-06-02, 29-05-03) to concern over the brain drain and the DoE forcing teachers to resign before they exit SA (interview with ProTeachers, 11-07-02). ProTeacher's manager was disappointed in the DoE's attitude to South African teachers. She was of the opinion that South African teachers should have the same opportunities as those from New Zealand and Australia, where teachers are supported in their migration for professional development reasons for a maximum period of a year. The post at the home school is temporarily filled by a substitute during the period of absence. The manager of ProTeachers was of the opinion that the DoE in SA was forcing teachers to exit permanently, by asking for teachers' resignation from the profession.

DISCUSSION

This article argues for the use of covert research in particular research circumstances, by drawing on the use of covert research as an additional research strategy in a pioneering study on teacher migration between SA and the UK. The study initially experienced challenges that warranted the inclusion of covert research to both uncover and validate several findings emerging from a snowball sample of migrant teachers. There was no existing literature on SA-UK teacher migration prior to this study, which was published in 2005. The study was undertaken at a time when teacher migration from SA to the UK was at its height, yet there was a lack of empirical studies on the nature of the phenomenon in the South African context. Thus, teacher migration from SA was an unresearched phenomenon but one of national concern, since highly skilled South African professionals in critical subjects, who were needed by the home country, were being recruited by a developed country, the UK. This is why the use of covert research was justified (Economic and Social Research Council, 2010). Also, recruitment agencies were using gate-keeping strategies to obstruct the research process.

Covert research was responsible for revealing a rich tapestry of data on teacher migration, a phenomenon being aided and abetted by recruitment agencies which facilitated the migration of teachers from less developed to more developed countries. The study, through covert research methods, put the spotlight clearly on the role of recruitment agencies and their strategies in luring teachers from SA to the UK. The commodification of migrant teachers was easily discernable in the practices of the recruitment agencies. Commodification is generated from commodification theory, which is a feature of labour theory, purporting that capitalism turns all "objects, work and relationships into commodities, things that can be bought, sold and valued" (Lye, 2003, p. 1). Lye (2003, p. 1) maintains that "our understandings of ourselves and our relations to others and society changes" in that context. Recruitment agencies had realised the extent to which recruitment was lucrative, and South African teachers were being sold to schools in the UK that were in need of teachers. This was the "authentic picture" (Calvey, 2008, p. 911) that emerged by choosing to use covert research.

CONCLUSION

Covert research was used in the study as a complementary method in the research which examined the nature of teacher migration between SA and the UK. Various challenges were experienced in the research design such as the lack of empirical studies on SA-UK teacher migration, sampling, gate-keeping strategies by recruitment agencies and the need to triangulate emerging data; these were all reasons that warranted the use of covert research. The significance of the data that emerged is enormous: not only nuanced data on the workings of recruitment agencies in enticing teachers, but their treatment of teachers as mere commodities.

The evidence that was generated through covert methods bridged a critical chasm, namely recruitment literature, on the phenomenon of teacher migration from developing to developed countries. These data were later presented to the Commonwealth Council (see Manik, 2010) as part of a collective attempt to address the mobility of teachers in Commonwealth countries.

I am strongly of the opinion that the time has come to remove the deficit discourse when discussing covert research as a research method, given the quality of the data that have been generated through its use. Indeed, with this new knowledge countries can begin to consider producing national legislation that protects recruited teachers from labour exploitation by recruitment agencies.

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Outcomes of Research Degree Training in Higher Education: Conceptualization, Measurement, and Prediction

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ABSTRACT

The training of research degree students (PhD and MPhil) is an integral part of university education and one of the most costly investments in many societies. There has been an increasing pressure from stakeholders on universities to assess the quality of their research degree graduates. We developed an outcome-based model to evaluate the quality of research degrees education in a relatively young public university in Hong Kong SAR. Three categories of outcomes were identified from the literature, namely, disciplinary knowledge and performance, employability, and generic graduate attributes. Several factors were selected to predict the outcome, comprising pre-admission factors (e.g., gender, English proficiency), programme factors (e.g., full- versus part-time study mode, PhD versus MPhil), quality of the learning environment during study (e.g., perceived quality of supervision, assessment), and students' academic acculturation and social integration. Regression analyses found that whilst few contributing factor on their own made a significant prediction of the outcomes, they jointly explained a substantial amount of the variance, suggesting that education is a complex process made up of multiple contributing factors. The multi-faceted process is underscored further by the interaction between the learning environment and students' academic acculturation, themselves complex factors on their own. Hence reliance on just a few indicators without a full understanding of their interactions for achieving quality or outcome would be unwise.

Keywords: Research degree, higher education, outcome-based model, multi-faceted, acculturation.

INTRODUCTION

The training of research degree (PhD and MPhil) students is an integral part of the mission of university education. It is very costly and a proper evaluation of the return on investments in public education has led to calls for increased attention to outcomes in education (Cox, Hughes, Etzkorn, & Weisskopf, 2009; Neumann & Tan, 2011). Such scrutiny to bring accountability into the education process has been one of the reasons that forms of outcome-based education have become more

widespread since the 1980s (Killen, 2000). In fact, outcome-based approaches to student learning are increasingly becoming an international trend, commonplace in the UK, USA, Australia, and now, Hong Kong. It is being widely accepted as a model for education reform (Harden, Crosby, & Davis, 1999; Killen, 2000; Manno, 1995; Ross & Davies, 1999; Sundar, 1999), as there is an accumulating body of evidence which convincingly demonstrates the success of outcome-based learning (Hargraves, 2000; Spady, 1994; Spady & Marshall, 1991).

As outlined by Ewell (2005), proponents of outcome-based education have claimed many advantages to adopting such an approach, two of the most important of which may be the ability for comparison and portability. Firstly, learning outcomes can establish credible standards by which comparisons across universities, programmes, courses, or students, can be made. Such comparisons can be applied in programme assessments as part of the accountability process. Secondly, such defined outcomes can also “form the basis for a system of credentialing student learning that can transcend established programmatic, institutional, and national boundaries” (Ewell, 2005, p. 8). In this way, established outcomes can allow for the transferability of learning from one setting (i.e., programme, institution, or country) to another. One of the problems that have emerged from outcome-based research concerns the definition of outcomes. As Ewell (2005) points out, the outcomes of some abilities are not so easy to define clearly, and may even be nearly impossible for some. Thus, any gains from the approach must depend on the ability to define clearly credible statements of learning outcomes; if they are lacking, reliable and valid comparisons are simply unable to be made.

Overall, education systems that have adopted an outcome-based approach to learning have been changed at a fundamental level, altering the underlying philosophies on which they were built to adopt new theoretical frameworks in their approaches to teaching and learning (Glatthorn, 1993). These fundamental changes have been epitomized by the incorporation of systems for the development of graduate attributes. In this way, outcomes are used as an assessment of students' progress in learning and their development of specific skills and attributes as a result of their education. A review of the relevant literature has uncovered three broad categories of outcomes: disciplinary knowledge/performance, employability, and graduate attributes (Barrie, 2004; Neumann & Tan, 2010; Gilbert, Balatti, Turner, & Whitehouse, 2004; Grove & Wu, 2007; Manathunga, Pitt, & Critchley, 2009; Ning & Downing, 2010). The first two refer to specific outcomes such as duration of study, number of publications, time between thesis submission and employment, and salary. Graduate attributes, on the other hand, are generic qualities that are largely discipline-independent, such as critical and analytical thinking, problem solving, initiative, communication, leadership and team-work. These attributes are posited to result from the process of higher education without requiring additional training or specialized courses. They have attracted considerable attention in higher education concerning the differentiation of university education from professional or vocational education [Barnacle & Dall'Alba, 2011]. One researcher has summarized the issue as follows:

If universities do not promote the development of these attributes, they need only to (indeed, ought only to) provide vocational education rather than traditional liberal arts or theory-based degrees. (Platow, in press)

The problem, as many researchers have noted, is that definitions of graduate attributes are vague and differ between institutions. Since there are widespread differences in methods of teaching and learning (Fallows & Steven, 2000) as well as varying initiatives to foster graduate attributes, the extent to which the logic behind these definitions is shared is certainly questionable (Clanchy & Ballard, 1995). In previous research, Barrie (2002, 2003) discovered that even those university

professors who were responsible for the development and facilitation of graduate attributes in students lacked a clear consensus on the nature of graduate attributes. Many researchers argue that descriptions of graduate attributes are based on a variety of differing viewpoints and lack a clear underlying theoretical framework (Barrie, 2004; Clanchy & Ballard, 1995; Holmes, 2000; Manathunga & Lant, 2006). Debate in the literature has waged on for years, and continues over the validity and relevancy of graduate attributes in education (Barrie, 2005, 2006; Clanchy & Ballard, 1995; Moore, 2004). Even the definition of graduate attributes by different organizations show considerable differences. For example, lists of graduate attributes identified by UK national research councils, charitable foundations in the USA, and the Council of Australian Deans and Directors of Graduate Studies in Australia, while showing some consensus, differ in certain key aspects (Gilbert et. al, 2004). There is also a lack of consensus of the definition of graduate attributes among universities and higher education institutes throughout the world. The issue has been further complicated by a fact that every university would have its own mission and vision. Some universities may position themselves as professional training institutes whilst others may aim at providing whole-person education. With a rapid growth of technologies in recent years, emphasis of education has been moving from familiarity of facts to acquisition of higher-order thinking skills (such as metacognitive skills):

Increasingly, (PhD) is also seen as a generic qualification — as an indicator of intellectual abilities, such as advanced problem-solving skills and reasoning. These competencies are increasingly attractive to a wider employer base, such as the financial, public and consultancy services. These sectors are not only employing PhD graduates for their knowledge base, but also for the skills and competencies they bring. (Metcalf, 2005, p. 79).

In terms of cross-cultural definitions of graduate attributes, an internet search of the websites of a sample of American Ivy League universities, top-tier universities in mainland China, and publicly funded universities in Hong Kong showed that they share many commonalities in the attributes they wish to instill in graduates. Whilst universities each have their own unique definitions of graduate attributes, in general there were commonalities between them that may reflect more than just cultural ideals.

It should be noted that the concern for quality and quality assurance, though common among universities worldwide, is relatively more explicitly codified in Western (e.g., Australian Government, Department of Innovation, Industry, Science and Research, 2011; European Universities Association, 2007) than in non-Western regions such as China. The present project collated all available data from information systems at a publicly-funded university in Hong Kong SAR, China, pertaining to outcomes and correlated these outcomes with contributing factors that might predict them, namely, antecedent factors, programme factors, quality and support of the learning environment, as well as students' academic acculturation and social integration (Beaumont, O'Doherty, & Shannon, 2011; Hopwood, 2010). This university has evolved from a technical college and achieved university status about twenty years ago. Since then, it has established itself as a top university in Asia and among the top 110 universities worldwide. This relatively young university makes it an interesting case study of the quality of research degrees training. Preliminary research was conducted to establish the availability of archival data on outcomes and contributing factors, resulting in the following model (Table 1) that consisted of three outcomes (each with two to three indices) and four contributing factors (each with two or more indices).

Table 1. *Model of Outcomes and Contributing Factors*

Outcomes	Contributing Factors
(1) Disciplinary knowledge/performance	(1) Pre-admission factors which refer to

<ul style="list-style-type: none"> • Number of publications published during study and up to three years after graduation • Study time (time required to complete study) <p>(2) Employability</p> <ul style="list-style-type: none"> • Time between graduation and first job offer • Annual salary <p>(3) Graduate attributes</p> <ul style="list-style-type: none"> • Research skills • Communication skills • Analytical and problem-solving skills 	<p>students' demographic background and academic preparedness (gender, local vs. nonlocal status, academic background, English proficiency, scholarship holder)</p> <p>(2) Programme factors (PhD versus MPhil, full- versus part-time study mode)</p> <p>(3) Quality and support of the learning environment during study (perceived quality of supervision, teaching and learning experience, feedback received from supervisor, general support from the university, and satisfaction with assessment.)</p> <p>(4) Students' academic acculturation (with departmental and university research culture) and social integration (with student life).</p>
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METHOD

Materials

Because of the relatively recent history of the university concerned, records of research degree education were stored in various information systems. Data for measuring the three outcomes and the four categories of contributing factors were retrieved from information systems held by the School of Graduate Studies (SGS), Student Development Services (SDS) and the Office of the Provost. SGS's Research Student Information Management System (RIMS) stored research degree students' records and demographic information, from which we constructed indicators to measure one of the disciplinary knowledge/performance outcomes (namely, time taken to graduate, see below for the productivity part of the outcomes), as well as pre-admission and programme status factors. SGS has also conducted Exit Surveys to investigate the perceived quality of research degree education. The surveys provided information on graduate attributes and a wide range of learning experience, from which we constructed indicators to measure the quality and support of the learning environment as well as students' academic acculturation and social integration. Recently, SGS has obtained student publication records from the Scopus database, which contained information for measuring the productivity part of the disciplinary knowledge/performance outcomes. Furthermore, from the five Employment Surveys (2001, 2003, 2004, 2005, and 2006) conducted by SDS, and the three Graduate Exit Surveys (2008-2010) organized by the Office of the Provost, we were able to ascertain the employability outcomes over most years of the last decade.

Participants

The study was conducted entirely using data archives from the university. Overall, 209 cases from the 2009 and 2010 SGS Exit Surveys were merged in the first stage. By adding compatible employment data from SDS and the Office of the Provost, the sample was expanded to include research degree students from 2001-2010 wherever available (records were not available before 2001 or for 2002 and 2007 – see Table 1 below). Different sample sizes were acquired for each variable according to the information available. Research degree students included students of the

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 MPhil, PhD, and Affiliate programme (Table 2). Affiliate programme refers to the joint PhD programme offered by the university and its counterpart in mainland China.

Table 2. *Demographic Data of Research Degree Students*

Variable	Grouping	Frequency	Percent	Valid Percent
Year of Graduation	(N=1200)			
	2001	119	9.9	9.9
	2003	142	11.8	11.8
	2004	140	11.7	11.7
	2005	122	10.2	10.2
	2006	171	14.3	14.3
	2008	137	11.4	11.4
	2009	186	15.5	15.5
	2010	183	15.3	15.3
GENDER	(N=1135)			
	Male	723	60.3	63.7
	Female	412	34.3	36.3
Age	(N=1135)			
	20-29	971	80.9	85.6
	30-39	132	11.0	11.6
	40-64	32	2.7	2.8
Programme	(N=1193)			
	MPhil	801	66.8	67.1
	PhD	330	27.5	27.7
	Affiliate	62	5.2	5.2
College	(N=1193)			
	Science and Engineering	859	71.6	72.0
	College of Business	180	15.0	15.1
	Liberal Arts and Soc. Sci.	132	11.0	11.1
	School of Law	16	1.3	1.3
	School of Creative Media	6	0.5	0.5
Citizenship	(N=1135)			
	Hong Kong Permanent	637	53.1	56.1
	Student Visa	380	31.7	21.1
	Employment	104	8.7	9.2
	Other	14	1.2	0.5
Marital Status	(N=757)			
	Single	536	44.7	70.8
	Married	206	17.2	27.2
	Divorced	9	0.8	1.2
	Widowed	1	0.1	0.1
	Unknown	5	0.4	0.7
Nationality	(N=1130)			
	Hong Kong	581	48.4	51.4
	Mainland Chinese	491	40.9	43.5
	Asian (Other)	20	1.9	1.9
	European	21	1.9	1.9

	North American	9	0.8	0.8
	Australian	8	0.7	0.7
Study Mode	(N=1193)			
	Full Time	577	48.1	48.4
	Full Time to Part Time	429	35.8	36.0
	Part Time	183	15.3	15.3
	Part Time to Full Time	4	0.3	.03

Note. The maximum record has 1200 names. Not all variables are available for the 1200 names.

Procedure

The first task was to locate the sources of the data and assess the extent to which the scattered data pertaining to the same student could be matched for analysis. It turned out that only in recent years (2009-2010) were data available on graduate attributes although data on other aspects were available for a much longer period of time. We adopted a two-prong strategy for data analysis. First, we assembled a core sample (N = 209) complete with data on graduate attributes, other outcomes and contributing factors. This core sample afforded a more comprehensive analysis of the results. Second, to make the most use of the remaining data, incomplete though they were, we traced them back to 2001 to generate a bigger general sample (N = 1200) for further analysis.

All variables had sufficient data for statistical analysis, with the exception of employability, for which only partial data were available. Data were held in separate university information systems, and these were retrieved, matched, coded and integrated in full compliance with research ethics regarding anonymity of identity and confidentiality. A random sample of the merged data was checked independently for accuracy by a second researcher of the research team. With respect to publications, the raw information available from the Scopus database displayed only a list of papers bearing the name of the student, not all of which would count as publications for present purposes. The papers were scrutinized and only those published in journals, books, or conference proceedings were counted as publications. Students' CGPA records during their research degree studies were checked against the CGPA calculations listed in the web-based RIMS.

RESULTS

The quality and support of the learning environment was one of the four contributing factors, measured by five indicators based on questionnaire items in the SGS Exit Survey, namely, perceived quality of supervision, teaching and learning experience, feedback received from supervisor, general support from the university, and satisfaction with assessment. Another contributing factor, academic acculturation and social adaptation, was also measured on the basis of relevant items from the questionnaire. The number of items and Cronbach's alpha (reliability) for each of the six indices are presented in Table 3. All indices (variables) have reliabilities exceeding the .70 threshold, indicating high reliability.

Table 3. Sample Items and Reliabilities of each of the Quality/Support of the Learning Environment and Academic Acculturation and Social Adaptation Variables

Variable	Sample Item	N	Cronbach's α
Quality/Support of the Learning Environment <i>Supervision</i>	Supervision is available when I need it.	13	.95
	My lecturers are extremely good at explaining things.	4	.81

<i>Teaching and Learning Feedback</i>	My supervisor/s commented on my work promptly.	6	.82
<i>General Support</i>	I am satisfied with the quality of student support.	10	.89
<i>Assessment</i>	I was satisfied with the thesis examination process.	7	.88
Academic Acculturation and Social Adaptation	I was integrated into the department/college/school's community.	4	.79

Intercorrelations among five learning environment factors were all positive and their sizes ranged from moderate to strong (r s ranged from .53 to .80). Given this observation, it is plausible to postulate a higher-order factor in accounting for the covariations among five learning environment factors. As such, a second-order exploratory factor analysis using the scale scores of five learning environment factors as indicators was conducted. Both scree plot and Kaiser's criterion (eigenvalue >1.00) supported a one-factor solution for fitting the observed data. Factor loadings of this one-factor solution ranged from .76 to .92. The second-order scale scores computed by summing up the five first-order scale scores were highly reliable in terms of its internal consistency (Cronbach's α = .92). It provided empirical support for using the second-order scale score as a composite measure of learning environment in our study.

Descriptive results showing historical trends and gender differences in the outcomes and contributing variables have been reported elsewhere (Ng, Wu, Miner, & Mok, 2012). Below, the focus is on developing models in predicting the outcomes.

Overview of analysis

Regression analysis was conducted to test the effects on each of the seven outcomes due to gender (1 = female, 0 = male), age at registration, publication prior to registration, study programme (1 = PhD, 0 = MPhil/Affiliate), study mode (1 = part time, 0 = full time), the quality and support of the learning environment, and academic acculturation/social adaptation. In addition to the main effects, 11 interactions terms were also entered into the regression to represent the interactions of the learning environment and of academic acculturation/social adaptation with the other five predictors, as well as the interaction between the learning environment and of academic acculturation/social adaptation. . Following the recommendation by Aiken and West (1991), Age at registration, publications prior to registration, learning environment and academic acculturation/social adaptation were standardized. Interaction terms were formed by multiplying the standardized predictors by dummy coded or standardized moderators. Unstandardized regression coefficients were reported. The overall results are shown in Table 4.

Table 4. *Summary Table of Regression Analyses on Outcomes*

	Number of Publication	Total Study Time	Time Taken to Get First Job	Annual Salary	Research Skills	Communication Skills	Analytical / Problem Solving Skills
Step 1							
Gender	-.21	-.02	-.13	-.22	-.19	-.26*	-.17
Age at Registration	.01	.45***	-.01	.42**	.14*	.13 [†]	.13 [†]
Publications Prior to Registration	.15	-.12	-.63*	-.08	.17*	.07	.08
Study Programme	.23	.31 [†]	1.56*	.06	.01	-.17	-.13
Study Mode	.09	.64*	.94*	.23	.23	.01	.12
Learning Environment (L)	.08	-.01	-.23	-.37 [†]	.50***	.47***	.60***

Acculturation (A)	-.12	-.05	.00	.20	.23*	.23*	.15 [†]
R ²	.08	.31	.43	.25	.53	.47	.54
F	1.80 [†]	9.24***	2.68*	2.12 [†]	23.00**	17.78***	23.72***
Step 2							
Gender	-.12	.03	-.10	-.57	-.29*	-.40**	-.24 [†]
Age at Registration	.00	.51***	.10	.69**	.11	.12	.09
Publications Prior to Registration	.20*	-.15 [†]	-.53	.01	.13 [†]	.03	.05
Study Programme	.27	.26	1.26	-.18	.04	-.17	-.10
Study Mode	.34	.25	.63	.31	.31	.03	.12
Learning Environment (L)	-.08	.22	.30	-.48	.56**	.46*	.80***
Acculturation (A)	-.30	-.06	.08	.29	.11	.05	.05
L × Gender	-.20	.30	-.25	1.34*	-.28	-.20	-.49*
L × Age at Registration	.18	.21	.06	-1.16 [†]	-.05	-.19	-.03
L × Publications Prior to Registration	-.29 [†]	.14	.00	.43	-.03	-.16	-.13
L × Study Programme	.47	-.63 [†]	-.45	-.44	.07	.18	-.02
L × Study Mode	.32	-.82 [†]	-1.12	.36	-.04	-.50	.11
A × Gender	.37	-.29	.09	-1.08 [†]	.33	.29	.39 [†]
A × Age at Registration	-.09	.12	-.22	1.19 [†]	-.05	.16	.07
A × Publications Prior to Registration	.16	-.18	.41	-.70	-.07	-.12	-.01
A × Study Programme	-.03	.29	-.76	.52	-.02	.04	-.13
A × Study Mode	.33	.11	.56	-.57	.13	.49	-.07
L × A	.15*	-.04	.06	.02	-.13*	-.10 [†]	-.05
R ²	.19	.38	.68	.51	.57	.53	.58
F	1.75*	4.48***	1.50	1.92 [†]	9.85**	8.36***	10.25***
ΔR ²	.11	.07	.24	.26	.04	.07 [†]	.05
ΔF	1.65 [†]	1.31	.86	1.59	1.23	1.73 [†]	1.32
N	151	149	32	52	151	151	151
Note. Gender, study programme and study mode are coded as dummy variables. Age at registration, publications prior to registration, learning environment and acculturation are standardized. [†] p < .10. *p < .05. **p < .01. ***p < .001.							

Disciplinary Knowledge/performance

As shown in Table 4, there was no evidence that the predictors could predict number of publication either individually (as none of their raw Bs reached the conventional level of statistical significance) or taken as a whole (the overall model was statistically nonsignificant, $F(7, 143) = 1.80, p > .05$).

Regression analysis also showed that age at registration ($B = .45, p < .001$) and study mode ($B = .64, p < .05$) were positively associated with total study time. Specifically, students who were older and studying on a part-time basis took longer to complete their study. Overall, the model explained 31% of the variance in study time (Model $F(7, 141) = 9.24, p < .001$).

Employability

Regression analysis found three significant predictors of the time taken to get a job after graduation, namely, publications prior to registration ($B = -.63, p < .05$), study programme ($B = 1.56, p < .05$) and

study mode ($B = .94, p < .05$). Specifically, graduates with more publications prior to registration, studying in a part-time mode, and from PhD programme were quicker to find their first job after graduation. Overall, the model explained 55% of the variance in study time (Model $F(7, 24) = 2.22, p < .001$). It should be noted that the results are reported for reference only as the small sample size of 32 falls below the threshold required for multiple regression analysis (Green, 1991). An extraordinarily large number of students did not report the time they have taken to find their first job after graduation. The results are unlikely to be representative of the overall sample, as students who did not reply to this question might be those who felt embarrassed by the relatively long time they had taken to secure their first job offer.

Regression analysis showed that annual salary was significantly predicted by age at registration ($B = .42, p < .01$), that is, older graduates received a higher salary. Overall, the model explained 25% of the variance (Model $F(7, 44) = 2.12, p > .05$). However, caution should be taken in interpreting this finding in the light of the small sample size.

Graduate Attributes

Based on the SGS Exit Survey questionnaire, items were grouped to measure the graduate attributes of research skills, communication skills, and analytical/problem-solving skills. Questionnaire items and reliabilities of the three attributes are presented in Table 5.

Table 5: *Sample Items and Reliabilities of Variables Related to Graduate Attributes*

Variable	Sample Item	N	Cronbach's α
Research Skills	I have a thorough understanding of the fundamental concepts of my research ideas.	7	.89
Communication Skills	I am able to communicate effectively about my research work.	3	.72
Analytical/Problem-Solving Skills	My analytical abilities are improved after completion of the programme.	5	.85

Regression analysis showed that student's development of research skills was significantly predicted by age at registration ($B = .14, p < .05$), publications prior to registration ($B = .17, p < .05$), learning environment ($B = .50, p < .001$), and acculturation ($B = .23, p < .05$). Specifically, students who were older, had more publications prior to registration and reported higher satisfaction with the learning environment and acculturation perceived an acquisition of higher levels of research skills. Overall, the model explained 53 % of the variance in Research Skills (Model $F(7, 143) = 23.00, p < .001$).

Communication Skills was significantly predicted by gender ($B = -.26, p < .05$), learning environment ($B = .47, p < .001$), and acculturation ($B = .23, p < .05$). Specifically, males and those with higher levels of satisfaction with the learning environment and acculturation reported higher levels of communication skills in their study. Overall, the model explained 47 % of the variance in Communication Skills (Model $F(11, 139) = 17.78, p < .001$).

Analytical and problem solving skills were significantly predicted only by learning environment ($B = .60, p < .001$). Specifically, those who perceived a better learning environment reported a higher level of analytical and problem-solving skills in their study. Overall, the model explained 54 % of the variance (Model $F(11, 139) = 23.72, p < .001$).

To further explore possible interaction effects of predicting variables on the outcome variables, a number of interaction terms were added beyond the main effects in the regression models. As shown in Table 4, most of these interaction effects were statistically non-significant with $p > .05$, and the incremental variances of adding these interaction terms ranged from .04 to .11.

An interaction effect between learning environment and gender on annual salary was found to be significant ($B = 1.34, p < .05$). Specifically, the simple main effect of learning environment on annual salary was non-significant for males ($B = -.58, p > .05$), but was marginally significant for females ($B = .77, p < .10$). The learning environment \times gender interaction effect on analytical and problem solving skills was also significant ($B = -.49, p < .05$). The positive impact of learning environment on analytical and problem solving skills was stronger for males ($B = .80, p < .001$) than for females ($B = .32, p < .05$). The interaction effect between learning environment and acculturation was significant for models predicting number of publications and research skills, and was marginally significant for models predicting communication skills. Regarding the interaction effect between learning environment and acculturation on the number of publications, a better learning environment decreased the adverse effect of academic acculturation ($B = .15, p < .05$). Figure 1 illustrates a simple main effect analysis examining the effect of academic acculturation at high ($M + 1SD$), medium (M), and low ($M - 1SD$) values of learning environment. The adverse effect of academic acculturation was marginally significant when the learning environment score was low ($B = -.29, t = -1.76, p = .080$), but became statistically non-significant when the learning environment was medium ($B = -.15, p > .05$) or high ($B = .00, p > .05$).

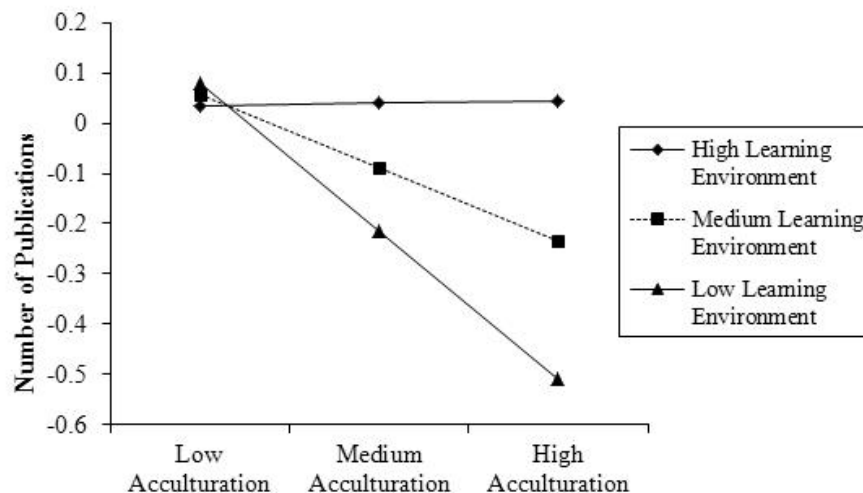


Figure 1. Simple main effects of acculturation on the number of publications at different levels of learning environment

With respect to the significant interaction effect between learning environment and acculturation on research skills, learning environment significantly decreased the impact of acculturation ($B = -.13, p < .05$). As shown in Figure 2, the simple main effect of acculturation was significant when learning environment was low ($B = .36, p < .01$) or medium ($B = .23, p < .05$), but was non-significant when learning environment was high ($B = .11, p > .05$).

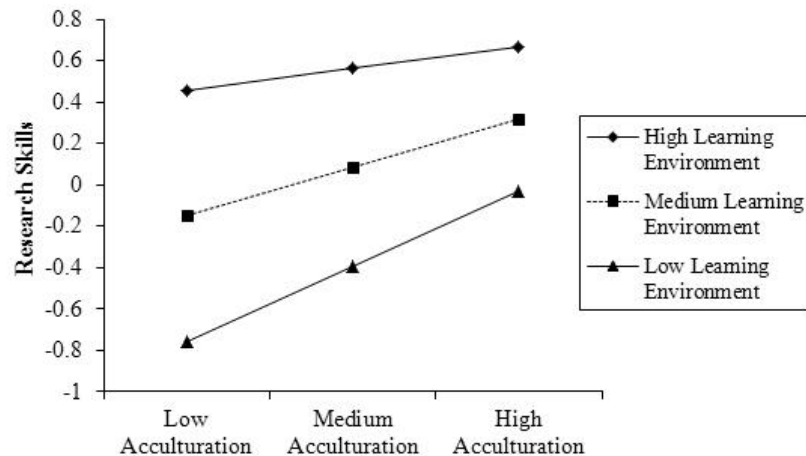


Figure 2. Simple main effects of acculturation on research skills at different levels of learning environment

The marginally significant learning environment \times acculturation interaction effect on communication showed that learning environment diminished the influence of acculturation ($B = -.10$, $p < .10$). As demonstrated by a simple main effect analysis (see Figure 3), the impact of acculturation was significant when learning environment was low ($B = .33$, $p < .05$) and medium ($B = .23$, $p = .05$), but was not significant when learning environment was high ($B = .13$, $p > .05$).

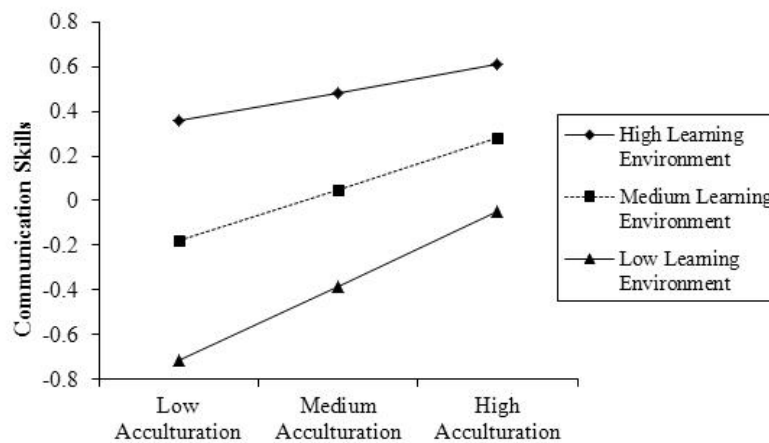


Figure 3. Simple main effects of acculturation on communication skills at different levels of learning environment

DISCUSSION AND CONCLUSIONS

With respect to the outcomes of disciplinary knowledge/performance and employment, the regression analyses found that no single contributing factor on its own could make a significant prediction except age at registration. On the other hand, when taken altogether, the contributing factors that have been identified in the present study could explain a substantial amount of variance in three of the four outcome measures (time taken to complete study, time taken to obtain the first job after graduation, and salary, but not the number of publications). This contrasting pattern of results supports the view that education is a complicated process. It was all the contributing factors

acting together that was important to the achievement of the said outcomes, rather than any single isolated facet.

With respect to the development of graduate attributes (research skills, communication skills, and analytical and problem-solving skills), the contributing factors collectively explained over 50 percent of the variance. Here the learning environment consistently exerted powerful impact on all three attributes, and being female had a negative influence on research and communication skills compared to being male.

The most notable interaction effects were that between the learning environment and students' academic acculturation. Students who were less able to acculturate were less successful in developing research and communication skills when the learning environment was of low quality, but not when the latter was of high quality. A high quality learning environment also buffered the negative effect of acculturation on publications, but interestingly, the negative acculturation effect was counter-intuitive as successful acculturation was associated with fewer, not more, publications.

Highly reliable measures have been constructed from the SGS Exit Survey questionnaire with respect to three graduate attributes and several aspects of the quality/support of the learning environment, along with the students' academic and social integration. These results provide a strong base for grouping the questionnaire items to form meaningful measures in future research.

The present model of evaluating the quality of research degree education at a relatively young university in Hong Kong SAR requires data on three categories of outcomes and four categories of contributing factors, totaling seven outcome measures and several measures of contributing factors. It is by no means a comprehensive model. Even for such a modest model, the required data are scattered among separate information systems that have created severe difficulties of data retrieval and matching before any meaningful analysis could be done. Integration of the information systems is sorely needed for the existing (and future) data to be utilized for quality assurance and auditing purposes. As pointed by the European Association for Quality Assurance in Higher Education (2005, p. 19), information is essential for quality assurance and continual improvement:

Institutional self-knowledge is the starting point for effective quality assurance. It is important that institutions have the means of collecting and analysing information about their own activities. Without this they will not know what is working well and what needs attention, or the results of innovatory practices.

For a relatively young university such as the one being studied herein, the optimal use of the limited self-knowledge would be especially important to develop its research degrees sector.

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A Pseudo–Phenomenological Inquiry on the Anatomy of the Outstanding Teacher Educators in a State University in the Philippines

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ABSTRACT

This study sought to scrutinize the attributes that craft the teaching effectiveness of outstanding teachers of the College of Teacher Education at the Nueva Vizcaya State University Bayombong Campus during the school years 2007-2008 and 2008-2009 and to come up with a collection of qualities that make up an effective or outstanding teacher.

This research made use of the integrative approach: descriptive survey and phenomenological inquiry. Surveys, documentary mappings, interviews, and classroom observations were done to substantiate the theme of the study.

An outstanding teacher upholds excellence and is highly optimistic, positive, enthusiastic, idealistic, task-oriented, risk taker, well-organized, prioritizes work, sensible, humorous, balances compassion with rules, puts primordial importance to long-cherished values. He promotes trust and understanding in building community partnership; brings learning experiences to maximum level; displays a sensitive awareness of students' feelings; designs meaningful learning experiences; adjusts learning environment, employs group focus; delegates learning tasks; integrates conventional technology with modern know-how; directs/redirects his students' courses of action; drives his students to bring out their resourcefulness, creativity, independence and diligence and offers improvement to the educative process through innovative techniques derived from researches.

Keywords: Phenomenological inquiry, anatomy, outstanding teacher, personal qualities, professional competence.

INTRODUCTION

The Nueva Vizcaya State University (NVSU) is a state-owned university that caters to the people of the province of Nueva Vizcaya and its neighboring provinces. The university persistently continues to grant quality education to its clientele by strengthening and improving its educational programs.

Scholarship grants were provided to faculty members to further enhance their capabilities and educational qualifications. New faculty members were also employed in support to the needs of the different curricular programs.

In the university, evaluating the teaching effectiveness of every faculty member is a semestral mandate. The result of the evaluation becomes a ready reference for the administrators to identify areas needing improvement. Additionally, evaluation outcomes become part and parcel of the National Budget Circular (NBC) 461-Qualitative Contribution Evaluation component of faculty members seeking for promotion to higher ranks and sub-ranks.

It is in this perspective that the researcher conducted this study to examine the attributes that make up the teaching effectiveness of the top five outstanding faculty members of the College of Teacher Education, Nueva Vizcaya State University, Bayombong, Nueva Vizcaya, Philippines.

BACKGROUND

You In the Philippine educational system, college instructors are at the top step of the ladder in the category of teachers. Many look up to them as the front of all experts on information on all subjects. People even tend to believe their ideas and opinion just because they are college teachers (Bucu, L. et al. 1995).

In the academe, excellent teaching matters. Brown and Thornton (1963), as cited by Bucu, L. et al. (1995) articulated that the competencies expected of a college teacher can be developed only when he recognizes certain responsibilities. The college teacher's brilliance in teaching calls for the responsibility to grow in his personal, professional and social competence which includes a thorough knowledge of his discipline, healthy relationship with his colleagues, a reasoned loyalty to his administration, and a passion for producing advantageous changes in his students. The proficient college teacher must strive to teach better each successive semester.

Effective instructors are effective people. This is a belief that becomes valid only when students are provided with opportunity to acquire both depth and breadth in knowledge of subject matter, to study and practice the skills of teaching, and to reflect upon personal abilities, interest and dispositions as they relate to helping diverse population learn and grow. The effective college instructor is professed as one who is able to integrate content and skills with personal dispositions in order to help students learn and develop.

Appraising faculty effectiveness is important in nearly every institution of higher education. Assessing the effectiveness with which various functions are performed is indispensable to a variety of important administration recommendations and decisions. It also presents feedback which influences the faculty member's self-image and professional satisfaction. And it creates a climate which communicates the institution's commitment to professional improvement and confidence that every faculty member will make an important contribution to the achievement of shared goals (Ory, 1980).




This study employed the phenomenological inquiry. Phenomenology studies human phenomena without considering questions of their causes, their objective reality, or even their appearances. The purpose is to study how human phenomena are experienced in consciousness, in cognitive and perceptual acts, as well as how they may be valued or appreciated aesthetically. Phenomenology seeks to understand how persons create meaning and a key concept is *intersubjectivity* (Giorgi, 1997). Elements of phenomenological inquiry include writing, practice and meaning. Van Manen (1997) articulated that in phenomenology, to explore is to reflect is to think is to write.






Phenomenological writing seeks to communicate the unknown through deep description of what has been lived as whole being in the lifeworld. In reflective practice, the observer needs to look beyond the initial description, needs to peel back the layers of moral, ethical, social and cultural influence to seek the first meaning of the lived experience. Finally, all lived experience has meaning which is multi-layered and multi-dimensional. Theme is the experience of focus, of meaning. It is at best a sweeping statement, a form of capturing the phenomenon trying to be understood. In identifying the theme, the inquirer desires to make sense of the lived experience, to be open to discovering new meanings.






The term anatomy is used to refer to a detailed examination or analysis; an investigation of the component parts of a whole and their relations in making up the whole. In this study, the personal attributes and professional competence that make up an outstanding teacher were analyzed.



MAIN FOCUS OF THE MANUSCRIPT

ANATOMY OF THE OUTSTANDING TEACHER EDUCATORS

Teacher Qualities	ANATOMY OF THE OUTSTANDING TEACHER EDUCATORS	
	Descriptive Survey	Phenomenological Inquiry
1. Personal Attributes		
 Knowledgeable	Outstanding teachers are in constant quest for new knowledge that they translate in such a way comprehensible to the students but retains its originality in his specialty areas	Outstanding teachers constantly find time to widen their perspectives by reading other informative materials and exhibiting excellence in the teaching profession.
 Positive	Outstanding teachers highly possess the personal characteristic of being highly positive in their perspectives in life be on themselves or other people as well as being optimistic in adverse situations and could influence others, especially their students, to acquire such personal attributes through them	Outstanding teachers are enthusiastic, optimistic, idealistic, task-oriented, risk-takers, determined to move forward despite many obstacles, problem solvers and decision makers who consider many alternatives. They work well under pressure and take challenges positively.
 Motivational	Outstanding teachers constantly enhance the students' self-esteem or self-worth by displaying enthusiasm towards the concerns of their students while taking challenges in constructive light. They employ proper strategies to motivate and inspire their students in the	Outstanding teachers set themselves as good models to the students. They make students believe in their capabilities and help them dream "big" dreams. They are generous in giving constructive criticisms for the betterment of the students.

 Dependable	Outstanding teachers are remarkably committed to their students and to other people as well, working with them under the spirit of honesty and genuineness without a shadow of pretentiousness or affectations.	Outstanding teachers are sincere in their dealings with students and peers. They attend to need wholeheartedly even to the extent of using their own resources and spending extra time just to remedy it. They perform their tasks well under pressure and even without supervision.
 Committed	Outstanding teachers highly possess commitment and full self-confidence in every situation projecting a model image in acts and in words that will encourage students to develop in them a positive well-being.	Outstanding teachers give their best shots to their works. They never settle for less. They enthusiastically accomplish their tasks and exert a lot of efforts to fulfill them. They project an excellent image to their students and peers. They make themselves available to those who need their assistance. However, their commitment to their work does not negate their commitment to their families.
 Organized	Outstanding teachers think not purely of personal interests but also the broader interest of the organization where they belong partially by investing their time and efforts to the attainment of organizational goals as well as the welfare of their students leading them to the right direction.	Outstanding teachers are diplomatic and responsible managers of their time. They plan their tasks, they make priorities and they systematically accomplish them with utmost accuracy. When it comes to goals set, they keep track on them making sure they are met on time and with quality and excellence.
 Humorous	Outstanding teachers are exceedingly humorous or they use wittiness to build togetherness in class and to eliminate tension out of tight situations but should be in tasteful manner.	Outstanding teachers combine humor and sensibility in all their endeavors. They use humorous lines and real life situations to “break” the pressures and to keep the discussion moving and interesting. However, one has to be deeply involved in the discussion in order to relate with their sense of humor.
 Patient	Outstanding teachers are highly patient and deliberate. They resolve problems through exhaustive analysis from all aspects, which are done in a fair and objective manner before	Outstanding teachers maintain symmetry between patience and compassion which is being guided by the rule: “to be good is good but to be always good is counterproductive”. They know their limits and they never tolerate bad practices and habits that are detrimental to


	giving conclusions.	the system. They solve problems in a smooth and negotiable manner.
 Value-based	Outstanding teachers tremendously possess the needed worth and dignity of human beings, modeling and practicing constructive behaviors to their students and other people in the community where they live.	Outstanding teachers incorporate values in their dealings with students and peers. They treat others with utmost respect and high regards. They uphold values though sometimes they find ways to prove that they are on the right track. They exert authority in terms of the overall attainment of goals.
 Personable	Outstanding teachers are principally gregarious and they desire to create a positive mutual working relationship with others – students and peers alike – while building confidence and positive reception through personal interaction and concern for others.	Outstanding teachers are trustworthy and friendly who listen and willingly offer solutions to problems. They eagerly entertain and give clarifications to queries and are considerate to students and peers who seek for their help. However, people think they are arrogant because of their being adamant on matters and they fight for what they know is right.
 Individually Perceptive	Outstanding teachers are highly observant and circumspect in their judgment especially to the students' performance and with a ready and proven solution for every problem that may arise.	Outstanding teachers are highly sensitive to the feelings of others. They treat and evaluate their students and peers fairly, with courtesy and respect to their limitations.
 Flexible	Outstanding teachers highly adjust themselves to any situation, unforeseen or planned, and develop a keen sense of direction and analysis of situation to arrive at a responsive and effective pronouncement for every action that calls for their decision.	Outstanding teachers provide certain degree of flexibility but makes sure that goals are not at stake. They easily adjust themselves to new situation or to change with consideration to individual differences.
 Communicative	Outstanding teachers greatly possess the ability to convey effectively to their students and colleagues what they think, and feel utilizing the objective analysis of issues pertaining to the spectrum of subject matters.	Outstanding teachers promote open communication where everyone's opinions and ideas are heard. There is wisdom in their words that enlightens their listeners. They relate pleasantly with others while thrashing their emotions. They are articulate both in speaking and writing.

 Creative	<p>Outstanding teachers are highly innovative and open to new ideas and incorporate techniques and activities using indigenous materials that enable students to have unique and meaningful growth experiences.</p>	<p>Outstanding teachers possess lots of novel ideas. Though sometimes conventional, they are resourceful, innovative and creative particularly in their instructional materials. They also adopt situations to new technology.</p>
 Compassionate	<p>Outstanding teachers exceedingly display deep understanding on the feelings of the students and other people but responding positively to them and motivating them to acquire and exemplify the same to others.</p>	<p>Outstanding teachers are kindhearted. Though they live by the rules and known to be strict, they still consider the feelings of others. They share their wisdom; push someone up, extend moral support and lead the group in a smooth and friendly manner.</p>

2. Professional Competence

A. Extension	<p>Outstanding teachers remarkably extend their professional services to the community by helping them become functional citizens through their empowerment activities such as the conduct of trainings on literacy program, leadership training, professional formation and formation for responsible citizenship.</p>	<p>Outstanding teachers reach out to the community and to the adopted schools by distributing instructional materials needed to enhance learning, conducting literacy programs and adult learning for the out-of-school youths and adults, conducting in-service training, delivering spiritual messages to students' organizations, conducting spiritual advancements to students and faculty beyond the official time</p>
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B. Instruction

 Command of Knowledge in the Subject Matter	<p>Outstanding teachers have deep and thorough understanding of the subject they teach, simplify the topic for the students to have a thorough grasp on the subject matter and use appropriate instructional activities that put into account the abilities and interests of each student which could either be through illustrations, analogies, demonstrations, and explanations.</p>	<p>Outstanding teachers make learning more meaningful and enjoyable by integrating real-life situations and illustrations in presenting the lesson; they employ sensible consequences to assist students accept and learn from the outcomes of their actions; they speak with fluency and display authority with the language being used; they eagerly listen to students' comments or responses and post critical and rational questions that require the students to be judgmental in all aspects of learning; and, they utilize humor and inject funny stories to stimulate students' interest and build the classroom interaction at its utmost level.</p>
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| <p>✓ Display of Attitudes that Foster Learning and Genuine Human Relationship</p> | <p>Outstanding teachers highly foster enthusiasm and instill respect, self-responsibility and self-worth among his students through positive teacher-student relationship as enhanced by empathy, fair and firm dealings with the students.</p> | <p>Outstanding teachers passionately and enthusiastically assist the students set their goals, clarify their expectations and inspire them to perform better; they employ positive reinforcement, promote optimism and establish good study routines that guide the students display a positive outlook towards the learning processes; they foster a give and take relationship and display an open discussion where students' opinions are carefully heard and processed; they resolve clashing of ideas and conflicts inside the classroom through discussion and negotiation; and, they utilize varied teaching techniques for the students to exhibit a sharing attitude and cooperation in learning tasks.</p> |
| <p>✓ Command of Theoretical Knowledge about Learning and Human Behavior</p> | <p>Outstanding teachers exceedingly prepare well-planned lessons and utilize an effective managerial system that promotes appropriate student behavior not only to create a conducive learning atmosphere but also to develop discipline among them.</p> | <p>Outstanding teachers establish and enforce classroom rules and policies collaboratively formulated by the teacher and students that steer the students to demonstrate discipline in carrying out tasks they are required to accomplish; they encourage a democratic atmosphere by involving students in decision-making as well as foster and utilize an effective and open communication where students are encouraged to freely express their thoughts and ideas about the subject matter; they supply appropriate and interesting learning experiences for the students which are in consonance with the learning objectives set for a particular topic; they plan and modify the learning environment to support a good classroom ambiance for better learning; they make use of behavioral counseling and setting themselves as models for the students to emulate; and, they entrust tasks to responsible students and maintain a group focus as a way of building the students' sense of worth and value as well as to establish better cooperation and team work among the students.</p> |

✓ **Control of Teaching Skills that Facilitate Student Learning**

Outstanding teachers constantly build and promote conducive environment critical in developing the ability of the students to deeply understand important new concepts partly through the use of technology that can help learners visualize processes and relationships for more effective learning.

Outstanding teachers use the conventional technology for teaching and learning with understanding. Although they acknowledge the relevance of state-of-the-art technology in the educative process, they prefer to use the time-tested or traditional technology. However, they also employ some modern know-how like the graphics, videos and animations through PowerPoint Presentations and film viewing which capture the interest of the students and provide more information through sounds and movements that cannot be availed from written materials.

Outstanding teachers employ varied evaluation techniques to determine students' performance and to diagnose their weaknesses that need to be enhanced. Corrective measures such as remedial teaching, make-up classes, re-teaching, re-demonstration, adjustment of learning experiences and coaching are made if learning objectives are partially met and students' performance is dissatisfying.

Outstanding teachers logically deliver verbal and non-verbal feedbacks. They smile when learning objectives are met or when students provide them with appropriate responses; they frown when their expectations are not fulfilled. They communicate emphatic understanding with student's reactions, thoughts and feelings and maintain eye contact as a sign of respect and high regard towards their students.

C. Production

Outstanding teachers passionately inculcate to their students the spirit of resourcefulness and creativity with the appropriate personal traits to prepare them to be independent/self-sufficient in their academic activities as well as to their future.

Outstanding teachers set a good example to students and peers when it comes to productivity convincing them to work collaboratively in group works without sacrificing diligence and independence in individual tasks. They teach students to be output-oriented promoting their sense of responsibility in every endeavor they engage with.

D. Research

Outstanding teachers highly use research-based teaching

Outstanding teachers conduct researches that yield important findings which are beneficial to

strategies to further improve the teaching-learning process and conduct action researches to yield significant findings that enhance his pedagogical approaches and determine the strengths and weaknesses of the curriculum and or subject contents.

the improvement of the teaching and learning process as well as to their personal and professional growth. They integrate research findings on their instruction as a way of improving their teaching techniques. They encourage their students to conduct action research, develop in them the skills of a researcher and inspire them to get involve to research.

FUTURE RESEARCH DIRECTIONS OR RECOMMENDATIONS

School administrators may initiate series of workshops on orientation/formation of teacher qualities to further strengthen the personal attributes of their faculty members with more emphasis on the development of their prime attributes which were thought to be of enormous help in facilitating an effective instruction; to augment the research competence of faculty members by providing and conducting in-service training/seminar on research capability building; to arrange and implement a schedule for professional development programs to upgrade the faculty and to become locally and globally competitive and updated with the recent fashion of education; to strengthen the morale of their faculty by subjecting them to promotion or push-up; and, to provide their faculty members with appropriate and adequate teaching equipment and facilities that will better facilitate an enjoyable and meaningful learning environment.

Faculty members may strive to improve their qualities through their attendance to workshops on teacher attributes and show evidence of such improvement in the actual setting; to engage in research works and enhance their research capabilities/skills; and, to constantly offer their students with more significant learning experiences by revitalizing and invigorating their teaching strategies with the latest trends of education through the faculty and staff development program of the university or of any funding agencies.

Would-be-teachers may be guided with the set of personal and professional qualities that compose an outstanding teacher and make these as their weapons in bringing out their best when they enter the teaching arena. Researchers may replicate this study and may explore other qualitative methodologies that require in-depth strategies of gathering substantial information.

CONCLUSION

Personal Attributes

Prime Attributes (knowledgeable, positive, motivational, dependable and committed).

An outstanding teacher is knowledgeable and an expert in his field. He is highly optimistic about the future and is highly positive in his perspective. He is enthusiastic, idealistic, task-oriented, risk taker, can work efficiently under pressure and he considers alternatives before deciding on matters. He is a role-model and thus, worthy of emulation by his students. He constantly boosts the students' morale and self-esteem through encouragements and motivations. He encourages them through constructive criticisms. He provides direction by being role-model and helping his students dream "big" dreams. An outstanding teacher is perceived to be genuine and true in his dealings with others, that is, the teacher is aware of his feelings, accepts and acts on them, and is able to

communicate them when appropriate while displaying confidence and trust in the ability and potential of the student. He is ever-willing to share his resources and spends his extra time to perform his tasks. He works well under pressure and fares well without being supervised. He remarkably upholds excellence and quality in everything that he does. He shuns away from mediocrity, hence, lots of effort are exerted to get things done the best possible way. Yet, he too, upholds the welfare of his family and won't let work interfere with his family.

Secondary Attributes (organized, humorous, patient, value-based and personable).

An outstanding teacher is well-organized and prioritizes work. He makes it a point that all the things that he does lead him to the attainment of organizational goals with excellence and quality. He is both sensible and humorous. His humors, though, are related with the topics that he discusses and one needs to get engrossed with the discussion in order to relate well. He decidedly balances patience and compassion with that of following rules set in class. With this, he gains the respect of his students knowing that the virtue of patience is tamed by rules. An outstanding teacher puts primordial importance to long-cherished values and lives them through. While he upholds values, these, however, do not stop him from proving that he is right and he exerts authority in order to attain goals set. He is highly sociable, hence, is trustworthy and friendly to his/her peers and students. When he believes in something, he fights for it whatever it takes.

Tertiary Attributes (individually perceptive, flexible, communicative, creative, and compassionate).

An outstanding teacher is highly cognizant of the students' feelings, needs and limitations. He evaluates students with objectivity and provides substantial and appropriate remedy to every problem that may occur. He is ever-ready to adapt himself to new situation or change. He elaborately considers many options before arriving at a final decision. He exceedingly utilizes a give-and-take communication where ideas from both parties are heard and considered. He enlightens his students and others with his wisdom and wise judgment. An outstanding teacher brings meaningful and unique learning experiences to class by incorporating novel ideas with appropriate technology to further improve learning. He constantly manifests a caring attitude and considers the feelings of others. He believes that compassion needs to be controlled by adherence to rules and policies set in the classroom.

Professional Competence

Extension

An outstanding teacher indefatigably reaches out beyond the corners of formal education to promote trust and understanding, to build partnership with all the sectors of the school community, and to overcome obstacles that stands in the way of effective family and community involvement in the education of children. An outstanding teacher realizes that everything that happens in the community, between individual students, with families, or with colleagues has an impact in the classroom, and works to minimize interferences in student learning and gets benefit of unexpected events to teach students.

Instruction

Command of knowledge in the subject

An outstanding teacher is a master of his field who provides meaningful and enjoyable classroom experiences by utilizing appropriate activities and incorporating illustrations leading to a more satisfying outcome. He brings learning experiences to maximum level by raising pivotal questions

that require students to become critical and rational thinkers. He arouses students' interests and builds classroom interactions by injecting funny and sensible true-to-life situations.

Display of attitudes that foster learning and genuine human relationship

An outstanding teacher passionately and enthusiastically guides students in setting and clarifying their goals while developing them to become holistic and competent individuals. He supplements learning experiences with positive reinforcement that establish good study habits thereby helping them become positive and optimistic towards learning processes. An outstanding teacher displays an emphatic understanding which is a manifestation of the teacher's sensitive awareness of the students' feelings that increases the probability that positive interpersonal relationships and significant learning will occur. He encourages open discussion to resolve clashing of ideas and conflict. He uses varied techniques to instill among his learners a sharing attitude while involving them in learning tasks.

Command of theoretical knowledge about learning and human behavior

An outstanding teacher enforces classroom rules and policies which he collaboratively prepared with his students while accomplishing the learning activities stipulated in his well-designed instructional plan. He involves his students in finalizing classroom decisions and initiates open communication for interactive classroom discussion. He designs and utilizes appropriate illustrations and meaningful learning experiences to further enhance better understanding of the subject matter. He plans and adjusts learning environment, sets himself as a good model, employs group focus and behavioral counseling and delegates learning tasks to establish better cooperation and teamwork while building among his students their sense of worth and value.

Control of teaching skills that facilitate student learning

An outstanding teacher advocates better and enjoyable learning through the use of technology. He integrates conventional technology with modern know-how to help learners gain an in-depth conceptualization of concepts through sounds and movements which could not be availed from the former technology. He administers varied assessment tools that objectively evaluate the performance of his/her students and identify their weaknesses. He offers corrective measures if students' performance is found to be mediocre. He constantly delivers feedback to direct or redirect his students in their courses of action towards the attainment of their goals. Eye contact is highly observed as a way of involving his students in the discussion and controlling their behavior.

Production

An outstanding teacher displays a productive attitude which is worth emulating. He constantly drives his students to bring out in them the virtues of resourcefulness, creativity, independence and diligence making them become output-oriented and self-reliant individuals. An outstanding teacher is one who frequently organizes, allocates, and manages the resources of time, space, activities and attention to provide active and equitable engagement of students in productive tasks. He teaches students how to live and work together productively and in a positive manner.

Research

An outstanding teacher engages in research works to better improve the educative process through innovative techniques derived from the findings of conducted researches, to identify the weaknesses of the curriculum and offer enrichment in order to become feasible, to revitalize students with the skills and characteristics of a good researcher thus, encouraging them to be research-oriented.

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Cross-cultural Probing: An Examination of University Student ICT Ownership and Use of E-learning Materials in Thai and Australian Contexts

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ABSTRACT

This paper reports on the second phase of an ongoing project being carried out at Edith Cowan University (ECU) in Western Australia examining ECU Education students' ownership and use of information and communication technologies (ICT). It is critical that modern universities understand their students' ICT capabilities in terms of hardware ownership, software facility, and preferences in order that online course and content delivery may be tailored to deliver effective, usable and engaging learning resources (Smith & Caruso, 2010). In addition, with universities placing greater focus upon attracting students from beyond the borders of any one country through e-learning, it is equally important that we understand these basic capabilities more globally. In this second phase data was collected at a Thai university as well as in Australia. The objective is to both inform the individual institutions, and to provide comparative data. In particular the study gathered information concerning students' self-perceived software skills and frequency of use, hardware ownership and frequency of use, access to and location of Internet use, preference for various types of online learning materials, and access and use of university email and university online learning environments. An online survey consisting of both Thai and English language versions was used that fed respondent data into a common database for analysis.

Keywords: E-learning, educational technology, ICT readiness, online learning, cross-cultural.

INTRODUCTION

Describe In the first phase of the study (2007) the researchers undertook an online survey to try and determine the skills, ownership and use of ICT by ECU education students (Pagram & Cooper, 2009). This survey showed that in 2007 these students were not early adopters of new technologies, nor were they making use of its potential in their studies. In the second phase (2010) a modified but

related survey was used to determine what had changed, and in order to contextualise the data from a cultural point of view, a partner Thai University, Sakon Nakhon Rajabhat University (SNRU) was contacted and a Thai translation of the survey was developed. It is the results from these two surveys that are the subject of this paper.

ICT use by education students is of particular importance, as it is these students who form the next-generation of classroom teachers. Other research undertaken by the Centre for Teaching and Learning Technologies has shown that in Western Australia at least, the vast majority of school teachers are not using ICT effectively within their classrooms. The authors theorise that if student teachers are reticent to use ICT to support their own learning then it is unlikely that they will see it as a tool to support the learning of their own students. By comparing the results from both the Thai and Australian universities is hoped to determine if there is any difference between the ICT preferences of their respective education students.

BACKGROUND

Edith Cowan University (ECU), situated in the metropolitan area of Perth Western Australia, is a large university with approximately 24,000 students. These students are spread over four campuses and about 20% of all students are international. Historically, ECU has its foundations in teacher education and training and its Faculty of Education and the Arts is the largest in Western Australia, with 7298 students (6074 equivalent full-time student load) and 268 academic staff (ECU, 2007). Sakon Nakhon Rajabhat University (SNRU) is located just outside Sakon Nakhon province, in North Eastern Thailand, It is a medium sized university with one campus and approximately 15,000 students of which approximately 1% are international (SNRU, 2011). The Training of pre-service teachers is an important part of both the Thai and Australian universities as historically they both began as Teachers colleges.

Previous research had shown that whereas new teachers may be competent users of information and communication technology (ICT), they do not necessarily utilise them in their own classrooms (Russell, et al., 2003). It is also known that students' own pedagogical beliefs and values that are generated during their education (including tertiary) play an important part in whether or not they choose to implement technology for their own students (Cox, et al., 2004; Minaidi & Hlpanis, 2005). This suggests that if students do not have positive experiences with ICT and its applications to education while at university, they are unlikely to employ ICT in their own teaching. We are also mindful that web technologies (including those touted as 'web 2.0') are developing at a rapid pace (Anderson, 2007) and that the 'online' aspect of ICT use is likely to become of greater importance in education in the future (Salaway, Caruso & Nelson, 2007). Additionally, and significantly, in 2011 the Faculty of the Education and the Arts at ECU began work on a project funded by the Australian Department of Education, Employment, and Workplace Relations called the *Teaching Teachers for the Future* (TTF) project. This project is a nationwide initiative in order to "... enable pre-service teachers to achieve and demonstrate (upon graduation) competence in the effective and innovative use of ICT in education to improve student learning" (ACD, 2011, para. 1). The results of the current investigation into students' ICT use and preferences will inform the TTF project in terms of the most effective ways to engage ECU Education students with online learning resources. Partly as a result of the previous research the school of Education at ECU is moving towards a '*Bring Your Own Digital Device*' (BYODD) policy, in which students will be encouraged to bring a computer or tablet to class so that the use of technology in education becomes ingrained and natural to them.

METHOD AND PARTICIPANTS

For The investigation was undertaken via an online survey developed and delivered via Filemaker Pro 8.5 and housed on a university web-server. ECU Education students were informed of the survey via a link placed on Blackboard and SNRU students via their lecturer. Figure 1 shows screen captures from the survey in both English and Thai languages. Data entry was via drop down menus and radio buttons to ensure an uncluttered layout and accurate data entry. Finally, a progress bar indicated how far participants were through the survey to encourage them to continue through to the end. Further an iPod Nano was offered as a prize to a random student that completed the survey. It is acknowledged that this method of recruiting students for the survey skewed the sample towards the more ICT capable members of the ECU target group as they were required to use the online learning management system to access the survey. It is therefore reasonable to assume that the ECU sample represented the middle to upper end of students in terms of ICT ability.

Digital Lifestyle Research Project
Digital Lifestyle: Your Stuff

For each of the devices below indicate ownership and age

Device	Ownership and age	Frequency of use
Desktop computer	less than 1 year	Weekly
Laptop/netbook	Do not own	I don't use it
3G Phone	1 to 2 years	More than once per day
Mp3 player/iPod	3 to 4 years	Daily
Tablet computer	Do not own	I don't use it
Printer	3 to 4 years	Weekly
Scanner	3 to 4 years	Monthly
Digital camera	1 to 2 years	Fortnightly

Next

แบบสอบถามเพื่อการวิจัยเรื่อง โครงการงานวิจัย Digital Lifestyle
คำชี้แจง: แบบสอบถามนี้มี 5 ตอน
ผลการตอบแบบสอบถามในครั้งนี้จะเป็นประโยชน์ต่อศึกษาหาความรู้เกี่ยวกับเทคโนโลยีในการเรียน การสอนงานวิจัยจะอยู่ในรูปผลโดยสรุปและจะไม่กระทบกระเทือนต่อการเรียนและเรื่องส่วนตัวของท่านแต่อย่างใด จึงขอความกรุณาตอบข้อมูลตามความเป็นจริงมากที่สุด และขอความกรุณาตอบให้ครบทุกข้อ

ตอนที่ 1 ข้อมูลทั่วไปของผู้ตอบแบบสอบถาม

อายุของท่าน

ระดับการศึกษาของท่านในขณะนี้ (เช่น ประถมศึกษาปีที่... มัธยมศึกษาปีที่... ปีที่... มหาวิทยาลัย...)

รวมทั้งสาขา (หรือวิชาเอก ถ้ามี) กรุณาพิมพ์คำตอบลงในช่องว่างที่ท่านได้ให้

เพศของท่าน ☐ ชาย ☐ หญิง

การลงทะเบียนเรียนของท่าน ☐ ภาคปกติ ☐ ภาคพิเศษหรือภาคออกเวลา

สถานภาพการศึกษาของท่าน ☐ เรียนในห้องเรียน ☐ เรียนนอกห้องเรียน (เรียนด้วยตนเองเป็นส่วนใหญ่)

เราได้รวมกันโดยประมาณของทุกคนในครอบครัวของท่าน

ข้อความใดต่อไปนี้ที่บรรยายถึงตัวท่านกับเทคโนโลยีได้ดีที่สุด

☐ ท่านรักเทคโนโลยีใหม่ ๆ และมักจะเป็นคนหนึ่งในกลุ่มแรก ๆ ที่ทดลองและใช้เสมอ

☐ ท่านชอบเทคโนโลยีใหม่ ๆ และมักจะมีใช้เป็นคนแรกในกลุ่มคนที่รู้จักกันเสมอ

☐ ท่านมักใช้เทคโนโลยีใหม่ ๆ เมื่อคนในกลุ่มของคุณทุกคนใช้กันหมดแล้ว

☐ ท่านมักจะเป็นคนหนึ่งในกลุ่มสุดท้ายที่ใช้เทคโนโลยีใหม่ ๆ

☐ ท่านมักจะเคลือบแคลงใจในเทคโนโลยีใหม่ ๆ และจะใช้ก็ต่อเมื่อจำเป็นต้องใช้เท่านั้น

ข้อความใดต่อไปนี้ที่บอกถึงวิธีการเรียนของท่านได้ดีที่สุด

☐ ท่านเรียนได้ดีที่สุดเมื่ออยู่คนเดียว

☐ ท่านเรียนได้ดีที่สุดเมื่ออยู่กับคนอื่น

☐ ท่านเรียนได้ดีที่สุดไม่ว่าจะอยู่คนเดียวหรืออยู่กับคนอื่น

☐ ไม่รู้เหมือนกัน

จำนวนปีที่ท่านเข้าเรียนในมหาวิทยาลัย (รวมทั้งปีที่หยุดพักหรือมีการเปลี่ยนแปลงใด ๆ ในการเรียน)

โปรดคลิกที่ปุ่มถัดไป

Figure 1. Example screens from the online survey in English and Thai

Conference proceeding
International Conference: Innovative Research in a Changing and Challenging World
The survey contained the following sections.

- About you – demographics
- Your Skills – perceived software skills and frequency of use
- Your Stuff – hardware ownership and frequency of use
- Your Access – type of internet access, location of internet access
- Your Learning – Preferences for various formats of online materials (Word, PDF etc), frequency of access to university email and Blackboard, frequency of saving, printing online learning materials

In all 158 undergraduate, 3 postgraduate, and 11 unidentified students from the School of Education at ECU completed the survey. Twenty one percent of the respondents were male. This ratio of male to female students fairly accurately reflects the actual ratio among Education students at ECU. The Thai sample consisted of 360 undergraduate students and 4 postgraduate students of which 31% were male.

Overall the samples were a reasonable representation of the student populations under examination. Figure 2 illustrates the two samples when broken down by years of study completed and shows that a satisfactory spread of students from various years was achieved for the Australian sample but with a much higher (40%) number of first year students in the Thai sample.

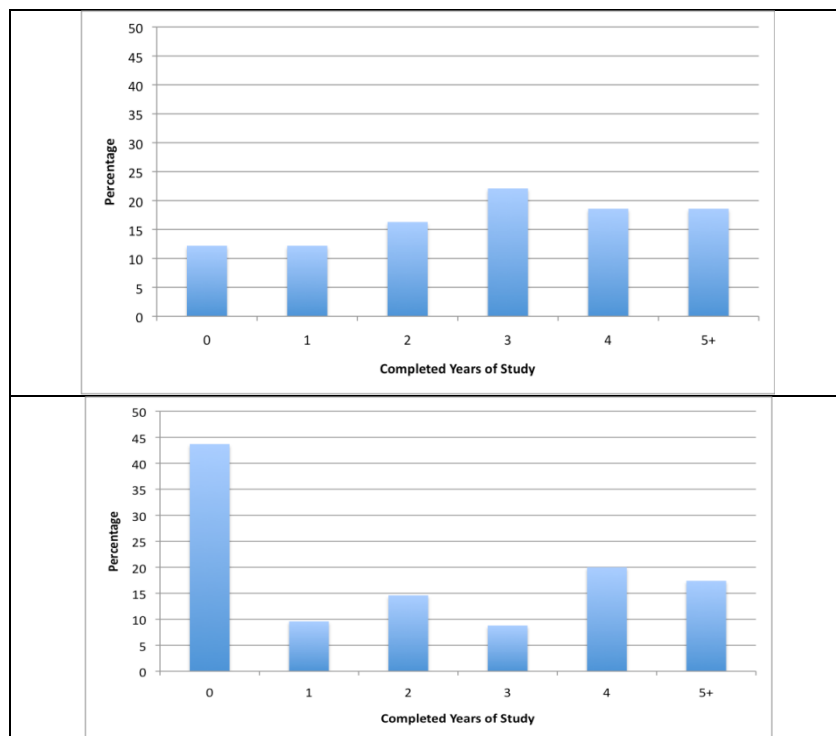


Figure 2. Distribution of sample by years of study completed (Australian university – upper, Thai university – lower).

FINDINGS

Student Software Skills and Frequency of Use

The survey collected data on students' self-perceived skill with a variety of software. The survey was constructed such that for each piece of software a number of descriptors were developed indicating the respondent's level of skills with the software. Table 1 illustrates two examples from the survey for Word processing and Spreadsheets (e.g. Microsoft Excel). The student selected the rightmost category in which they could complete all listed skills. For the Thai version a Thai native-speaker translated the English text.

Table1. Sample from the survey where students indicated self-perceived skill level for a variety of software.

	Little	Introductory	Competent	Advanced
Word processor	I can't do much	I can print a document, change fonts, spell check, insert a footer and page numbers.	I can insert images, create tables, change Page Setup, change margins.	I can use columns and sections, set up styles, use mail merge for labels or letters.
Spreadsheets (e.g. Excel)	I can't do much	I can enter data, use Sort, create charts [graphs] and modify them.	I can insert some calculations, format cells, insert and delete rows and columns.	I can use complex formulae, use absolute and relative cell references.

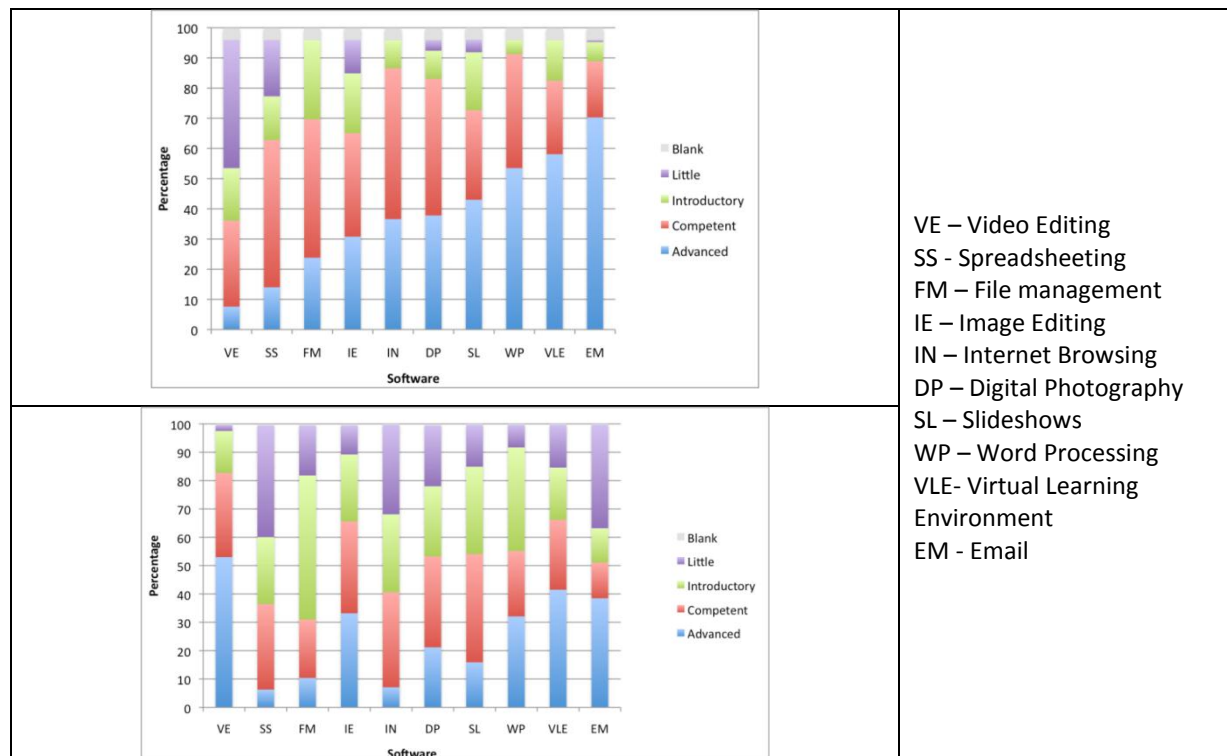


Figure 3. Student self-perceived skills with a variety of software (Australian university – upper, Thai university – lower).

As can be seen in Figure 3 at least 50% of the Australian students indicated competency (or better) in all categories excepting video editing, Thai students however indicated a much higher percentage of students (>80%) indicating competence in this category, which may reflect coverage within the course. Looking at the advanced category in Figure 3, for Australian students, the greatest self-perceived skills with software were in email, virtual learning environment (Blackboard), word processing, and slideshows (e.g. PowerPoint). This is consistent with the types of software they are most likely to be using in their Education course. For Thai students overall perceived skills are lower and this may reflect that the Thai sample had a greater proportion of first year students who were just starting their course.

In the 2007 survey students were asked to rate themselves as either very skilled, skilled, unskilled, or very unskilled. Although a less satisfactory measure than the current descriptor-based method (as illustrated in Table 1) the types of software that students ranked themselves as skilful in remained approximately the same with minor changes in rankings probably due to the variation in question technique adopted by the different surveys.

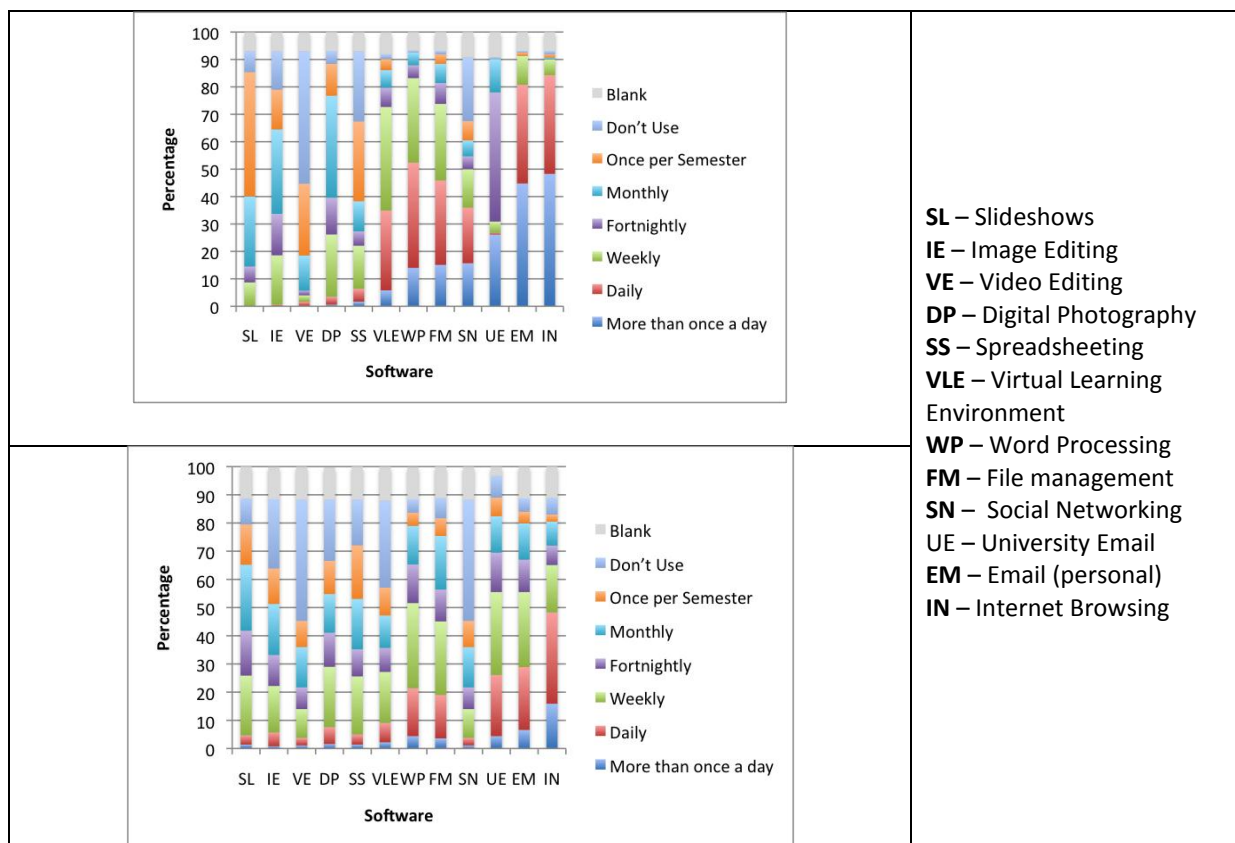


Figure 4 shows the results of the survey with regard how often the students utilised the various types of software. Interestingly the only software indicated to be used on at least a daily basis by the majority of students was Internet browsing, email, and word processing. For most of the Australian Students University email was accessed on only a fortnightly basis. Overall the Australian students reported using the various software types more on a daily or greater basis. This may reflect the

move within Australian universities to paper -free courses where all communications and course materials are only distributed in an electronic form.

Student ownership and use of technology

The survey asked students to identify what hardware they owned, how old it was, and how frequently the hardware was utilized and this data is charted in Figure 5. In terms of computers over 83% of Australian students owned a laptop (Thai 55 %) with 20% of these obtaining it in the last year whereas 66% of Australian Students owned a desktop PC (Thai 70 %) with 8% obtaining this in the last year (Figure 5). In the previous study from 2007 less than 65% owned a laptop and just over 70% owned a desktop PC. The greatest change however occurred in the smart phone (3G phone) area with less than 10% owning such a device in 2007 and over 65% of Australian students indicating ownership in the current survey with over 50% of students purchasing one in the last 2 years. For Thai Students this was much lower with 22% Smart phone ownership with 12% purchased in the last two years. The data shows a very significant move toward mobile technologies both in terms of current ownership and purchasing pattern. It can safely be assumed that the student population of the future will be armed with laptops and 3G enabled mobile devices. The current study occurred too early for the trend toward Tablets such as the iPad to be observed clearly in the statistics but already 8% of Thai students had purchased one (Australian 2%). It is likely, however, that tablets will be an important factor in future surveys. MP3 ownership is similar in both countries but there is a lower level of digital camera, printer and scanner ownership in the Thai group and this is also reflected in the usage figures.

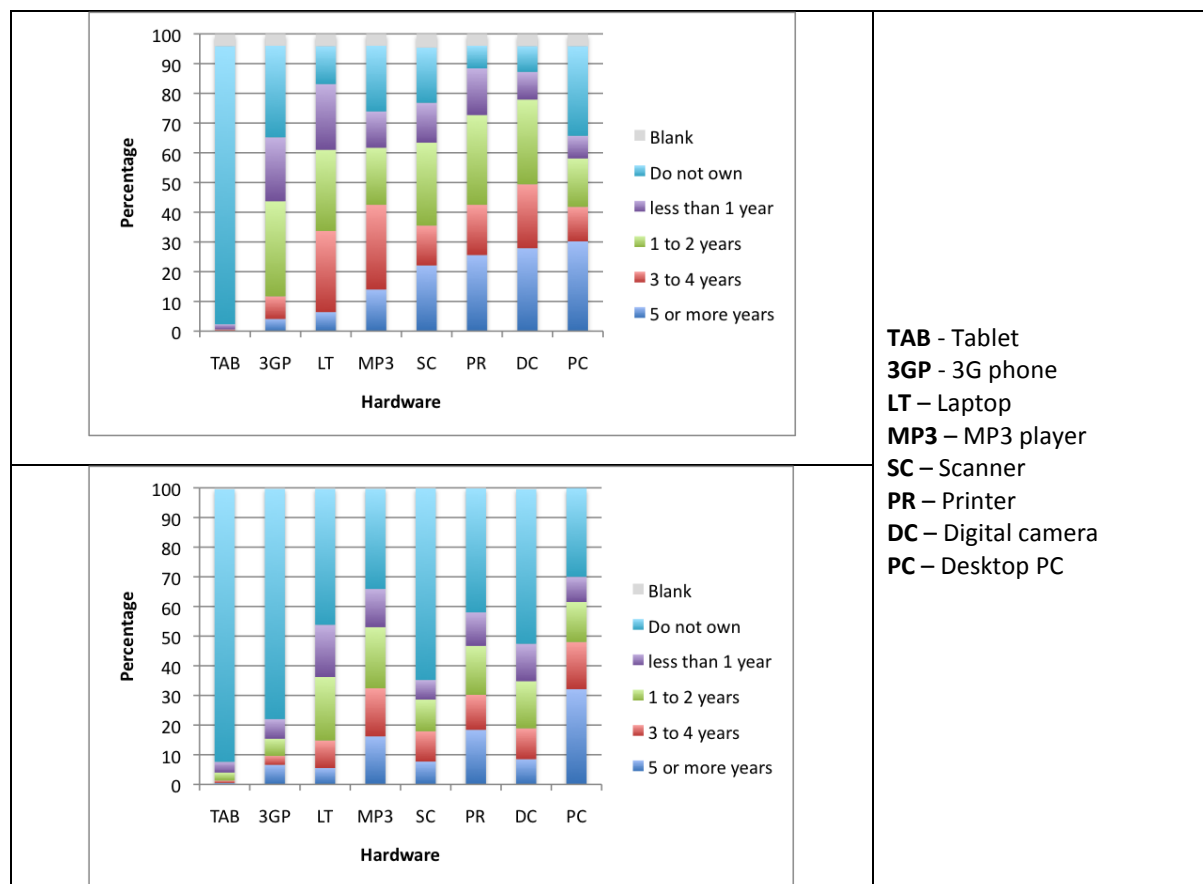


Figure 5. Student hardware ownership (Australian university – upper, Thai university – lower).

Figure 6 shows the reported frequency of use of each of the hardware types. For Australian students, the mobile devices (laptops and G3 phones) are the most frequently used followed by desktop PCs and mp3 players. Over 70% of students responding to the survey use a laptop at least daily.

For Thai students Laptops (47% daily), PCs and MP3 players are the most used. But Smartphone, Scanners Digital cameras and Printers are used less and Tablets more, reflecting ownership. Overall it can be said that while Australian students own a lot of technology they only use it occasionally.

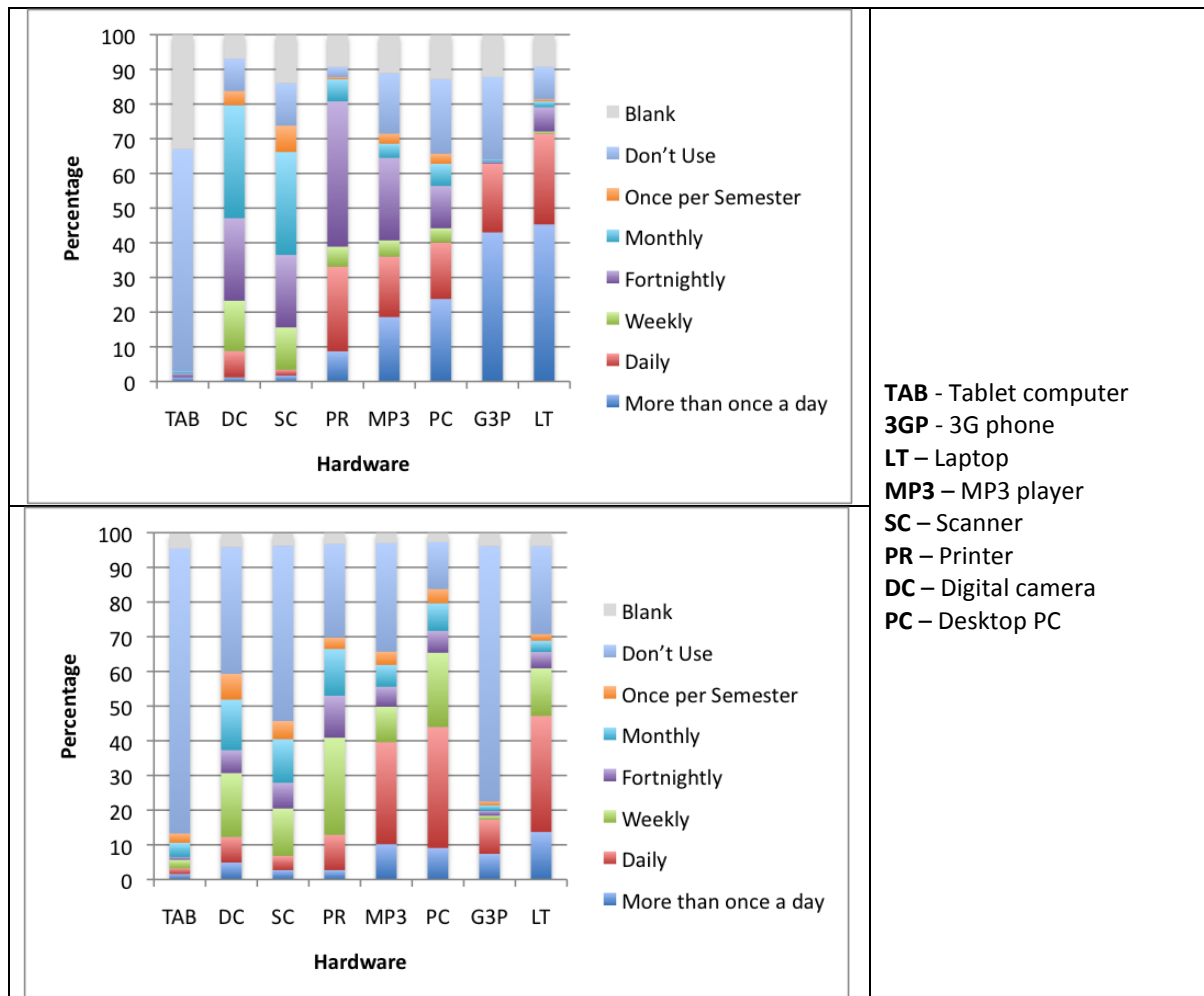


Figure 6. Student hardware frequency of use (Australian university – upper, Thai university – lower).

Accessing and using online materials

Figure 7 illustrates the variety of ways that students access the Internet. For Australian students this pattern is drastically different to the distribution from the 2007 survey with regard to both university wireless and 3G-phone access to the internet. In 2007 just over 20% indicated using university wireless and just over 10% indicated using 3G devices to access the Internet. By 2010 this has changed to 35% accessing the Internet using university wireless and over 45% indicating the use of 3G devices (Thai 21%). Once again this indicates a huge shift toward mobile devices for student use. For Thai students there is a clear trend towards accessing the internet in public locations rather

than home with 68% using the university Labs (Australian 44%), 56% University Wi-Fi (Australian 35%) and 73% internet Cafés (Australian 7%).

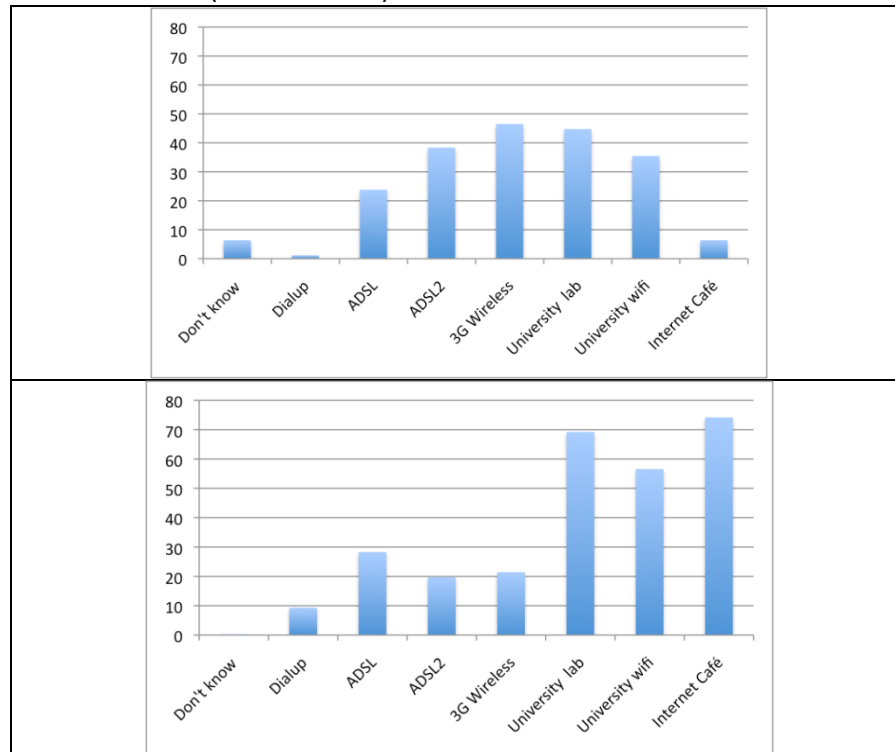
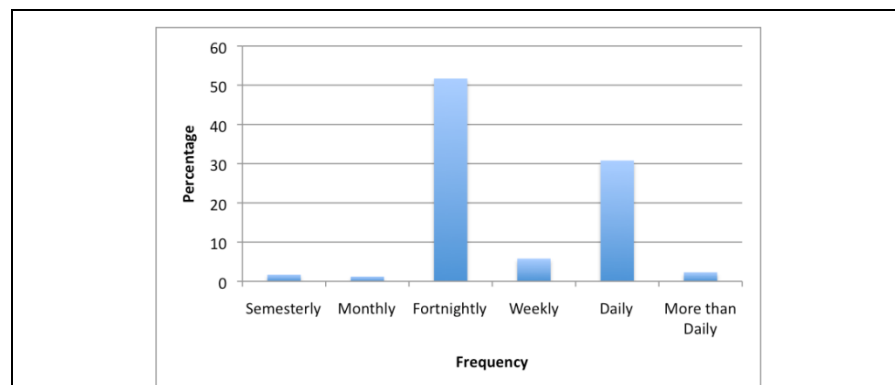


Figure 7. Type of student Internet access (adds to more than 100 as students could choose multiple options, Australian university – upper, Thai university – lower).

For the Australian students the authors were also interested in how frequently students access online learning materials and this is shown in Figure 8 with the majority of the students indicating fortnightly access. This would seem to be a worrying statistic when more and more of course materials are being presented online. For the Thai students access is more spread which reflects the use of the VLE as an occasional learning tool and resource.



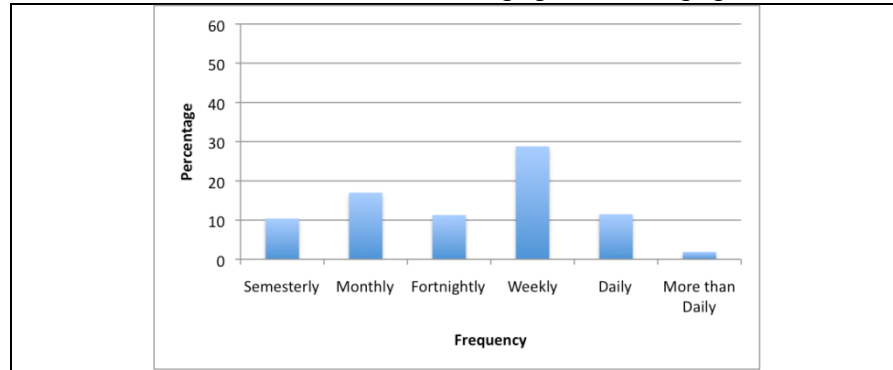


Figure 8. Frequency of accessing online learning materials (Australian university – upper, Thai university – lower).

For Australian students in particular this picture is worsened by the fact that many more students still print or save online learning materials compared to their Thai counterparts (Figures 9 and 10) which suggests that these materials are of a traditional printable form and do not require any interaction beyond reading. This would not be the case if they were, for example, simulations or materials that were not primarily information-based and that required interaction on the part of the student. The Thai figures are interesting as more students *never print* which may just reflect less printer access, also 20% of Thai students *never save*, which may reflect their access locations as it is more difficult to save on university lab machine or at internet café.

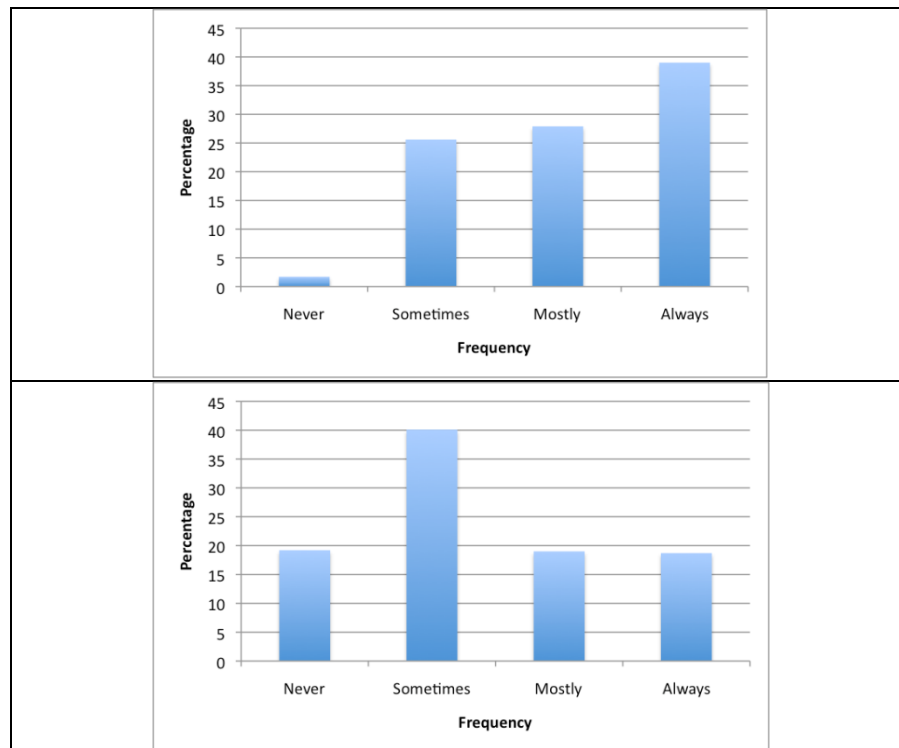


Figure 9. Frequency of saving online learning materials (Australian university – upper, Thai university – lower).

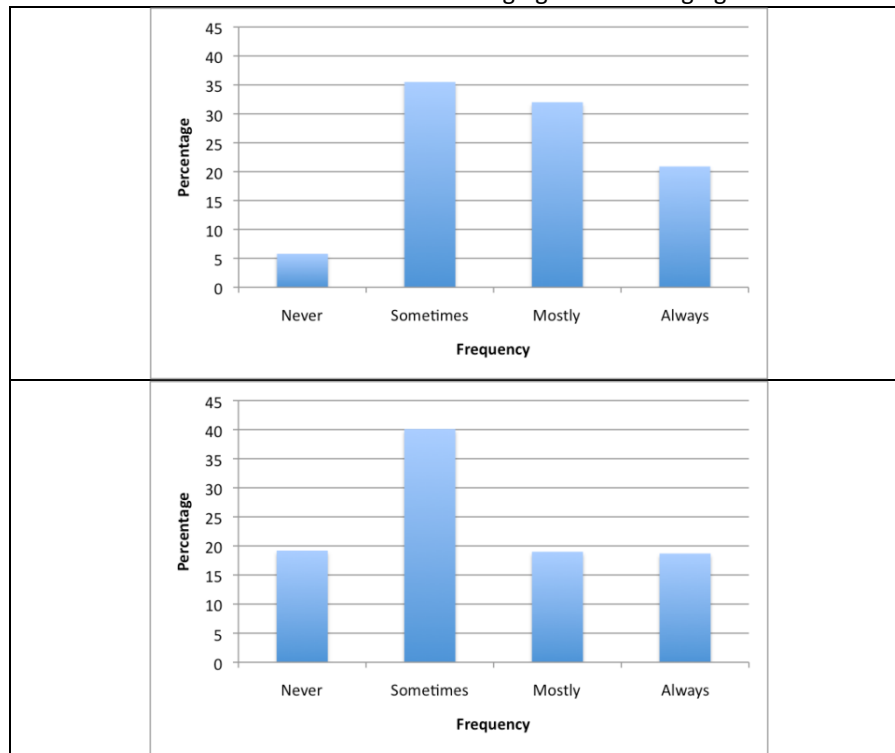
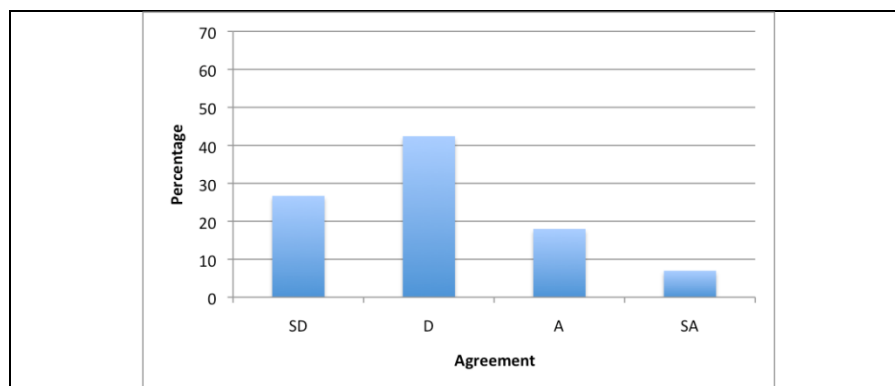


Figure 10. Frequency of printing online learning materials (Australian university – upper, Thai university – lower).

Finally the students were asked whether or not they required any training in order to use the technologies required of them in their courses (Figure 11). For Australian students the answer to this was a resounding *no* with approximately 70% of students disagreeing with the statement, *I need more training in the information technologies I am required to use in my study*. For the Thai students however the answer was a resounding *yes* with 90% of students requesting more training. Even allowing for the large first year (possibly less skilled) Thai sample this is interesting, with the Australian students appearing to say *leave me alone, I will work it out for myself*.



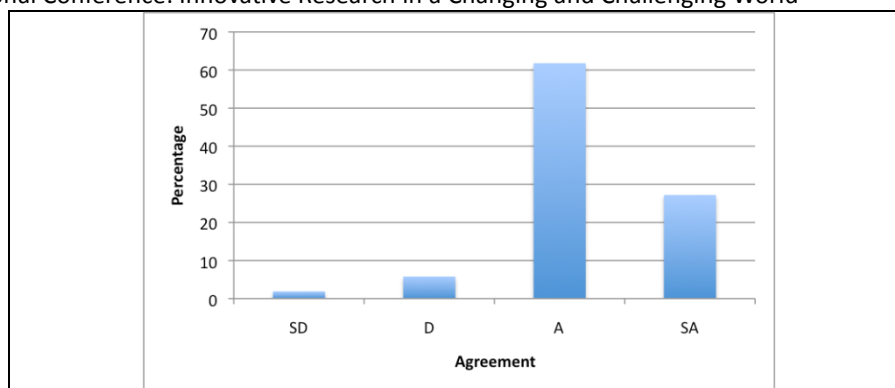


Figure 11. Student responses to the statement *I need more training in the information technologies I am required to use in my study* (Australian university – upper, Thai university – lower).

CONCLUSION

Overall, for the Australian students the outcomes from the 2010 survey are far more positive than those obtained in 2007. Increases in technology ownership by education students have been quite dramatic particularly the ownership of laptop computers and 3G mobile phones. Generally the trends are in a positive direction towards students who not only own technology is comfortable using it for the tasks of life and students are making more use of technology in their learning. This fact augurs well for a future where students will likely bring their own digital device to use during their university education and especially well for universities such as ECU that are considering the possibility of implementing a policy along these lines.

Perhaps the biggest surprise for the researchers were the Thai results, which showed that on most measures the Thai students were on par with their Australian counterparts in terms of ICT use and that ICT ownership is growing at a similar rate. With the Thai university being located in a traditionally less affluent part of the country this is particularly encouraging.

However, the survey also reveals, as it did in 2007, another large group of education students who are technology adverse. For while universities, ECU included, have steamed headlong into the production of digital content online lessons and/or communications in a digital form it would appear that many students still prefer printed materials (as they did in 2007), Perhaps more worrying (for university educators in particular) is that there are a significant group of students for whom online technologies are not being used. Those education students who rarely, or never, make use of their University e-mail address and/or make little use of the University learning management system, present a particular challenge.

The authors believe that these students are unlikely to make use of technology when they graduate, for they do not value it in their own education. Currently such students are able to flourish at University as we are in a transition period between digital and analogue worlds. The authors believe that as the transition closes these students will either decide tertiary education is not for them or embrace the digital world.

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Taxi Friend: Innovation Application for Taxi Passenger

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ABSTRACT

Taxis are popular in Bangkok because travel by taxi is very convenient. But travelling by taxi also found the problem as well, especially on the safety. It is a crime that occurs on a regular which is a concern for most passengers. For problem solving, passengers are choosing to call intimate friend and give identity of the vehicle and driver. But at the same time, such actions create distrust on a trip. Cause discomfort to the passengers and the driver itself. Thai society is a society that is considerate and generous love for each other's so most people feel presumptuous to call.

In recent years people began to use more and more smartphones. Because of mobile trend and the development of 3G network change their lifestyle. TAXI Friend is innovation mobile application that was developed from survey of user demand to assist in the journey. The paper shows what functional that passenger in Bangkok need from the survey.

Keywords: Taxi passenger problem, innovation, smartphone, mobile application, user demand.

INTRODUCTION

Taxi is popular public transport in Thailand, especially in Bangkok and nearby area. From survey, 93 percent of people in Bangkok used to travel by taxi. (ABAC Poll, 2005) Because travelling by taxi is more convenient than using other types of public transport. Taxi can reach your exactly destination. You can go all the way to anywhere, anyplace, anytime. It's quick and also save your time. Cost of taxi in Thailand not too expensive compare to the cost of living or compare to travelling by personal vehicle. Moreover it is also great for going to the place you don't know the route or when you travelling with large luggage and that not suitable to used other public transport. Other that taxi is good choice when you cannot drive while drinking alcohol, disable person, sick or feel sleepy etc.

But there are also have bad side for travelling by taxi. Most complain problem is about complaining on service mind. From the data of Department of Transport, reveals that complain about taxi via call 1584 (Toll free for public transport problem) through the month of January 2011 for over 1,000 cases. The most problems is the driver refuse to pick up passengers followed by careless driving habit, not use polite speech and driver not pass passengers to their destinations. (Department of Transport, 2011) And there is still have problem about safety of taxi service. The news about crime occurs when travel by taxi always frighten people. On a survey 91.2 percent of people in Bangkok had been informed that they get information about a crime, accident or unsafe of taxi service. And 47.0 percent are not confident in safety of taxi service. (ABAC Poll, 2005)

So our research is consider about how to help taxi passenger (especially in Bangkok) feeling more safety. And we think efficient way to do is making mobile application because most of people in Bangkok have their own mobile phone. They can easily install application into their mobile and go. We want to serve everything that passenger need when they're use taxi service. So first we survey what taxi passengers need. Then compare to existing mobile application in the store and found they still no application which is served every function that passengers need. After that we bring all the function into our mobile application. We want to give them an application which make them feel like there are friend travelling with you so we called our application name is "Taxi Friend".

BACKGROUND

Because of low confident in safety of taxi, most passengers avoid travel alone especially women passenger who have to use taxi service in night time. But if they cannot avoid using taxi it will make them feel uncomfortable all the way because the risk of taxi crime happen on night time with alone passenger. Taxi driver is stranger person to passengers, despite the fact that every taxi car must have notice board which give information to passengers in front of the car. But it's hard to see and remember. Also, some drivers face is not matching with a photo in notice.

Many passengers used to the comfort of their own safety by list or remember taxi no. on side door. Many of them will call to close friend or family member and told the detailed about the car to make sure taxi driver will not dare to do a crime on them. But voice calls are usually causing an uncomfortable situation for both the driver and passengers. This will cause a sense of mutual trust. Thai society is more likely to be more considerate. As a result it will end up by some passengers especially women do not dare to call to anyone. When the unexpected thing comes up, it's hard to find and investigate further.

Another method used is to send a message or chat to other people via mobile phones. Avoid using the word and more comfortable situation. But it also has disadvantages such as use time of typing. Some case passengers cannot see details in taxi notice board. And sometime driver is not match with detail so it's hard to investigate if something bad happen.

The research idea is to create an application on the mobile phone because most of people have mobile phone. This app will aim to help passenger safety along their journal by taxi. We point out to application on smartphone. Because smartphone can install new application but feature phone doesn't.

There are factors that lead us to consider on smartphone application. First, Kasikorn Research Center survey found today consumers in Bangkok using smartphone 50.4 percent overall. While the consumer groups who have just started working at age 20- 24 years is the most using group at 56 percent (See Fig.1). Although the proportion of consumer using smartphone in Bangkok is already in high level but over 50 percent of consumer in all age whose doesn't use smartphone also plan to buy smartphone. Especially consumer at ages of 20-24 years and ages 30-34 years plan to buy smartphone in the future up to 83 percent (See Fig.2) (Kasikorn Research Center, 2011).

Second, trend in the use of mobile phone changed. Especially in Bangkok, people start living with mobile lifestyle which mobile phone is part of their living. IDC Asia has predicted that in 2558 Smartphone will have growth rates higher than the feature phone for eight times. Since Android OS make a smart phone cheaper, this result demand in emerging markets and was responsible for the adoption of a mobile smart phone more (IDC Asia/Pacific, 2011).

Third is the potential of 3G network. In Bangkok, there are people who are currently using 3G is 36.6 percent and those who do not use 3G 89.5 percent plan to use 3G in the future. The demand for 3G services to consumers are in such high levels (Kasikorn Research Center, 2011).

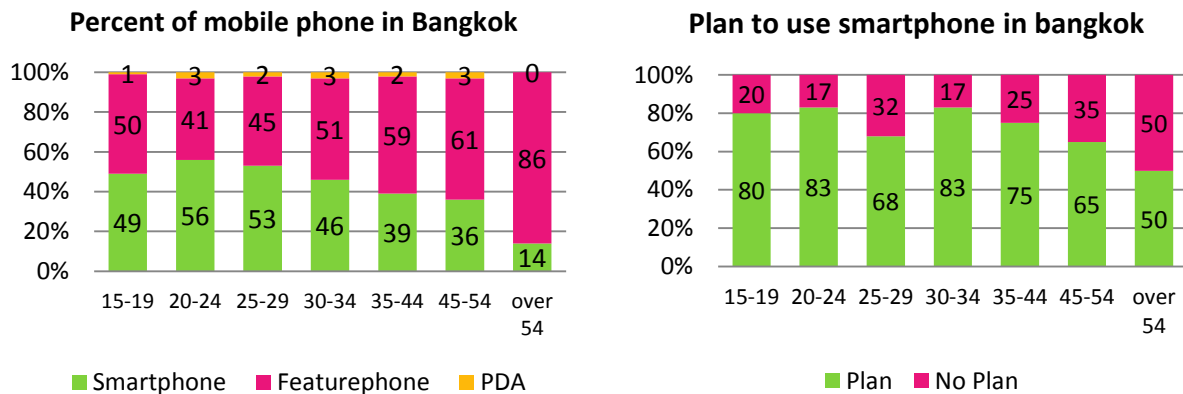


Fig.1 (Left) Chart of Percent of mobile phone in Bangkok (Source: Kasikorn Research Center, 2011)

Fig.2 (Right) Chart of Plan to use smartphone in Bangkok (Source: Kasikorn Research Center, 2011)

Definitions

Innovation

Industrial innovation includes the technical, design, manufacturing, management and commercial activities involved in the marketing of a new (or improved) product or the first commercial use of a new (or improved) process or equipment. (Chris Freeman, 2010)

An innovation business is one which lives and breathes outside the box. It is not just good ideas; it is a combination of good ideas, motivated staff and an instinctive understanding of what your customer wants. (Richard Brandson, 2010)

So innovation means not just invent new thing, new service or new process but it can be improved thing, service or process. And innovation also has to drive or serve what customer need too.

Taxi

Taxi is a public transport up to seven seats. In this research, taxi is metered car which mean excluding the three-wheeler or a tuk-tuk taxis.

Smartphone

Smartphone is a cellular telephone with an integrated computer and other features not originally associated with telephones, such as an operating system, Web browsing and the ability to run software applications. There is no standard definition that clearly delineates a smartphone, many devices marketed simply as cell phones offer similar features to those marketed as smartphones (Searchmobilecomputing, 2000).

The ability of smartphone which support the need of research because smartphone running by mobile operating system, such as Nokia's Symbian, Google's Android, Apple's iOS or the BlackBerry OS. Smartphone support internet connectivity via mobile internet or Wi-Fi, ability to download applications and run them independently, support for third-party applications and support GPS (global positioning system).

Mobile Application

A mobile application is applications running on mobile devices like cell phones, etc.

Mobile Operation System

Operating system is software that acts as an intermediary between the hardware and applications in general. The operating system is the main function is to allocate resources in a mobile phone. To provide applications with the transmission and storage hardware, such as the transmission of image data to the display screen. To store or read data from memory or deliver the sound to speakers. To allocated space in memory as an application request. To manage appropriation act for the central processing unit (CPU) of current applications and other applications in background when there are many application work together.

There are many Mobile OS but the rising one is clearly be Android and then following are iOS and Microsoft (See Figure.3).

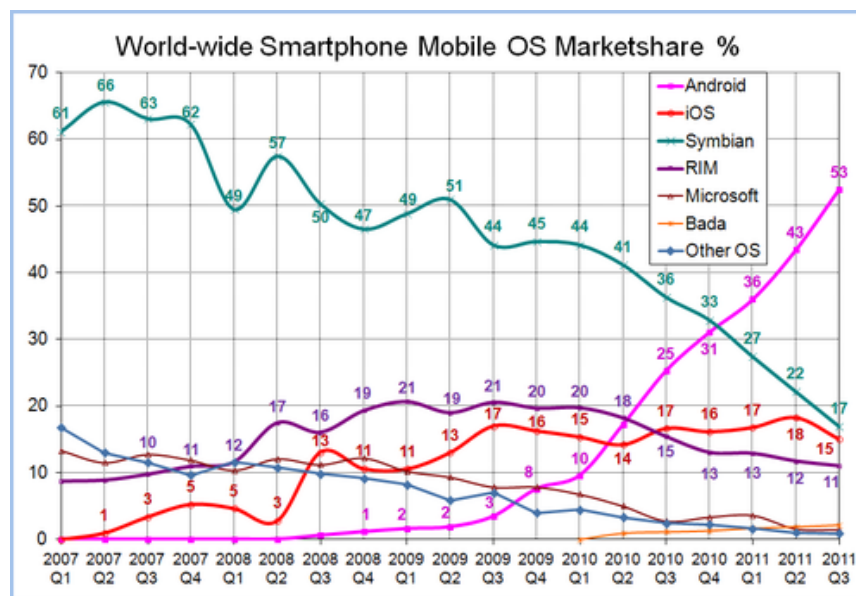


Figure.3 Worldwide Mobile Device Sales to End Users by Vendor (Gartner May 2007 -Nov 2011)

Research limitations

Taxi Friend application is an application for a taxi in Bangkok

Taxi Friend application is an application for smart phones only. Not cover the use of feature phone or other portable devices.

Taxi Friend application is just develop in iOS and Andriod OS.

Some of function in Taxi Friend applications limited with a taxi that participant only.

Research Process

The process of researching is applied from concept of The New Product Development Decision Process by Kotler & Keller (2009), which consists of eight main steps. (See Figure 4)

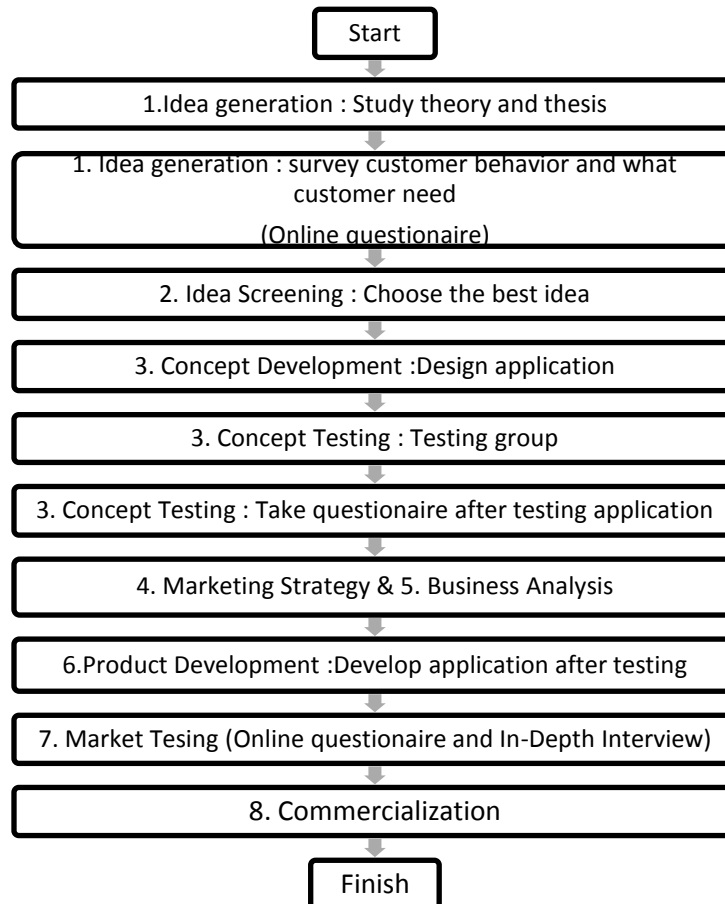


Figure 4. Flow chart of research process which apply from The New Product Development Decision Process by Kotler & Keller

Research Objective

1. To study of behavior of taxi passenger in Bangkok. (RO1)
2. To study problems of taxi passenger in Bangkok. (RO2)
3. To find service that taxi passengers in the Bangkok demand to be on Smartphone Application. (RO3)
4. Create and development "Taxi friend" application from taxi passenger demand. (RO4)
5. To distribute "Taxi friend" application into commercialize. (RO5)

Research Methodology

For research objective of RO1-RO3

The participants in this research are from people who have experience with taxi in Bangkok. We collect behavior data and their attitude when using taxi. The survey was online questionnaire for total 100 respondents. The result is summary below.

Result: Behavior of taxi passenger in Bangkok (RO1)

Out of 100 respondents, there were female 74 percent and 26 percent were male. The respondents aged between 23-30 years the most (70 percent). Following is the age between 31-40 years (21 percent).

Income of the respondents, 50 percent have revenue from 20,001 to 30,000 baht per month, followed by the 21 percent of revenue in the range 30,001 to 40,000 and 13 percent of revenue in the range over 40,001 baht. The income is very high compared to an average income of Thai population, is around 10,525 baht per month. (World Bank, 2011)

Respondents use smart phones 80 percent and non-smart phones 20 percent. Mobile operating system is used most is iOS (32 percent), followed by Android (20 percent), Window Mobile (11 percent) and Blackberry 6 percent respectively. 23 percent were not identified.

Respondents have a habit of using a taxi, most less than 3 times per week (68 percent) and used taxi 5-3 times per week equivalent to 27 percent while just only 3 percent used more than 5 times per week. 40.5 percent of respondents have no period typically time using taxi. Followed by dinner time (21:00-24:00) for 18.03 percent, 16.0 percent in the evening (18:00-21:00) and 14.5 percent in the morning (06:00-09:00) respectively.

According to 33.7 percent of respondents decide to use taxi because it fast and 32.2 percent because of its convenient. Another reason they take taxi when no bus route pass the place they want to go to (14.4 percent) and when they don't know route to destination (10.6 percent), 8.2 percent for avoid parking issue and a few use when private car not available (1.0 percent). For the popular purpose of travel is for daily life only 6.6 percent use taxi for travelling.

Conclusion, most respondents use taxi less than 3 times per week. Usually use taxi during 06:00-09:00 in the morning for going out to work and during 18:00 - 24:00 in the evening to back to resident.

Result: Problems of taxi passenger in Bangkok (RO2)

Use the Likert Scale questionnaire which divided into 5 levels: 1 2 3 4 5, when 1 meaning disagree and 5 means the most agreement.

Respondents agreed that overlooks the importance data of a taxi in front of the car clearly and have quite good attitude to travelling with taxi, but not quite sure of safety. Normally taxi drivers have good manner but not good driving skill.

Respondents usually not careful to call or texting to someone else while being passengers and usually cannot remember taxi no. correctly. They didn't use location base service (such as check-in, foursquare, etc.) while travelling too. However, the most of them agree that they never forget thing on taxi, had not been cheated a taxi fare, had not been attacked by the taxi driver and had not been sexually abused by taxi driver.

Result: Service that demand to be on Smartphone Application (RO3)

Use the Likert Scale questionnaire which divided into 5 levels: 1 2 3 4 5, when 1 meaning disagree and 5 means the most agreement. Research indicates that respondent demand in every application that can be suggested. The most value demand to less demand respectively as below.

No. 1 Need an application that can alert emergency on a taxi quickly and easily.

No. 2 Need an application that can report the unwanted behavior of taxi drivers to taxi union.

No. 3 Need an application that can estimate a taxi fare. Check fare rate have been cheat or not.

No. 4 Need an application that helps determines the route to destination on location base service (LBS).

No. 5 Need an application that record travelling information.

No. 6 Need an application that helps to tell other people what taxi no. and destination they going to.

No. 7 Need an application that give taxi service call center number.

For other applications that require, the recommendations include an application that can connect to a police station or a nearby hospital in case of emergency, need an application that show traffic status that help to avoid traffic jam, suggest to have receipts like e-bill for travel by taxi and improve services for taxi queues by checking and booking taxi nearby passenger which hope to reduce waiting times.




Result: Create and development "Taxi friend" application (RO4)

From background, we design to develop application on two mobile operation systems those are Andriod OS and iOS because these two operation systems have most user nowadays.

And for application function generate from customer behavior and customer demand from result of research objective RO1 -RO3. Divide into 7 main functions there are emergency call and alert, report unwanted behavior, check fare rate, provide destination route on location base service (LBS), record travelling information, share information and taxi call center number.

Before develop application, check and compare with popular application on market (see table 1) and found still have no application that support all of customer demand. The most nearly reach customer demand not available in Thailand so we decide to make this application suitable for customer in Thailand.

Table 1. Compare Taxi Friend with popular application in market

Application		provide history data	location base service	check fare rate	emergency call	share information	taxi call center	report unwanted	price	Other
Taxi Friend		✓	✓	✓	✓	✓	✓	✓	Free	
Cabsure		✓	✓	✓		✓			Free	
Thai Taxi		✓				✓	✓		0.99\$	

Taxi service							✓		Free	
Taxi caller									Free	Show destination to taxi driver
Taxi Reporter								✓	Free	
Taxi-booking							✓		Free	
Taxi!							✓	✓	Free	Paid via credit card
Hi shanghai taxi			✓			✓	✓		Free	Show destination in Chinese to taxi driver
SMRTbook a taxi							✓		Free	
Taxi pro		✓	✓				✓		Free	
Caburlous		✓	✓				✓		Free	Add favorite Taxi
Taxi meter free			✓	✓					Free	
Taxiphone		✓			✓	✓			Free	
myTaxi		✓	✓	✓		✓	✓		Free	Only available in EU
cab4me						✓	✓		Free	
Taximagic			✓	✓			✓		Free	Paid via credit card & e-bill
Seoultaxi			✓	✓			✓		Free	Available in Seoul, Traffic report
Get taxi		✓	✓			✓	✓		Free	Paid via credit card & point

Result: Commercialize application (RO5)

The research process now still under development process. Although we upload application on both App store for iOS and Google Play for Android OS already but it just for concept testing period. Plan for commercialize and public relation of this application under negotiate with partner.

CONCLUSION

At this moment, the application development has been completed both an Android App and an iPhone App. Now the processing of research is under evaluation by experts and example user group. The trial version is able to be downloaded for free on App store for iPhone and on Google play for Android by searching for taxifriend.

After application evaluation has done, and then we will introduce this app to our partner and supporter to help us promote the application into public scale. We would like to spread promote as much as possible to gather many user to push this application recognition because the aims of this application is to be an ideal application for a taxi passenger. We expect this applications make a good benefit for our society. Reduce the tense atmosphere of the driver and passengers that may occur on a taxi. Reduce worrying of parent or people you love when you have to traveling alone or traveling in the night time. Help to find taxi you were ride on in case some item on. And of cause we hope this application will satisfy our customers.

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What Do Indian Muslim Women Know of Contraception? Examining the Counterintuitive

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ABSTRACT

This paper uses data from the District-level House Survey (DLHS) and National Family Health Survey (NFHS) to investigate the knowledge and use of contraceptive methods within the Hindu and Muslim communities in India. Islam prohibits family planning. However, on analysis of the data, it was found that more Muslim than Hindu women knew of and used traditional methods of contraception. Multivariate logistic regression was used to determine the factors affecting the use of traditional methods. The results showed that education significantly contributed to the use of traditional contraception in India. Age, rural residence and wanting another child were significant in the socioeconomic factors examined. The results also suggest that education does not affect traditional method use among women's contraception when controlling for other factors.

Keywords: Muslim women, contraceptive usage, traditional methods, trends.

INTRODUCTION

Describe India's population includes followers of many religions — Hindus, Muslims, Sikhs, Christians, Parsis, Buddhists and Jains. Hindus constitute the majority of the Indian population, comprising 80.5 percent of Indians as per the 2001 Census. Given India's large population of over one billion, however, many other religious groups form sizeable minorities. Muslims form the largest of these minorities. The 2001 Census enumerated 138 million Muslims, representing 13.4 percent of the total Indian population. India's Muslim population is the third largest in the world (Pew, 2009), after Indonesia and Pakistan. Muslims constitute an underprivileged minority in India and rank below Hindus in many respects. In 2005, a committee was constituted to conduct a systematic study of the social, economic and educational status of Indian Muslims. The report of this commission, referred to as the Sachar report, concluded that Muslims "exhibit deficits and deprivation in practically all dimensions of development" (Sachar, 2006, p. 237). The deficits are particularly salient in the areas of female schooling and economic status.

Muslims in India have a much higher total fertility rate (TFR) than other religious communities. Because of higher birth rates and an influx of migrants from neighbouring Bangladesh, the percentage of Muslims in India has risen from about 9.9 percent of the population in 1951 to 13.4

percent in 2001. The growth rate of the Muslim population is higher than that of Hindus by 9.3 percent of the total growth.

Demographers have put forward several factors for these high birth rates. According to sociologists Roger and Patricia Jeffery (2004), Indian Muslims' socio-economic condition rather than religious determinism is the main reason; they are poorer and less educated than Hindus. However, other sociologists point out that the religious factor can well explain high Muslim birth rates. A recent study (Jeffery et al, 2008) showed how differences in religious view cause the differential in contraception usage between Muslim and Hindu women. Surveys indicate that Muslims in India have been relatively less willing to adopt family planning measures and also Muslim girls marry much younger than Hindu girls.

According to Paul Kurtz (2010), Muslims are much more resistant to modern contraceptive measures than Hindus as Islam prohibits family planning. Therefore, the decline in fertility rate among Hindu women is much higher than among Muslim women. Early marriage and concurrence with this religious decree is rooted with the poor education level of Muslims, especially by Muslim women.

The low status of women and a strong preference for male children are the two most patriarchal constraints in India. Women want to have children but it is very difficult to make a decision when they face an unplanned pregnancy (Tayabba & Khairkar, 2011). The study found that most couples do not use contraception despite their unwillingness to conceive. Health concerns, side effects, failure of the method and some socio-demographic issues such as education, age, residential region, the number of living children, the status of women and religion play a major role in the use of contraception.

Men's attitudes to family planning can often be negative and women are powerless to motivate their husbands into using condoms, let alone female contraceptives. A study (Zachariah, 1990) found that 40 percent of women from Southern India were not using any contraception because their husbands objected. Men know less about contraceptive methods than women, who know little. Men most commonly knew of female sterilization; only some knew of male sterilization. Knowledge of other contraceptives was even more limited (Balaiah et al., 1999).

This study was conducted with the aim to examine Indian Muslim women's knowledge and awareness of contraception. We determined the occurrence in contraception use between two cohorts of women distinguished by religion, focusing on both Hindu and Muslim women. To augment future policy decisions, this paper also intends to identify factors that affect these women's contraception use.

DATA SOURCE AND ANALYSIS

The information collected by District Level Household Survey (DLHS-3) in 2007-08 is the third in the series (after DLHS-1 in 1998-99 and DLHS-2 in 2002-04). Like the two earlier rounds, DLHS-3 is designed to provide estimates on maternal and child health (MCH), family planning and other reproductive health services. The third round of the District Level Health Survey on reproductive and child health (DLHS-RCH 3: 2007-08) is used to examine Indian Muslim women's knowledge and use of contraception. We also used data from the NFHS (1, 2 and 3) in combination with DLHS data to determine trends in the use of modern and traditional methods. The present analysis is based on ever-married women aged 15-49 years. Most of the statistical analysis was carried out with the help of the SPSS statistical package. The results are presented in univariate and bivariate tables. Logistic

regression analysis is used to study the significance of variation in knowledge and use of contraception by background characteristics of ever-married women.

MATERIALS AND METHODS

It is often seen that the habits of one community are adopted by the other if they live in close proximity and interact. To understand the effect such relations have on contraceptive behaviour, we selected eight states in India on the basis of the religious composition of the population, with the states of Chhattisgarh, Gujarat, Madhya Pradesh and Orissa have a very low percentage of Muslims; West Bengal, Jammu and Kashmir, Kerala and Uttar Pradesh have the highest percentages of Muslim residents. Through this distinction, we wanted to determine whether, in those states that are predominantly populated by members of either community, there exist any differentials in contraceptive prevalence. Next, we established the knowledge of contraception given the various factors that influence awareness of contraceptives. To understand the changing dynamics between these two communities over the years, we further examined the trends using DLHS and NFHS data sets since 1992. Our study continued into the various socio-economic aspects that induce changes in the use of contraception – both modern and traditional.

The binary logistical analysis follows these results and we examined the data controlling for several variables. Contraceptive use was measured as a dichotomous variable. In the model, Muslim women practising contraception at the time of the survey were coded 1 and those not practising contraception were coded 0. Use of any method was measured as a dichotomous variable. We used independent variables as control variables for predicting contraceptive use – women's age, place of residence, number of living children, household wealth index, the educational qualification of both husband and wife, mass media and awareness of RTI/STI. The continuous variable for the woman's age was replaced by five age groups: 15-19, 20-24, 25-29, 30-34 and 35-49, represented and 15-19 reference categories. The "urban" and "rural" categories were created for the "place of residence" variable. The variable for the number of living children was constructed into four groups: 0, 1, 2 and more than 3 children. Household wealth index was a discrete variable with three categories: lowest, middle and highest. The educational level of the woman and husband was divided into four categories: no education, primary, secondary and higher.

In India, contraceptives are provided by public hospitals, PHCs and CHCs. They are likewise available with private vendors and NGOs, private clinics and hospitals. We categorized all these sources into three – private, public and others – and tabulated them according to the percentage of women who accessed them. We included friends and family members within "others". We investigated the reason women gave for not using contraception, and divided all the given reasons into six major categories. Within the category termed "fertility related", we combined reasons such as infrequent sex, absence of husband, menopause, hysterectomy, subfecundity/infecundity etc. (responses for finding no need for contraception). The reasons categorized as "opposition to use" were objections from husband, religious restrictions, restrictions from other individuals and factors and lastly maybe the respondent herself. Within "lack of knowledge", we included lack of knowledge about either method or sources for modern contraceptives. The "method related issues" head deals with all aspects of the method from health concerns to inconvenience in usage as well as high cost. Lack of access is another issue that may deter widespread contraception use and was put under a separate heading. The category "up to god" is simply the answer given by the respondent. All other reactions were put under the category "other". Lastly, respondents' grounds for discontinuing usage of the previous method of contraception was also investigated. These reasons are combined into four

categories on the basis of the similarity of the responses – method related, fertility related, side-effect related and other.

RESULTS

Despite nearly universal knowledge in all the eight states we looked at, we found that use of contraceptives is not very high. Only around 61.5 percent of women aged 15 to 49 years declared using any contraceptive method at least once in their life; 62.6 percent of these women were Hindu and 54.1 percent Muslim. The highest ever-use of contraceptives was found in West Bengal and Kerala.

Table 1. *Contraception Knowledge and Usage within the Eight States (Source: District Level Household Survey-3 (DLHS-3), 2007-2008)*

States		All Methods		Modern Methods		Traditional Methods	
		Knowledge	Use	Knowledge	Use	Knowledge	Use
Chhattisgarh	Hindu	99.4	53.9	99.4	50.7	42.2	6.4
	Muslim	100.0	58.1	100.0	53.4	54.7	9.7
Gujarat	Hindu	97.8	69.1	97.6	59.3	59.7	25.1
	Muslim	96.9	69.3	96.7	57.9	61.4	26.2
Madhya Pradesh	Hindu	98.6	61.2	98.6	56.7	44.2	10.4
	Muslim	99.4	60.9	99.4	56.3	51.9	11.4
Orissa	Hindu	98.5	56.7	98.4	47.1	63.0	18.4
	Muslim	100.0	65.1	100.0	47.9	77.1	30.1
West Bengal	Hindu	99.8	87.5	99.7	70.2	86.9	58.4
	Muslim	99.8	82.2	99.7	59.9	91.2	61.3
Jammu and Kashmir	Hindu	99.0	66.6	98.7	53.5	67.6	21.8
	Muslim	97.7	56.2	96.9	45.1	72.7	18.8
Kerala	Hindu	99.8	80.2	99.8	69.7	83.4	38.5
	Muslim	99.9	68.1	99.9	55.9	76.8	30.7
Uttar Pradesh	Hindu	99.3	55.9	99.1	38.0	73.9	31.5
	Muslim	99.5	46.3	99.3	29.4	72.8	28.6
All India	Hindu	99.0	62.6	98.9	54.3	57.0	18.8
	Muslim	98.6	54.1	98.2	41.2	65.2	24.3

It was found that ‘traditional methods’ are also used more frequently in Muslim-dominated states than in Hindu-dominated. The effect is visible in the total traditional contraception usage, which is much higher among Muslim women (24.3 percent) than Hindu women (18.8 percent). Modern methods are used by 54.3 percent of Hindu women but only 41.2 percent of Muslim women. On average, women in Muslim-dominated states have higher usage than women in Hindu-dominated states.

Complete and accurate knowledge of contraception methods has a significant sway on contraceptive use decisions. Table 2 describes several socio-economic variables that can influence the knowledge that respondents possess of various contraceptive methods.

Table 2. *Awareness of Contraceptives given several Socio-Economic Factors (Source: District Level Household Survey-3 (DLHS-3), 2007-2008)*

Variables	Any Method		Modern Methods		Traditional Methods	
	Muslim	Hindu	Muslim	Hindu	Muslim	Hindu
Age						
15-24	97.9	98.1	97.4	97.9	61.6	52.5
25-29	98.8	99.2	98.6	99.1	66.5	59.2
30-34	99.0	99.4	98.7	99.2	67.7	59.5
35-39	98.9	99.4	98.6	99.3	67.1	58.2
40-49	98.8	99.3	98.3	99.2	64.6	56.9
Education of Woman						
No Education	98.1	98.5	97.5	98.3	62.9	50.5
Primary	98.7	99.1	98.3	99.0	64.3	55.3
Secondary	99.5	99.5	99.3	99.4	67.9	62.4
Higher	99.9	99.9	99.8	99.9	76.5	75.6
Education of Husband						
No Education	98.0	98.2	97.3	97.9	62.3	46.9
Primary	98.6	99.0	98.1	98.8	63.8	53.2
Secondary	99.1	99.2	98.8	99.1	66.8	59.1
Higher	99.3	99.6	99.2	99.6	70.5	68.4
Surviving Children						
0	96.6	97.0	96.1	96.8	55.5	47.6
1	98.5	98.8	98.1	98.6	66.4	60.2
2	99.1	99.4	98.7	99.3	67.1	59.4
3+	98.9	99.3	98.5	99.2	66.1	57.0
Place of Residence						
Rural	98.2	98.8	97.7	98.7	66.0	54.9
Urban	99.5	99.7	99.4	99.7	63.5	65.0
Wealth Index						
Poor	97.4	98.1	96.6	97.8	62.5	49.9
Middle	98.3	99.2	97.8	99.1	63.2	53.6
Rich	99.5	99.7	99.4	99.7	67.8	65.1
Mass Media						
TV, Radio or Newspaper	97.5	98.2	96.8	98.0	59.1	48.0
Other	99.9	99.9	99.8	99.8	71.9	66.6
Aware of RTI/STI						
Yes	99.8	99.9	97.6	99.9	79.6	74.3
No	98.1	98.6	98.2	98.4	58.5	49.3

From Table 2, it can be perceived that the knowledge of any contraceptive is generally higher among Hindu women than Muslim; however, Muslim women know more about traditional methods than Hindu women.

Depending on the socio-economic variable, knowledge of contraceptives in both religions shows almost the same correlation as in a regular sample. A woman's knowledge of contraception grows with an increase in the woman's age, her education, her husband's education, the number of live births she currently has and, lastly, her standard of living. A relation also exists with the household type, awareness about RTI/STI as well as the source of information on contraceptives. Rural women (98.2 percent) have a lower chance of knowing about contraceptives than urban women (99.5 percent). Women who get information on contraceptives from TV, the radio or newspapers (97.5 percent) are likely less aware than a woman informed through doctors, Anganwadi Workers, Auxiliary Nurses and Midwives, health workers, etc. (99.9 percent). Interestingly, we observe

throughout the table that as the variable progresses, the knowledge of traditional methods increases much faster for Hindu women than Muslim. It can be seen that knowledge about RTI/STI affects the awareness of traditional contraception methods significantly (by nearly 21 percent).

Given knowledge, the use pattern for both communities has been heartening if we look at the broad overall picture emerging from NFHS and DLHS data. Figure 1 depicts the trends that have emerged for contraceptive usage since the past two decades.

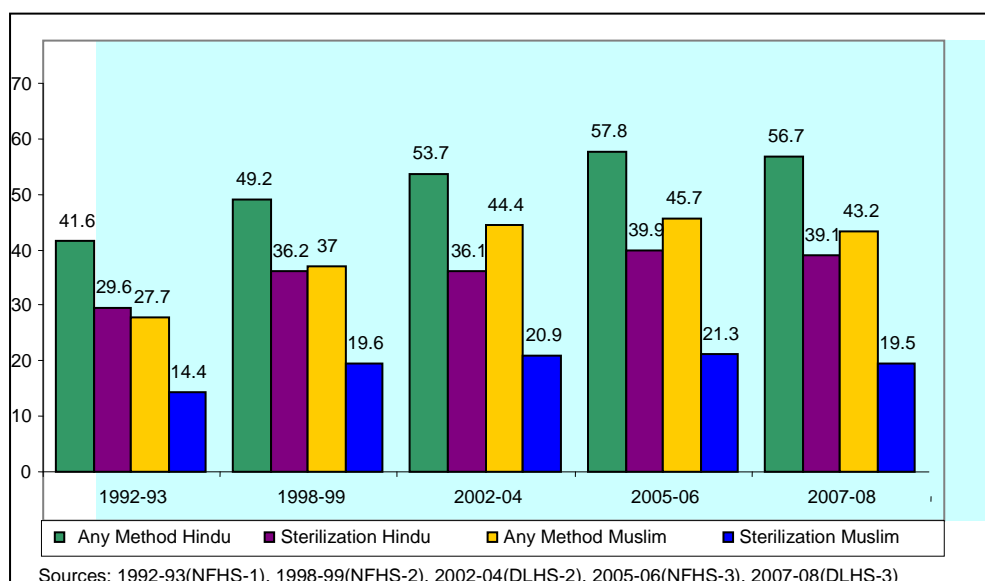


Figure 1. Trends in Contraceptive Usage between Hindu and Muslim Women in India

We see an increase in contraceptive use regardless of religious differentials between the 1992-93 NFHS-1 data and the 2005-05 NFHS-3 data.

Sterilization has nearly identical trends as the overall usage of any contraception method. The DLHS-3 data from 2007-08, however, shows a decline in contraceptive use from 2005-06 NFHS data. Likewise, for sterilization, the 2007-08 data also dips from 21.3 percent to 19.5 percent for Muslims and from 39.9 percent to 39.1 percent for Hindus. It does the same in the shift from 1998-99 NFHS to 2003-04 DLHS data. However, this decline in data can also be accounted for by the difference in methodology and objectives in these surveys. If we examine the trends across one survey alone, both NFHS and DLHS figures show an upward movement through the different periods.

We now study the changing variables that affect contraceptive use. Table 3 provides usage figures for contraception, given socio-economic variables like age, education, standard of living, access to mass media and awareness of RTI/STI.

Table 3. Socio-Economic Factors Affecting Contraceptive Use (Source: District Level Household Survey-3 (DLHS-3), 2007-2008)

Variables	USE OF CONTRACEPTION					
	Any Method		Modern Methods		Traditional Methods	
	Muslim	Hindu	Muslim	Hindu	Muslim	Hindu
Age						
15-24	36.7	33.3	24.1	24.4	20.9	14.7
25-29	55.5	62.9	42.3	53.9	25.5	20.2
30-34	63.0	74.4	50.0	66.4	26.5	21.1
35-39	64.6	77.1	51.8	69.3	26.6	20.5

40-49	58.0	73.3	45.1	65.8	23.3	18.8
Education of Woman						
No Education	48.9	59.0	35.5	50.8	22.6	16.0
Primary	58.1	65.4	44.7	57.8	26.6	18.7
Secondary	60.9	65.0	48.9	56.7	26.0	21.1
Higher	61.3	68.7	50.2	59.2	25.0	25.7
Education of Husband						
No Education	47.7	56.4	34.1	48.9	23.1	14.4
Primary	56.0	64.0	42.7	56.0	25.9	17.9
Secondary	57.5	63.3	45.0	54.8	24.5	19.8
Higher	59.0	67.7	47.8	58.6	24.3	23.0
Surviving Children						
0	13.9	12.8	6.8	7.5	9.4	7.2
1	41.0	41.9	26.7	30.4	23.3	20.5
2	61.8	73.4	48.8	65.8	26.8	20.8
3+	62.3	74.5	48.7	66.2	26.4	19.9
Place of Residence						
Rural	51.0	60.3	36.6	51.8	25.7	18.2
Urban	61.0	71.3	51.5	63.9	21.0	20.9
Wealth Index						
Poor	43.6	51.7	27.9	43.0	25.4	15.8
Middle	52.5	63.4	39.4	55.2	24.3	17.8
Rich	61.5	72.0	50.4	64.2	23.5	22.0
Mass Media						
TV, Radio or Newspaper	47.1	56.4	33.2	48.4	22.7	15.3
Other	61.9	69.2	50.1	60.6	25.9	22.5
Aware of RTI/STI						
Yes	60.9	69.3	46.8	60.1	29.8	24.7
No	51.0	59.6	38.7	51.8	21.7	16.2

As has been shown, despite nearly universal knowledge, use of contraceptives is not high among women in India. While nearly 40 percent of the population has never used contraceptives, for the Muslim women, this percentage is additionally lower by around 7 to 8 percentage points. Their usage of modern contraceptives is lower by around 12 to 13 percentage points. Age, education of the spouses, the number of surviving children and wealth status has all been shown to affect the use of contraceptives positively. As with knowledge, usage has shown nearly the same trends. An interesting point that has reared up again within use data is that, like knowledge, even the use of traditional methods is higher among Muslim women. Depending on the factors and conditions, this difference may occur from 6-8 percent between both sample populations.

A reassuring fact that can be perceived from this table is that as the social and economic condition of Muslim women improves (may be as an outcome of increased education), the usage of modern contraceptives goes up while that of traditional methods declines.

A similar trend is not observed among Hindu women, where the use of traditional methods has climbed with an increase in education and wealth. Moreover, living in an urban setting, Hindu women (20.9 percent) tend to use traditional methods more than their rural counterparts (18.2 percent). This may be due to the increasing use of both methods by urban women. This can be affirmed if we check the usage data for modern contraceptives, which is also seen as higher among

urban Hindu women (63.9 percent) compared to rural (51.8 percent). Muslim women, however, are seen to shift towards modern methods of contraception with an increase in standard of living and improvement in socio-economic factors.

Multivariate Analysis

In this part of the analysis, the dependent variable was contraceptive use at the time of the survey. Odds ratios from logistic regression analysis were applied to identify associations between contraceptive use and the selected demographic and socio-economic characteristics of women.

Table 4. *Logistic Regression Analysis of the Muslim Women using Contraception (Source: District Level Household Survey-3 (DLHS-3), 2007-2008)*

Independent variable	Odd ratio	SE	95% CI	
			Lowest	Highest
Age Group				
15-19 [®]				
20-24	1.106	.026	1.050	1.164
25-29	1.353	.029	1.278	1.432
30-34	1.402	.030	1.321	1.488
35-49	1.045	.029	.987	1.106
Place of Residence				
Rural [®]				
Urban	1.041	.020	1.001	1.082
Mother education				
Illiterate [®]				
Primary	1.550	.024	1.479	1.624
Secondary	1.708	.024	1.629	1.791
Higher	2.002	.043	1.841	2.176
Husband education				
Illiterate [®]				
Primary	1.183	.024	1.129	1.239
Secondary	1.108	.022	1.061	1.157
Higher	1.004	.032	.943	1.068
Surviving Children				
0 [®]				
1	4.307	.039	3.988	4.653
2	10.010	.039	9.270	10.810
3+	12.561	.039	11.628	13.568
Wealth Index				
Lowest [®]				
Middle	1.278	.023	1.222	1.337
Highest	1.504	.023	1.437	1.575
Awareness of RTI/STI				
No [®]				
Yes	1.236	.018	1.193	1.281
Mass Media				
No [®]				
Yes	.666	.018	.643	.690
Note: [®] Reference category of independent variable.				
All are significant at p<.000 except mass media.				

From the results of the logistic regression analysis, it appears that the place of residence is the most important factor affecting Muslim women's use of contraception. Women who live in urban areas

are 1.041 times more likely to use than those who live in rural areas. Therefore, women who live in urban areas are more likely to have access to these services than those who live in rural areas. The results of the study found that women's age affects the risk of ever or currently practising female contraception. Females between 35-39 years are 1.045 times less likely to use contraception than those aged 15-19 years. Thus, the older the woman the lower the probability of her being a user or non-user of a female contraceptive method. The results also show that the odds of contraceptive use increases significantly with an increase in the number of living children.

When we include other variables in the model, the effect of living children is even greater on contraceptive use. Exposure to mass media also plays a determining role; women who are exposed to mass media are more likely to use contraception than women who are not exposed. From this result, it can be surmised that providing information on various family planning methods, exposing Muslim women to different mass media and greater husband-wife communication would be able to increase contraceptive use among married Muslim women.

Given the various sources from where women can procure contraception, we decided to seek out the most recurrent source. It can be seen from Table 5 that there is no religion-based distinction between the places contraceptives are bought from. Nearly 64 percent of women and 68 percent of Muslim women got their contraceptives from private sources.

Table 5. *The source for given contraceptive by religion (Source: District Level Household Survey-3 (DLHS-3), 2007-2008)*

Religion	Source of Contraceptive		
	Public	Private	Other
Hindu	25.3	62.7	11.9
Muslim	19.5	68.5	12.0
All India	25.2	63.6	11.2

Most married women (nearly 33.7 percent) obtained contraceptives from private pharmacies; 16.2 percent of women got them from shops, which was listed under the category 'Others'.

Given that only 61.5 percent of the entire population was using contraception, we examined the reasons why women abstain and clubbed these into seven categories to provide a general understanding of the respondents' motive (see Table 6).

Table 6. *Reasons Cited For Not Using Contraception (Source: District Level Household Survey-3 (DLHS-3), 2007-2008)*

Reasons	Hindu	Muslim	All India
Fertility Related	12.5	17.1	12.8
Opposition to Use	4.3	8.5	4.7
Lack of Knowledge	.8	1.0	.8
Method Related Issues	9.3	10.9	8.0
Lack of Access	.5	.6	.6
Up to God	14.5	15.4	14.6
Other	1.4	1.5	1.4

When we looked at the various reasons that were given for not using contraceptives, the reason that emerged as the highest reported by the respondent was "up to god". The two other reasons cited by many women were fertility-related issues and method-related issues. Within method-related issues, 10.7 percent of the women stated health concerns as the major reason for not using contraception. The reason "opposition to use" was found common among Muslims. Within this

reason, religious opposition and respondent opposition were both high at 13.6 percent and 14.1 percent respectively.

Some respondents stopped using a method of contraception either entirely or by shifting to another method. Figure 2 depicts the various reasons for discontinuing a contraceptive method by the frequency of the responses.

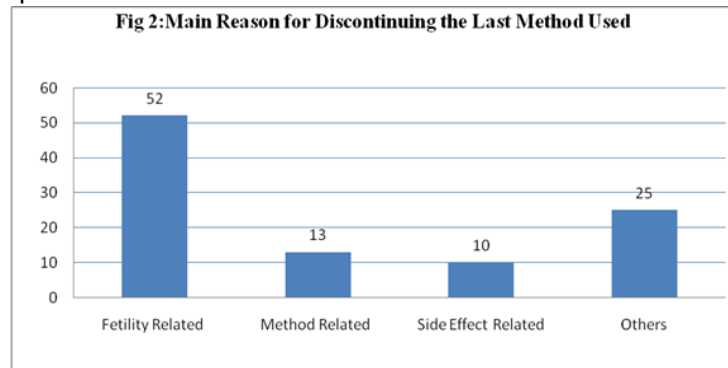


Figure 2. Main reason for discontinuing the last method used (Source: District Level Household Survey-3 (DLHS-3), 2007-2008)

About 52 percent of the respondents stopped using contraceptives because they wanted to conceive again. Amongst the population, 13 percent of the women declared several issues with the method itself – inadequate supply, difficulty in access, inconvenience in usage or high cost. A large segment of this population also said they had ceased to use that contraceptive method because they had conceived despite using the method. Another 10 percent of the women reported the side effects they may have actually or perceivably suffered from as the reason to desist from using contraception.

DISCUSSION

This is the first such study of this magnitude and, therefore, the findings deserve attention. But perhaps even more interesting than the results themselves are the insights that can be drawn from the interplay of various factors that determine the conditions of Muslim women's lives. Of course, there are some easily predictable conclusions, especially with respect to economic status. The low socio-economic status of Muslims is now well known; like the Scheduled Castes, they are disproportionately represented among the poor and have the lowest per capita income indicators. This is ascribed not only to their lack of asset ownership but also to poor educational attainment and occupational patterns, which show clustering in low-paid activities and the concentration of the Muslim population in economically backward regions (Ghosh, 2004). The same findings are clearly visible in our data: improvement in living standard and a wealthier, more informed way of life leads to higher use of contraceptives.

Table 1 makes amply clear that usage or knowledge of contraceptives is not affected by the percentage of Muslims in a state. Chhattisgarh, where the population is 95 percent Hindu, has a lower usage than Jammu and Kashmir, where the population is 65 percent Muslim. If we control for certain variables in any State, then the use of contraceptives comes to nearly the same despite a different composition of population. Iyer's (2002) model, controlling for other socio-economic factors, shows that there is no statistically significant difference between Muslim and Hindu women in the effect of religious perceptions on contraceptive adoption.

Within our study, nearly 14 percent women opposed the use of contraception due to religious restriction. Jeffery et al (2008) in their study have taken up the exact argument of Bhat and Zaveri (2005) that the 8 percent higher religious opposition to use explains the differential in contraceptive usage for the Muslim community versus the others. However, this difference can also be significantly explained by the disparity in education. Ghosh (2004) writes that one of the standard assumptions about Muslim women is that religion hinders their access to education, although low socio-economic status rather than religion has been shown to cause this. Indeed, in those regions where Muslims are better off (as in the south and to a lesser extent in the west), Muslim women are better educated. The high usage of contraception among Muslim women in Kerala (Table 1) is one of the clearer examples.

As Ghosh has shown, there is no apparent community-wide variation in women's decision-making, mobility and access to public spaces. Rather, she points out, most women in India – across communities and regions – have very little autonomy and control over their own lives. These are obviously extremely important results, which point to a different direction for public policy as well. It also holds great importance in her decision regarding family planning and contraception.

Another startling result is visible in Tables 1, 2 and 3, where we see that Muslim women not only possess higher traditional method knowledge but also prefer using traditional methods. This has already been discussed in Sharma and Pasha (2011), where Muslim women are found to have much higher usage of traditional methods than other religious communities. The same paper also shows that sterilization is the most-used modern method among women across religions. In his article, Mishra (2004) rationalizes this with the view that traditional and hence less permanent methods (like sterilization) is an indirect and lesser opposition to Islamic tenets. He however concludes that raising the socio-economic situation of Muslim women is the fundamental key in lowering their high birth rate and encouraging the use of contraception.

In Table 6, we found that women all over India are shown to substantially prefer private sources for availing contraception, in view of their privacy needs, as discussed also in Mishra (2004). However, the role of private sector in this regard is abysmal and has to be stimulated. Within Figure 2, a lot of women gave side effects and method-related issues as reasons for discontinuing contraception. If the issue is of high cost, then a more targeted subsidy on contraception should be made available. If it is due to the side effects accompanying the method or the inconvenience of usage, a probable solution is to generate more knowledge and understanding of the pros and cons of these methods.

CONCLUSION

This paper intended to delve into the methods and the reasoning behind the contraceptive choices Muslim women in India make. We found that though they are conversant with contraceptive methods as much as any other woman in India, their use is nearly 5 percent lower than Hindu women. Moreover, their preference for traditional methods is another curious result. This inclination to use traditional methods may stem from the fact that these methods may be perceived as “neither here nor there”. At the same time, the preference for temporary and hence traditional methods by Muslim women subsequently calls for greater promotion of temporary modern methods of contraception. The need to illuminate the lower effectiveness of traditional methods as well as the grave need for a well-structured and designed programme for planning their families has to be put out clearly for the individuals to judge and rationalize accordingly. Given the trends and the percentages, there is a need to design the current family planning programmes to answer specifically to the doubts and misconceptions in the minds of most women. The principal

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recommendation, however, is to empower women through education and bring about a strong rise in their independence and autonomy, a much required resource for contraceptive decisions and choices amongst households.

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Developing Theoretical Framework of Topic Knowledge Transferring in Second Language Writing

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ABSTRACT

The paper is aimed to discuss the importance of understanding theoretical elaborations on topic knowledge transferring from L1 to L2 and vice versa in Second Language Writing (L2 Writing). With the hope to build a thorough theoretical framework in the transferring knowledge activity, the paper will move from the limit of understanding topic knowledge transferring in L2 Writing mainly as the L2 translating activity; however, it should be the role of interaction that will amend the cognitive, socio-cultural, and affective dimensions in exploring the topic knowledge transferring in L2 Writing as the deeper level. The paper is supported by the key argument that topic knowledge transferring in L2 Writing should result from the dual cycles of interactions between external environment and individual internal construction of in-knowledge and out-knowledge with an emphasis on the role of language and interaction in human cognition. The dual cycles of interactions as illustrated in the theoretical framework and the model visualization are integrated in planning and revising behaviors as the initial and final stages of topic knowledge transferring. An important implication of the paper is to open new directions for future research in topic knowledge transferring in L2 Writing on the following topics such as the role of interaction in L2 Writing, L2 writers' cognitive constraints, and research in planning and revising behaviors.

Keywords: L2 Writing, L2 writers, cognitive constraints, topic knowledge transferring, interaction in L2 Writing, planning, revising.

INTRODUCTION

Describe Topic knowledge transferring from L1 to L2 and vice versa; matters in Second Language Writing (L2 Writing) in the sense that L2 writers cannot have a direct access to L2 as the target language. This constraint results in the cognitive assumption that in writing processes, L2 writers will be engaged in the behavior of using L1 language in L2 Writing. Such a behavior has been reflected in the dependency of L2 writers, particularly in the lower proficiency of L2, on some L1 strategies to help them facilitate L2 Writing processes. In Wolferberger's study on the behavior of three lower proficiency students in their composing processes and writing strategies (cited in Hussein & Mohammad, n.d., p.184), the results suggested that lower proficiency writers would combine all strategies that could help them in L2 Writing, especially "compensating strategies for dealing with L2

issues and facilitating L1 composing process transfer.”In the same line with Wolferberger, Sasaki and Hirose, Wang and Wen, as well as Beare and Bourdages (cited in Hussein & Mohammad, n.d., p. 184), both indicated that the translating activity from L1 to L2 appeared more often in novice writers than in expert writers. In contrast with the above findings, Cumming and Wang (cited in Hussein & Mohammad, n.d., p.184) found that expert writers would switch more between L1 and L2 than novice writers.

However, if topic knowledge transferring can only be understood in the cognitive assumption that L2 writers would depend on L1 strategies to engage in L2 Writing, this cognitive assumption may limit the standing of transferring knowledge activity at the level of translating activity. It seems that inside this translating activity should it be the complex interaction between the L2 task environment and L1 inherent knowledge inside the mind of L2 writers. Secondly, topic knowledge transferring activity is assumed to appear as a separate process in the mind L2 writers in the planning and revising stages. In planning, topic knowledge transferring seems to be under the assumption of generating the sketch of ideational meanings and structural organizations for the problem-solving nature in writing. Revising, on the other hand, should be assumed as the reflection after the execution of actual writing. In revising activity, the same topic knowledge perhaps will be transferred another time into the mind of L2 writers to form new inherent topic knowledge. Under these assumptions of generating and reflecting topic knowledge in L2 Writing, the paper will argue that topic knowledge transferring activity for L2 Writing should be the results the dual cycle of interactions between the external environment and individual internal construction of in-knowledge and out-knowledge. With the consideration from three dimensions: cognitive, socio-cultural, and affective, the paper is hoped to contribute (1) the theoretical framework of topic knowledge transferring in L2 Writing and (2) new directions for research in L2 Writing, in particular, the process of topic knowledge transferring in the planning and revising stages of L2 Writing. It is noted that for the best comprehension of the paper, L2 Writing is implied is as writing in the second language as an additional language in which there should be the interrelation between L1 and L2 during the transferring of topic knowledge rather than the understanding of L2 Writing in ESL or EFL contexts.

BACKGROUND

The cognitive and socio-cultural views on the role of interaction in L2 Writing

To start the review on the role of communication in L2 Writing, it would be relevant to relate L2 Writing as a subcategory of Second Language Acquisition (SLA). In SLA, an ideological sketch of L2 Learners should be an individual who does not possesses a suitable quantity of comprehensible inputs for comprehensible outputs. This ideological sketch and the relationship between comprehensible inputs and outputs in SLA seem a reminder to Krashen’s *Input Hypothesis* (1981) of which the basic notion is that since not all language learners have the same linguistic competence for SLA, acquisition would only occur in a natural order only when they are exposed to the stage $i+1$. How Krashen’s *Input Hypothesis* “comprehensible input $i+1$ ” can be applied to the field of L2 Writing is that an appropriate pedagogical strategy from an expert will assist L2 writers for language production. The assumption of “a need for an expert” can be taken into the account of the fact that the vast implement of traditional writing instruction for L2 Writing is assumed to view writing as a skill rather than language acquisition; and thus, when writing being viewed as a skill, its instruction may fail to apply Krashen’s key suggestion of natural communicative inputs in designing syllabus for teaching writing. Thus, the ignorance of natural communicative inputs in designing syllabus further

raises a supposition: What would happen with writing processes in L2 Writing, were it for the strong provision of natural communicative inputs in writing instruction?

Along the line the *Input Hypothesis*, the *Noticing Hypothesis* and the *Output Hypothesis* (cf. Schmidt 2001 & Swain 1985, 1995) were mentioned by Manchón (2011, p. 63) to reflect the cognitive views of the role of interaction in SLA. These two influential SLA hypotheses subordinated “comprehensible input $i+1$ ” toward the idea that “communication is beneficial for L2 development.” These two SLA hypotheses highlighted L2 learners’ attention especially on the gaps of L2 knowledge resources and L2 language resources. Manchón (2011, p. 63) also proposed that noticing the gaps of L2 knowledge and language resources is one of the functions of oral and written output; and thus, the role of interaction among L2 learners in group and pair-work from is supposed to enhance attention to language as well as opportunities for language learning. The cognitive views of the role of interaction in SLA are perhaps provide the first potential answer to the supposition when natural communicative inputs were implanted in instruction, interaction among L2 writers would enhance their attention to fill their gaps of L2 knowledge and language resources in writing processes.

Attention to language and opportunities for language learning in socio-cultural views of the role of interaction in SLA in the appropriation of linguistic knowledge and individual knowledge through collaborative problem-solving (Manchón, 2011, p. 63). Manchón further proposed that collaborative writing tasks are composed of a reprocessing function and a noticing function for the enhancement of interaction in SLA in two aspects: while the reprocessing function automatically builds collective knowledge for individual development in L2, the noticing function on the other hand enhances the level of knowledge understanding through attentional processes (Swain & Lapkin 2002, p. 254, Storch 2009, cited in Manchón, 2011, p. 66). The socio-cultural views of the role of interaction in SLA, when implemented with natural communicative inputs in writing instruction for L2 Learners, will therefore result in the deeper understanding of knowledge and the automaticity in retrieving language resources in writing processes.

Two main cognitive constraints in L2 Writing Processes

The previous discussion suggests that the lack of interaction in designing syllabus for L2 Writing may be one of the significant constraints to defer writing processes. The suggestion for integrating dialogue in ESL writing classrooms was inspired by researchers such as Atkinson and Weissberg (cited in Hubert, 2011, p. 170). The call for dialogue integration in ESL writing classrooms is therefore predicted to have positive effects on composition instruction, particularly planning and revising; also, it also drives the nature of ESL writing instruction into a balance between cognitive and socio-cultural views of the role of interaction in L2 Writing (Hubert, 2011, p. 170).

The integration of interaction in writing instruction, on the other hand, directs the attention to the kin relationship between speech and writing from the cognitive views of interaction in L2 Writing-as the subcategory of SLA. It is assumed that the outputs as spoken and written production are highly dependent on a single “limited pool of resource” (Kellogg, 1996). Manchón (2007, p. 551) further explained Kellogg’s notion by stating that because of the single “limited pool of resources”, the cognitive processes of producing the outputs can be visualized as parallel operations so that the total amount of resources is kept at the sufficient level for the purpose of completing several tasks. In case the amount of resources required for one task completion, learners need to slow down one process for the expense of completing the other prior processes. This constraint of “limited pool of resources” can truly reflect writing processes for L2 Learners as “recursive, interactive and potentially simultaneous, and all work can be reviewed, evaluated, and revised, even before any text has been produced at all.” (Hyland, 2003, p. 11).

Relating to Hyland's description of the recursive nature of writing processes, it is relevant to list three main cognitive concerns that an L2 writer might face when a writing topic is given such as (1) how to transfer ideas into actual words, (2) how to improve automaticity in writing processes due to punctuation and spelling, and (3) how to organize a range of thought in a logical order. How these three cognitive concerns are related the recursive nature of writing processes can be elaborated from one of the well-known cognitive writing model of Flower and Hayes (1980; 1981). Given that there seems to be no distinctive functions of among planning- translating-reviewing to ideational and structural developments in writing, the problem-solving tasks in actual writing might not be well-executed. In other word, it is the disruptive effects of the recursive nature of writing processes on actual writing.

Planning behaviors: an under-constraint activity

The recursive nature of writing processes in Flower and Hayes' cognitive model (1980; 1981) has been contested for the modification that writing processes should be under-constrained. An evidence for this modification should be the investigation of temporal distribution for each writing process. Manchón and Roca de Larios (2007) aimed at investigating the temporal nature of planning in L1 and L2 composing in their research. By stating the research question "*What is the temporal distribution of planning process across languages as a function of the writer's L2 proficiency?*", their goals were find out (1) whether planning behaviors were different between L1 and L2 Writing, (2) whether proficiency-related variables played a significant role in L1 and L2 planning, and lastly, (3) whether time allocation for L1 and L2 planning can be significantly measured. Significant findings for their research are shown as the followings:

- Writing in L1 or L2 had no impact on the participants' planning performance.
- Participants at higher level of proficiency tended to allocate more time for planning in both L1 writing and L2 Writing.
- Participants at higher level of proficiency tended to plan more on L2 task than L1 task.
- Participants at higher level tended to devote more time in planning in the first period.
- The time devoted to planning tended to be concentrated in the early stages of the composition process, which also meant that one-third temporal distribution of writing processes was for planning.
- The amount of time for planning decisions during the stage of composition was affected by proficiency-related variables.

An important implication of the study is that it could be seen as an explicit tracking of planning behaviors in which planning is proved a universal behavior across level of proficiency, genres, and in different target languages. On the dimension of topic transferring knowledge, the one-third temporal distribution of planning during the composition process can be judged as having a strong practical implication in the process of how to develop topic knowledge during the planning stage. Moreover, with the discussion on topic knowledge (p. 576), both researchers prove that they carefully take into account the mediation between novice and expert writers in writing processes. Most importantly, the study can truly prove that writing is an under-constraint behavior for student as a writer, especially for L2 writers. The constraint is implied for L2 writers as the result of the lack of topic knowledge, the limited pool of resources, the notion of unequal ability in processing writing the same as L1 writers, and perhaps the genre of argumentative writing. Therefore, three main

modifications to Flower and Hayes' model can be deduced from Manchón and Roca de Larios (2007) research as the followings:

- Planning plays a significant role in assisting L2 learners to transfer knowledge in writing processes. Planning, therefore, could be considered as the rehearsal of language production, especially in the meaning-making process.
- Such a distinction between “expert” and “novice” writers in writing behaviors (i.e. expert writers tend to spend more time for planning than novice writers do) is a fallacy. Manchón and Roca de Larios (2007, p. 576) modified such the distinction by stating that when the topic knowledge matters, expert writers also planned more to organize ideas and structures in case the topic was less familiar to them.
- Manchón and Roca de Larios (2007, p. 579) also suggested that instead of viewing writing processes in the sense of (1) “almost all composing behaviors can be preceded or followed by any other behavior at any time without necessarily following a predetermined order” and (2) as a linear process in which writers spend the “equal amounts of time on the same process at all stages of the composing process,” it seems that their data reinforce the notion of “limited pool of resources” (Kellogg, 1996) in writing behaviors of L2 writers: “At certain stages, some processes are more likely to occur than at other stages; their degree of dominance and, consequently, their probability of occurrence vary as the writing task evolves (2007, p. 579)”.

Revising behaviors: a new look

The previous discussion on planning behavior and its relation to the modification the recursive nature of writing processes seems to suggest the importance of gaining topic knowledge for both expert and novice writers in the process of meaning-making. At the very initial step of meaning-making, planning activity can be seen under the angle of recalling the sufficient amount of inherent topic knowledge for the execution of actual writing. The issue to be concerned is whether revising-the post-activity of actual writing- can be further considered as the final step of meaning-making in which the generated topic knowledge in the form of actual writing could be further recalled, re-examined, and reformulated.

Traditionally, revising activity in the context has been technically known as the examination of language errors and the logic of content generation in actual writing either by self, by peers or by the instructors. On the dimension of self-revision, revising activity also depends on patterns of learners. For instance, Raimes (cited in Kietlinska, 2006, p. 69) found that ESL students perceived revising as a mere editing rather than a substantial reworking on ideas. Another study from Silva (cited in Kietlinska, 2006, p. 69) showed that ESL students focused more on grammar errors while less focused mechanics and spelling. Interestingly, self-revision, which can also occur during the execution of writing, in Raime's study (cited in Kietlinska, 2006, p. 69), the recursive nature of writing behavior in the pattern of ESL students was showed as “create text-read-create text-read-edit-read-create text-read-read.”

When revising is combined with peers and teachers, exchanging feedback is the most common activity in the classroom. Peer feedback in revising is believed to provide L2 writers the experience of having the sense of being read and commented by other audience. However, the quality of peer feedback has been questioned for the aim at providing L2 writers fruitful assessments of their first draft writing. Apart from the reason that ESL students might not trust the correction from the lower-proficient peers, Nelson and Carson (cited in Kietlinska, 2006, p. 79) further elaborated the

seemingly ineffectiveness of peer feedback in relation to cultural norms: "In countries with large distance power teachers are viewed as the holders of truths, wisdom, and knowledge, and they pass this knowledge on to their students." Even though the authoritarian role of teacher in providing feedbacks may have produce certain improvements in language production, another contradictory view is that L2 writers might not accept teacher's critical examination of a broad aspects from ideas, structural organizations and grammatical representations. Teacher's critical examination might prove the counter-effect of discouraging students from making improvements in L2 Writing.

The above discussion on three types of revision: self-revision, peers feedback, and teacher's feedback may centralize at the point of re-examining the assessment of language use in the external forms rather than the internal forms. The internal forms of language use in the revising stage should be seen as the base for the formulated topic knowledge to be recalled, re-examined, and reformulated. Perhaps embedding the meaningful goal in revising activity will facilitate this ideological goal with the aim to enhancing the transferring of topic knowledge in L2 Writing. To reach the aim of enhancing topic knowledge transferring in L2 Writing, self-directed motivation in revising activity should be put at the center of L2 writers. Self-directed motivation can be sought from the effects of goal setting and procedural facilitation on the revising behavior. Graham, MacArthur, and Schwartz (1995) distinguished the difference in three conditions of revising behavior: revising with general revising goals "make it better", with specific goals of adding information, and with procedural facilitation. 70 students with learning disabilities from Grade 4th to 6th in a large suburban district in the Mid-Atlantic States were asked to write a prompt personal narrative in the first session and revised it in the second session. Results revealed that the group of participants with the specific goal of adding information "made a more balanced approach to revising, extending their revising efforts to include more meaning-based revision."

Regarding Graham, MacArthur, and Schwartz study (1995) to the context of L2 Writing, the learning disabilities of L2 writers can be directed into three dimensions: (1) the lack of natural language inputs of the L2 target language, (2) the idealistic view of topic knowledge transferring as the process of recalling, re-examining and reformulating is limited in the role of teachers and in the classroom, and (3) the boundary of social and cultural environment in transferring complete topic knowledge and vice versa. Hence, the further issue to be raised is in which way the technical view and ideological view of topic knowledge transferring in L2 Writing can be mediated. This issue can be explicitly understated as follow: In which way planning and revising behaviors can further assist L2 writers in improving topic knowledge transferring activity in L2 Writing?

DEVELOPING THEREOTICAL FRAMEWORK OF TOPIC KNOWLEDGE TRANSFERRING IN L2 WRITING

Theoretical framework

The theoretical framework for topic knowledge is developed from three principles:

- Firstly, based on Krashen's *Input Hypothesis* "comprehensible input $i+1$ " (1981) and an emphasis on the role of interaction from the Noticing and Output Hypotheses, topic knowledge transferring L1 to L2, under the cognitive view of this process, is understood in the form of language acquisition in which interaction is considered as the natural input for language performance and topic knowledge formation as the desirable outputs. At the same time, in order to trigger topic knowledge to be transferred, under the socio-cultural view of this process, interaction should also be placed in collaborative problem solving for

the effectiveness of transferring activity. The more L2 writers engage in talks, the more possibility for topic knowledge to be recalled, re-examined, and reformulated.

- Secondly, L2 Writing activity therefore should be considered as a situated practice between cognitive and socio-cultural dimensions. Since topic knowledge transferring is supposed to be implicitly engaged in writing activity, this assumption of L2 Writing activity is raised to amend the cognitive constraints of L2 writers such as the single “limited pool of resources” and the recursive nature of writing. The mediated cognitive and socio-cultural dimensions in L2 Writing activity may further release some “fallacies” in the assessment of L2 Writing, particularly the void of criteria such as “high-low” proficiencies and the paradigm “novice-expert” writers. The void of these fallacies will expand the notion that all types of L2 writers are potentially capable of engaging in topic knowledge transferring activity at the equal status of understanding and exchanging knowledge.
- Thirdly, “the dual cycle of interactions between the external environment and individual internal construction of in-knowledge and out-knowledge” in the key argument of the paper should be integrated separately with planning and revising stages. As mentioned earlier in Manchón and Roca de Larios study (2007), planning was proved to be a universal behavior for writers in L1 and L2 Writing and seems to function as a rehearsal of language production. In this rehearsal of language production, topic knowledge transferring might not be well-formed or unitary in some senses. Thus, the unwell-formed and unitary topic knowledge can be transferred from L2 to L1 one more time in the revising stage. Graham, MacArthur, and Schwartz (1995) study proved that by specifying goal of “add information,” writers were engaged more a meaning-based revision. The meaning-based revision is believed to enhance topic knowledge transferring activity in a self-directed goal. Thus, the self-directed goal in topic knowledge transferring activity will result in the development of learner’s autonomy in writing processes

Model Visualization and Explanation

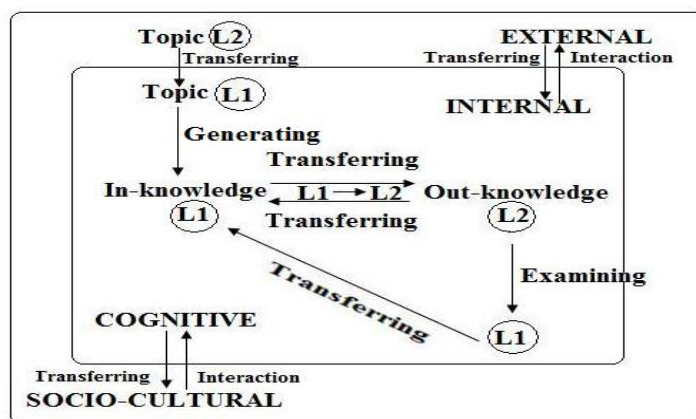


Figure 1. Topic knowledge transferring model in L2 Writing

(Notes: L1= base language, L2=target language, In-knowledge=inherent knowledge in L1 Out-knowledge=productive knowledge in L2)

In Topic knowledge transferring model in L2 Writing, a writing topic in L2 will be first translated into L1. After analyzing the topic in L1, in planning stage, L2 writers will generate ideas from L1 inherent knowledge as in-knowledge. After planning stage, the transferring knowledge activities from L1 to L2

and vice versa for L2 productive knowledge as out-knowledge occur continuously in actual writing stage. In revising stage, L2 productive knowledge in actual writing will then be examined in L1. Finally, the examined L2 productive knowledge will be transferred to become a new L1 inherent knowledge. The knowledge transferring activity therefore can be understood as the result of the L2 writers' individual internal construction through interaction with the external L2 task environment. In other words, it is the result of the interaction between cognitive and socio-cultural dimensions of topic knowledge transferring activity in L2 Writing.

FUTURE RESEARCH DIRECTIONS OR RECOMMENDATIONS

The further issue to be concerned about the model is its implication on the improvement of text quality in the revising stage. According to Graham, MacArthur, and Schwartz (1995, p. 237) study, even though the result of the group who engaged in the revising activity with the specifying goal "adding more information" came out with the positive result of producing "meaning-based", these participants "evidenced modest-not large-changes in the quality of their papers". The modest change in text quality could be explained under the assumption that L2 writers participate in L2 Writing as an under-constraint activity (cf. Manchón & Roca de Larios, 2007). L2 writers, therefore, are assumed to focus only in one dimension of L2 Writing activity: either text quality or topic knowledge will be performed better than the other dimension. Looking at this limitation at the deeper level of the role of language and human cognition, topic knowledge transferring may somehow occur either mainly in L1 or in L2. Thus, it might be not clearly decided which channel of languages among three conditions-mainly in L1, mainly in L2, or in-between L1 and L2- will produced the most effective result for transferring topic knowledge through interaction.

Secondly, as illustrated in the model sketch, the interaction between the external environment and individual internal construction happens concurrently with the interaction between cognitive and socio-cultural dimensions. However, to maintain such dual cycles of interactions as well as the dual cycles for the transition between in-knowledge and out-knowledge, the affective dimensions of L2 writers the receivers of the interactions should also be taken into account. It also means the formation of new inherent topic knowledge should also depend on the level of "acceptability" from the receivers. The level of acceptance can be understood as the dependency on the willingness and the maturity of L2 writers while engaging in collaborative problem-solving within self. The sense of self may be varied accordingly to socio-cultural factors such as a learner's motivation level in learning to write, the exposure to L2 culture, and also their own ideology of L2. On the other hand, the sense of self may also be assorted by cognitive factors such as the beginning age of learning L2, gender differences, frequency of using L2, and the quality of training received from writing different genres in L2. Owing to Bourdieu's ideology on linguistic habitus and bodily hexis (1991), the result of the interaction between linguistic usages and the "physical posture in the social world" seems to be the "sense of social worth." To aggrandize Bourdieu's linguistic habitus and bodily hexis in the affective dimensions of L2 Writing, self-identity representation of L2 writers can be further related to Lillis's notion of "dialogue of something to struggle for" (see Lillis, 2003). This self-identity representation in L2 Writing might also be related to L2 writers' struggle against the invisible racism and sexism while writing under the figure of "the other."

Implications for future research on investigating topic knowledge transferring as the mediation between cognitive, socio-cultural and affective dimensions are suggested to follow on several research topics:

- Topic knowledge as a variable for L2 Writing research which is varied accordingly to cognitive differences such as age and gender
- How the proficiency-related variable affect writers of raising consciousness to topic knowledge in L2 Writing task while they both engage in the same writing topic.
- Temporal distribution of L2 writers to the process of recalling inherent knowledge, generating ideas, and reciting ideas in the planning stage.
- Socio-cultural factors and their effects on the development of inherent topic knowledge for L2 Writing.
- The interrelation between text quality and topic knowledge in L2 Writing
- L2 Writing inside and outside classroom and how different environments can affect topic knowledge
- The interchange between “experts” and “novices” in topic knowledge transferring and its effects on L2 Writing performance.
- The effects of stored memory of topic knowledge in L1 and L2 on L2 Writing performance.

CONCLUSION

The paper is aimed to develop theoretical framework for topic transferring model in L2 Writing. The key argument of the paper “*Topic knowledge transferring activity for L2 Writing should be the results the dual cycle of interactions between the external environment and individual internal construction of in-knowledge and out-knowledge*” is supposed to shape our deeper understanding into the role of interaction in human cognition. It is essential to keep in mind that the theoretical framework of topic knowledge transferring that is raised in the paper is built upon the planning and revising stages of writing processes during which topic knowledge can be transferred best through the process of “recalling-re-examining, and reformulating.” With the availability of interaction, topic knowledge transferring in L2 Writing should no longer be considered simply as L2 translating activity but rather a mediation of cognitive, socio-cultural and affective dimensions. And only when the topic knowledge was recalled, re-examined, and reformulated can L2 writers build their own autonomy in shaping their own world the way they perceive.

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¹ "Topic knowledge transferring" is understood in the paper as the short form to label "Topic knowledge transferring from L1 to L2 and vice versa"

A Study on Students' Learning Styles, Learning Difficulties and Satisfaction at Graduate School of Education, Assumption University of Thailand

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ABSTRACT

This study aimed to identify the students' demographics including studying program, nationality, age, year of studying at Graduate School of Education, and current employment status firstly; then to investigate the graduate students' learning styles, learning difficulties; to compare the students' learning experience between AU and their latest learning institutes; and lastly to determine the level of the students' learning satisfactions at Graduate School of Education(GSoE), Assumption University of Thailand(AU).

The study used descriptive statistics, including frequency, percentage, means, standard division and t-test to deal with the data. All the present students at Graduate School of Education, Assumption University were used as the sample for this study. Analyzing of the collected data, the study reported the demographics of the students in GSoE, identified the graduate students' learning styles and difficulties. And also found the students were satisfied with the learning at Graduate School of Education, Assumption University.

Keywords: Graduate Students Learning, Learning Styles, Learning Difficulties, Learning experiences, Learning Satisfaction.

INTRODUCTION

Studying at graduate school level need the students not only to remember the theories from the books, communicate with the teacher; but also to develop their ability of critical thinking and synthesize; and the skills of interrelationship.

Graduate students need do active learning by group cooperative learning, peer learning, self-learning and even using the mixture of the mentioned ways in order to learn more effectively. Active learning that present opportunities for students to formulate their own questions, discuss issues, explain their viewpoints, and engage in cooperative learning by working in teams on problems and projects were encouraged to use at graduate school level.

Assumption University has been providing education to the youth of the Thai and other nations since 1969. About 19,870 students including a fairly large complement of foreign students drawn from 75 countries of the world are studying in Assumption University (AU). As the first and biggest international university in Thailand, AU employs English as the official medium of instruction for all the programs.

Graduate students learning in this highly internationalized and multicultural university, are required to use different learning styles through various learning activities, and they may experience the great learning differences compared with their latest learning institutes. And since graduate students are all adults, and many of them are also working and studying at the same time. They face different learning difficulties during the time of studying in the graduate school.

This study used Graduate School of Education (GSoE) of Assumption University as the sample, tried to identify the students' demographics including studying program, nationality, age, year of studying at Graduate School of Education, and current employment status firstly; then to investigate the graduate students' learning styles, learning difficulties at; to compare the students' learning experience between AU and their latest learning institutes; and lastly to determine the level of the students' learning satisfactions at Graduate School of Education, Assumption University of Thailand.

Research Questions:

1. What were the students' demographics including studying program, nationality, age, year of studying at Graduate School of Education, and current employment status?
2. What were the students' learning styles, and learning difficulties at Graduate School of Education, Assumption University, Thailand?
3. Was there a difference of the students' learning experience between studying at AU and their latest learning institutes?
4. What was the level of the students' learning satisfactions at Graduate School of Education, Assumption University, Thailand?

LITERATURE REVIEW

Learning at graduate school level

Graduate-level education is very different from their undergraduate experiences in term of leaning depth and learning ways. Students may be aware that studying in graduate school is very different from studying in the college. Graduate programs don't care about how well rounded the students are. Likewise, participation in many extracurricular activities is a boon for college students, but graduate programs prefer students who are focused on their work.

An undergraduate major usually provides only a broad overview of the field. However, graduate study entails specializing and becoming an expert in very narrow field of study. This require the students to switch from learning a little bit about everything to becoming a professional in one area requires a different approach. Recognizing these differences between college and graduate school is very important for those want to study in graduate schools.

Learning at graduate school level needs the students know how to do selective reading, how to analyze and report, moreover, the students are also required to learn in different styles including group cooperative learning, peer learning, self-learning and reaction learning from the classroom.

Learning Styles

Tara (2010) commented that most of learning in graduate school will not come from classes, but from other activities, like doing research and attending conferences. It is a true fact that during different learning stages, the graduate students need to use different learning styles.

Such as during the class time, they may need to use group cooperative learning. As cited in Bellanca and Forgarty (1991, p. 242), Bruce Joyce indicated that research on group cooperative learning is overwhelmingly positive, and the cooperative approaches are appropriate for all curriculum areas. There are many quite different forms of group cooperative learning, but all of them involve having students work in small groups or teams, to help one another learn academic material. Group cooperative learning usually supplements the teacher's instruction by giving students an opportunity to discuss information or practice skills originally presented by the teacher.

But outside of the class, the graduate students still need to work a lot so as to do other learning projects, activities etc. Besides, the group cooperative learning, they also need to do some peer learning. Alice (2003) indicated peer learning activities typically result in: (a) team-building spirit and more supportive relationships; (b) greater psychological well-being, social competence, communication skills and self-esteem; and (c) higher achievement and greater productivity in terms of enhanced learning outcomes.

Graduate schools of education teach their students different methods of teaching and learning. Bill (2004) mentioned in the book of *Becoming Teachers* that graduate teaching explore advances in instructional technology, or strategies by using collaborative small groups, classroom writing, alternative assignments, or critical thinking exercises. Hence, the students who participated in graduate studies were also required to develop the correspondent learning styles in order to complete their study as they planned. Studying at Graduate School of Education, Assumption University has the same situation. Here the students need to use many different learning styles during the program studying time, and very often is, the students need to use the mixed styles in the process of learning.

Learning Difficulties and Challenges for Working and Studying full-time

For the graduate students who work and study full time together, it can be a bit like fighting a two-front war—both sides are very important and demand constant attention, neglecting either will have an impact on their life. This tug of war can take place in many forms, from time conflicts to energy consuming; it happens every day according to those started studying and working fulltime together in Graduate School of Education, Assumption University.

A famous international organization called “idealist” had discussed the possibility and challenges of working and studying fulltime in their webpage. According to their discussion, the biggest challenge for graduate students who work and study full time together might be from time management, since they had to follow the graduate school class schedules, complete many out-of-the-classroom requirements, such as field research, practical experience components, or group projects where different students may have different schedules.

Learning Satisfaction

Learning satisfaction study can help the faculty and the university to see the level of learners' satisfaction, to know about their voices and feedbacks for their studying programs. In Thailand, ONESQA require all universities need to conduct studies or surveys to test “the level of learners' and

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stakeholders' satisfaction with learning and stakeholders-focused process,"(MBNQA7.2/AU2.111.2
from AU(2000)QSQMIPS) therefore, studying the students satisfaction is very necessary for
universities like AU.

Davis (2000) examined the impact of gender, cognitive learning styles, and computer attitudes on students' course satisfaction. Miglietti and Strange (1998) examined learning and teaching styles and classroom environment variables, and found that student-centered instruction positively impacted students' learning and satisfaction, regardless of their age.

A few years back, Wang's (1995) study of Chinese students in American schools revealed that the main source of conflict between teachers and students pivoted around mismatching instructors with culturally different populations. Results of these studies confirm the importance of teaching to satisfy students' learning needs, cultural differences notwithstanding.

The dynamics of teaching and learning styles seem to be the mainstay of student satisfaction. In general, student satisfaction studies seem to suggest that there are complex sets of variables explanatory of student satisfaction. Studies on teaching and learning styles in postsecondary education have focused on improving student/faculty relationships and achievement (Cook, 1989; Dunn, Deckinger, Withers & Katzenstein, 1990).

RESEARCH PROCESS

Instrument

In conducting the study, a questionnaire consisting of 3 parts was distributed to all the students in Graduate School of Education, Assumption University, Thailand.

Part I included questions with regard to students' learning styles and learning difficulties. Respondents were asked to select their most frequently used learning styles and learning difficulties that they may encounter during the program studying time.

Part II included questions with regard to students' learning experience between AU and their latest learning institutes. Totally 5 aspects concerning *medium of instruction, internationalized learning environment, teaching, learning, and service* were questioned on students' learning experience from AU and their latest learning institutes. A 5-point Likert Scale of all 5 aspects was provided for the respondents to choose for AU and their latest learning institutes.

Part III had 10 questions with regard to students learning satisfaction at Graduate School of Education, Assumption University, Thailand. Each statement also had a 5-point for the respondents to choose.

The reliability of the questionnaire was calculated by using Cronbach's Alpha. The value of Cronbach's alpha for the students' learning experience between AU and their latest learning institutes was .86, while the Cronbach's Alpha for students learning satisfaction at Graduate School of Education, Assumption University, Thailand was .81.

Participants

At Graduate School of Education, Assumption University, the researcher started to distribute the questionnaires by emails and hardcopies at the beginning of April, 2011. By the end of September 2011, 75% of the questionnaires were returned from 82 current students in Graduate School of Education, Assumption University.

RESULTS AND FINDINGS

Research Objective 1: To identify students' demographics including studying program, nationality, age, year of studying at Graduate School of Education, and current employment status

Analyzed the received data found that of the respondents, 35 or 43% stated that they were studying Master of Education program major in Curriculum Instruction, 31 or 38% stated that they were studying Master of Education program major in Educational Administration, while 16 participant or 20% were from Ph. D program in the major of Educational Leadership.

Of the respondents, 30 or 37% of respondents were Thai, 52 or 64% were non-Thai students. This showed that in GSoE, the foreign students even more than the local Thai student. The faculty is highly internationalized.

20 or 24% of the students were 20-30 years old, 33 or 41% were 31-40 years old, 23 or 28% of the students were 41-50 years old, and 6 or 7% of them are 51-60 years old. At graduate education, more students are adults and they were more mature than the undergraduate students.

19 or 23% of the students were studying in GSoE less than 1 year, 41 or 50% of the students were studying in GSoE about 1-2 years, 18 or 22% of the students were studying in GSoE about 3-4 years, and 4 or 5% of the students were studying in GSoE about 5 years or up. Since master degree program was about 2-5 years, and doctoral degree students have about 6 years for studying duration, the results confirmed with the requirement.

And of the respondents, 8 or 10% of them were fulltime students, 12 or 15% of them were doing some part-time jobs, 41 or 50% of them were fulltime teachers working in educational organizations, and 21 or 25% of them were working full timely but not in educational organizations. The results showed that in GSoE, most of graduate students were current teachers or had fulltime work; therefore, most of students were studying and working at the same time.

The detailed report of students' demographics including studying program, nationality, age, year of studying at Graduate School of Education, and current employment status were shown in Table 1 as the below.

Table 1. *Students' Demographic Report at Graduate School of Education, Assumption University, Thailand*

Program	M.Ed(CI)		M.Ed(EA)		Ph.D(EL)			
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%		
	35	43	31	38	16	20		
Nationality	Thai		Non-Thai					
	<i>f</i>	%	<i>f</i>	%				
	30	37	52	64				
Age (years old)	20-30		31-40		41-50		51-60	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
	20	24	33	41	23	28	6	7
Years of studying at GSoE	<1 year		1-2 years		3-4 years		5 years or up	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
	19	23	41	50	18	22	4	5

Table 1 continued

Current Employment	Fulltime student		Part-time job		Full-time in an educational organizations		Fulltime but not in an educational organizations	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
	8	10	12	15	41	50	21	25

Research Objective 2: To investigate the students' learning styles, learning difficulties at Graduate School of Education, Assumption University, Thailand.

Investigation of the students' learning styles and learning difficulties found that the learning styles that selected by the graduate students from using the most to the least were: mixture of all the mentioned ways, group learning, self-learning, peer learning, and direct classroom learning.

As for the learning difficulties that the graduate students encountered in the study: work and study at the same time, pressure from coursework, English proficiency, different teaching styles, cultural difference were listed as the major difficulties(from top to low) for graduate students at Graduate School of Education, Assumption university. The detailed frequency and percentage of each item were shown in the following Table 2.

Table 2. *Investigation of the Student Learning Styles and Learning difficulties at Graduate School of Education, Assumption University, Thailand*

Learning methods	<i>f</i>	%	Learning difficulties	<i>f</i>	%
Mixture of all the mentioned ways	25	30	Work and study at the same time	30	37
Group cooperative learning	16	20	Pressure from coursework	19	23
Self -learning	15	18	English proficiency	21	25
Peer learning	14	17	Different teaching styles	7	9
Direct classroom learning	12	15	Cultural difference	5	6

Research Objective 3: To compare the students' learning experience between AU and their latest learning institutes.

For the difference of students' learning experience between studying at AU and their latest learning institutes, AU and their latest learning institutes were scored separately from totally 5 aspects concerning medium of instruction, internationalized learning environment, teaching, learning, and service, the total scores of 5 aspects were in the range of 5-25.

A t-test (2 tailed) comparison found that there were a significant difference of the students' learning experience between studying at GSoE, AU and their latest learning institutes, since the p value is .00, which is less than .01 even, while the t is -16.84 as the following Table 3 shown.

Table 3. *Students' Learning Experience Comparison between AU and their Latest Learning Institute*

Compare: Students' Learning experience at	Mean	N	Std. Deviation	df	t	Sig. (2-tailed)
Previous learning institutes	15.08	82	3.23	81	-16.84	.00
GSoE/AU	21.89	82	2.68			

Research Objective 4: To determine their learning satisfactions at Graduate School of Education, Assumption University, Thailand

Analyzing the last part of results from respondents' returned questionnaire determined that students' learning satisfaction level at Graduate School of Education, Assumption University, Thailand was about 4.17, which meant "satisfied".

As the Table 4 showed, students agreed "The learning experience from GSoE can add great value to my life". Students felt more satisfied especially because "The faculty members possess the warm and kind personality that students like to contact and available for student contact"; "The teaching and learning process is more student-centered"; and "The students have the opportunity to participate and engage in various active learning activities, such as trips, school visits, international conference etc."

Table 4. *Students Learning Satisfaction at GSoE, AU*

No.	Students Learning Satisfaction toward learning at GSoE, AU	Mean
1	The learning at GSoE provides the course and academic advance, and met my expectation.	4.00
2	The teaching and learning here are enjoyable and helpful.	4.05
3	The faculty members possess the strong knowledge and the expertise to help students studying in the whole program.	4.01
4	The faculty members possess the warm and kind personality that students like to contact, and available for student contact.	4.34
5	The teaching and learning process is more student-centered.	4.19
6	The teaching methods and class activities were appropriate, interesting, and effective.	4.00
7	The faculty has provided good service and assistance to students who are different in knowledge, skills, and needs.	4.06
8	The students have the opportunity to participate and engage in various active learning activities, such as trips, school visits, international conference etc.	4.12
9	The knowledge and skills learned from GSoE are applicable and useful in the workplace.	4.06
10	The learning experience from GSoE can add great value to my life.	4.75
Total		4.17

More details as Table 5 showed, the students from different studying programs, nationalities, ages, years of studying at Graduate School of Education, and current employment statuses have different satisfaction level. The following means score revealed that (1) The M.Ed (EA) students' satisfaction level is higher than the M.Ed(CI) and Ph.D (EL) programs;(2) Thai students in GSoE though not the majority but satisfied more than the non-Thai students; (3) Age group from 31-40 years old, are satisfied more than other groups;(4) The students who study less than 1 year satisfied more than others; (5) And last the fulltime students feel more satisfied compared with the part-time or fulltime working students.

Table 5. *Means of Different Students Learning Satisfaction According to Their Demographics at GSoE, AU*

Program	M.Ed. (CI)	M.Ed. (EA)	Ph.D. (EL)	
	4.14	4.20	4.10	
Nationality	Thai	Non-Thai		

	4.26	4.05		
Age (years old)	20-30	31-40	41-50	51-60
	4.11	4.23	4.10	4.03
Years of studying at GSoE	<1 year	1-2 years	3-4 years	5 years or up
	4.34	4.12	4.14	3.91
Current Employment	Fulltime student	Part-time job	Full-time in an educational organizations	Fulltime but not in an educational organizations
	4.31	4.23	4.11	4.03

RECOMMENDATIONS

Recommendations for GSoE, AU

From the study findings, there were several recommendations for GSoE to practice in the future, namely:

1. Since there are so many international students learning at GSoE, and the teaching and learning are in English, GSoE should organize more student activities so as to let the students understand the difference cultures and help develop their communication and interrelationship skills.
2. Since most GSoE students are working and studying at the same time, GSoE should concern the students' need, open more courses during the weekends, and encourage the faculty members to provide more office hours during the evening time (after they finished their work) or weekends.
3. GSoE should provide the new students an orientation or seminar before they start developing different and mixed learning styles in the studying time.
4. GSoE should provide guidance for the students who are really weak in English to improve their English proficiency either inside or outside of the campus.
5. Moreover, GSoE should provide more opportunities in the class or through students' seminars to train the students' academic English writing.
6. GSoE should encourage the faculty members to inspire the students who are fulltime worker to study hard or more with the right time management plan so as to help them finish their studying on time or as they expected at least.
7. GSoE should try to encourage the instructors use different teaching styles or ways so as to meet the needs of diverse students.
8. If possible, GSoE should invite some excellent graduates or alumni back to the faculty to give suggestions in terms of how to study more effectively in GSoE in the students' orientation or seminar time.
9. GSoE should continuously conduct some similar studies to see more of students' needs, learning feedbacks, and satisfactions.

Recommendations for the Future Research

1. This study is just a starting point to focus on graduate students learning at GSoE, AU, in the future, more deep studies or comparative studies among different schools, majors and universities even.
2. Survey of what kind of students' learning is most effective so as to build a learning/teaching model for graduate students at GSoE can be suggested to do later on.
3. A future study can interview the excellent graduates and survey the learning strategies concerning on how to deal with the possible learning difficulties.
4. Studies of students' satisfaction at GSoE can be continuously conducted with more concerns on its relationship between other variables.

CONCLUSION

1. Present GSoE had 2 master degree programs and 1 Ph. D program, the graduate students who were studying here are mostly adults with fulltime teaching jobs. The faculty had a highly internationalized student body.
2. In GSoE, the graduate students used learning styles from the least to the most were direct classroom learning, peer learning, self-learning, group learning and mixture of all the mentioned ways. Most of them felt they need to use all the mentioned learning styles at the different time in the study.
3. Work and study at the same time, pressure from coursework, English proficiency, different teaching styles, cultural difference were listed as the major difficulties(from top to low) for graduate students at Graduate School of Education, Assumption university.
4. There were a significant difference of the students' learning experience between studying at GSoE, AU and their latest learning institutes.
5. Students were generally "satisfied" with their learning at Graduate School of Education, Assumption University, Thailand.

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Researching a Virtual Community: Participant Observer or Participant Experienter?

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ABSTRACT

This paper addresses some of the research challenges that researchers may face in online studies along with the ethical dilemmas that need to be considered in collecting online data. The discussion in this paper is part of a methodology that was developed over years of studying a virtual community of a group of Iranian migrants residing in Australia. The discussion starts with the question: “where does the researcher stand in an online research?” and specifically addresses challenges such as online research setting, online participation of the researcher, and ethical issues that arise in online research. The paper reviews the culture of Internet research and differing opinions of ethical guidelines among cyberspace researchers. Part of the discussion focuses on the difficulty of classifying and defining online “public” and “private” spaces, and how researchers look at these two spaces in cyberspace. The paper concludes with a discussion of the complexities of online research and the role of the researcher in online research.

Keywords: Online research, Internet research, online research ethics, weblog ethics, virtual participation, participant experience.

INTRODUCTION

This paper presents some of the challenges and dilemmas that may arise in online research. The discussion is based on the methodology that I wrote for my PhD study at Massey University, New Zealand while working on a diasporic virtual community of a group of Iranian migrants in Australia. The question of where I was standing in the process of the research started when I could not obtain ethical approval from the University since I was already involved in the online community as a blogger. This was basically due to the fact that I had put the date of the data collection in the ethics forms from the very first day that I started the project by creating my own weblog, and this was enough to fail the first hurdle of ethical approval because the ethics committee believed that I had started data collection before seeking approval. But I had not collected any specific data and I was only an active blogger in the online community of Iranian migrants and was reading what other bloggers were publishing. Nonetheless, my interaction with the community, my active involvement as a blogger, and the observation of what was going on seemed to be problematic. This caused further complications as “participant observation” in the traditional sense of ethnography was

politically incorrect as I was not in touch with the bloggers and my focus was only on the virtual community and the way weblogs were used to express and share emotional challenges of life in the diaspora. Since I was only interested in the textual production of the bloggers and the way the Persian language was used to express emotions online, I could not be strictly described as “participant observer” in my methodology.

All the dilemmas present at the time motivated me to look into the available literature and find out how other researchers had approached Internet research in general and weblogs in particular. After reading a handful of research methodologies and papers in online/virtual research, I noticed more controversies than solutions as each researcher had approached the issue in a different way depending on the field they came from and the research questions they investigated. In what follows, I review and discuss some of the common challenges that researchers may face in online research, and then specifically focus on weblog research. As with many other studies on different aspect of the Internet, this may pose further questions for the reader.

ONLINE RESEARCH

Since scholarly studies on different aspects of Internet communication are relatively new, there seem to be few fixed theories, approaches, and methodologies that are specifically attributed to Internet research. This has encouraged researchers to draw on and adapt methodologies from other (offline) disciplines and apply them to online research.

Over recent years, there have been a growing number of studies on Internet technology and communication with the prospect of understanding the new media and its effect on everyday life (Hine, 2004). Most of the studies of Internet technologies have drawn upon traditional methodologies of quantitative and qualitative research with an attempt to adapt them to the new field of inquiry. Qualitative studies, for example, have been conducted using ethnographic approaches in order to study online social environments such as chat rooms, forums, online support groups and so on, applying techniques such as participant observation, analysis of chats and texts, or online interviewing and recording of the activities in different Internet communication groups.

There are a number of studies that have utilised qualitative research approaches in the analysis of the Internet (see for example Jones, 1999; Mann & Steward, 2000; Hine, 2000). All these studies discuss the methodological challenges that researchers may face in doing research on the Internet. Acknowledging the complexity of Internet technology, Hine (2000), for example, discusses the methodological issues regarding Internet research by questioning where Internet ethnographers should position themselves in order to conduct their study. She proposes two views in answering the question. In the first view, the Internet is considered a field site with its own cultural context where culture is formed and reformed, and ethnographers should do the fieldwork in it. In the second view, the Internet is considered as a cultural product in which the researcher’s concern is “interpretive flexibility” (p. 10) where ideas of the use of technologies are developed in context. Consequently, the ethnographic field is formed by local contexts of interpretation and use. Based on these two views, Hine (2000) suggests the combining of online and offline approaches in studying Internet technologies which is basically what she calls “Virtual Ethnography”. By using a new term, as Hine (2004) argues, the aim is not to introduce a new tradition as a replacement of the old but rather a method that includes both the assumptions at the foundation of ethnography and the features that are special to Internet technologies. In the old tradition of ethnography a researcher usually observes and documents the culture or an aspect of the culture of a particular group or community simply by considering their physical or geographical location. But this is not possible in

virtual ethnography since the Internet does not have any time and space boundaries delimiting Internet communities.

Although in virtual ethnography researchers try to combine the features of traditional or offline ethnography with that of Internet technology in order to harvest their data, the combination of these two is not without its own challenges and need to be addressed. This is the same with other types of online research as researchers may encounter some common challenges while doing online research. Some of these challenges may include defining the research setting online, the online participation/involvement of the researcher, and ethical issues that arise in online research.

THE ONLINE RESEARCH SETTING

Since the nature of the Internet does not allow individuals to interact face-to-face³, then the first question is where the Internet researcher should locate himself/herself as a researcher, and how the research setting should be defined. Focusing on ethnographic approaches to Internet research, Garcia, Standlee, Bechkoff, and Cui (2009) discuss three types of setting that are available to online researchers, and that should be defined in any online study. In the first setting, there is no offline contact among the members of the online community and the interaction among them is solely online. Therefore, researchers can only examine the online behaviour of the members. In the second setting, members appear to have some offline interaction with each other but their main contact and experience of that setting is online. In such cases, researchers again rely on the interpretation of the online behaviour because the major interaction among the members is online. The third type of setting is multimodal where there is a need for the researcher to conduct the study both online and offline. Therefore, both offline and online settings need to be defined.

While classifications like this may work in certain online environments, it is not practical for all aspects of the Internet. This kind of classification of online setting is good for cases where the researcher knows the participants and is aware of the degree of interaction/contact among the members both online and offline; otherwise defining any setting will be difficult without having online/offline clues. A very good case in point is personal weblogs. Normally, personal weblogs are published by individuals from the privacy of their rooms or offices. While each weblog may have some kind of connections via hyperlinks with other weblogs that a blogger visits/reads, it is very difficult to determine if the blogger has any offline association/connection with the writers of the hyperlinked weblogs. The only way that this can be determined is to find certain clues in the writing of the blogger that directly address the blogger's familiarity and contact with other bloggers. Furthermore, some bloggers may even not know that they are part of an online network/community and it is only the researcher who sees the connections among weblogs and their community formation. In such a case, a weblog or several weblogs on a certain network might be stand-alone weblogs and happen to be part of that network by accident through external links.

THE RESEARCHER AS A MEMBER OF THE ONLINE GROUP/COMMUNITY

Apart from the challenges of defining online research setting, other challenges such as how to collect online data need to be addressed. In order to collect the data the researcher needs to be present in an online setting, but this type of participation is different from the offline format as Internet technology is not space and time bound. In online participation the researcher needs to be

³ Here "face-to-face" is used to mean the traditional view of the term as opposed to online interaction as the Internet allows individuals to see each other virtually via webcams or the like.

actively involved in the activities that are going on in the group/environment being studied, and this implies that the researcher becomes an experienter in the process of data collection. Walstrom (2004) suggests “participant-experienter” as a replacement for “participant-observer” to describe the role of the researcher online. According to her, the participant experienter “entails the role of active contributor to the group being studied. This role specifically refers to a researcher who has personal experience with the central problem being discussed by group participants” (p. 175). The use of experienter seems to be more logical as it is not possible to directly observe the members of the online group, and the researcher has only the chance to experience what is going on in an online environment by being actively involved in activities such as reading the text, watching the visual cues, and posting materials.

A great advantage of being an online-experienter as a researcher is that it resolves the traditional issue of observer’s paradox (Labov, 1972), which normally happens with the physical presence of the researcher in offline research settings. Cyberspace provides the opportunity for researchers to be observers of online behaviours without any intrusion, which will lead to the collection of naturally occurring data. However, this depends on the type of online research setting and the role and the degree of involvement of the researcher. In cases where researchers acknowledge their presence in an online setting and/or seek “informed consent”, then they very probably disturb the natural research environment and this may affect the online behaviour of the participants. Thus, the only way to resolve the “observer’s paradox” is to be an online experienter in the research setting without acknowledging the researcher’s presence and research intentions.

Yet, another problem that arises is the issue of “lurking” in online research settings. Is it ethical to stay in the shadows in cyberspace as a researcher and collect data and publish the results? Online researchers have differing ideas depending on the type and kind of research they have been involved in. It might be said that if the online setting and the whole data collection procedure is public and the results do not affect the participants, then there is no harm in being a lurking researcher. For example, Brownlow and O’Dell (2002) state that “ ‘lurking’ can take place without detection if non-participant, covert observation is required, and without the various barriers associated with age, gender and race if overt participant observation is the goal” (p. 4). On the other hand, “lurking” can become ethically problematic in online research contexts such as “natural conversations in real-time chat rooms and on listservs” (p.5) due to privacy invasion. This kind of controversy leads the discussion to ethical dilemmas in doing online research.

Ethical dilemmas in online research

There are a number of concerns and dilemmas with respect to online research. Many of these concerns are the same as those that researchers face in real world research; concepts such as anonymity, confidentiality, privacy, and participant consent (Jankowski & Van Selm, 2001). Researchers who work in online environments have differing opinions of ethical guidelines that should be followed in studies of cyberspace. Sveningsson (2004) argues that the divergent opinions of Internet researchers may be owing to several reasons. First, the attitude of researchers toward research ethics depends heavily on the discipline and research background they come from. The second reason is the type of Internet environment which is used in a study. Each Internet research environment has special characteristics that demand different ethical norms and this means that researchers need to seek different advice from offline ethics when studying a particular environment. Nonetheless, in doing so, other questions may arise. By comparing the virtual environment with that of the offline world, it is still not possible to promote a set of conclusive ethical guidelines for all Internet environments as there might be different requirements within a specific environment. For example, if a researcher is doing research on weblogs, then the type of

weblog may demand specific ethical considerations. A third reason for differing ethical norms may originate from the focus of the research questions. Depending on the nature of the research questions in the same research environment, researchers may need a different set of ethical guidelines. This may happen, for instance, in weblog studies where one's focus is on the language of weblogs while another researcher is working on how identity is manifested in a weblog.

Based on the differing views of online researchers, Sveningsson (2004) offers four variations of Internet environment that need to be considered while doing online research:

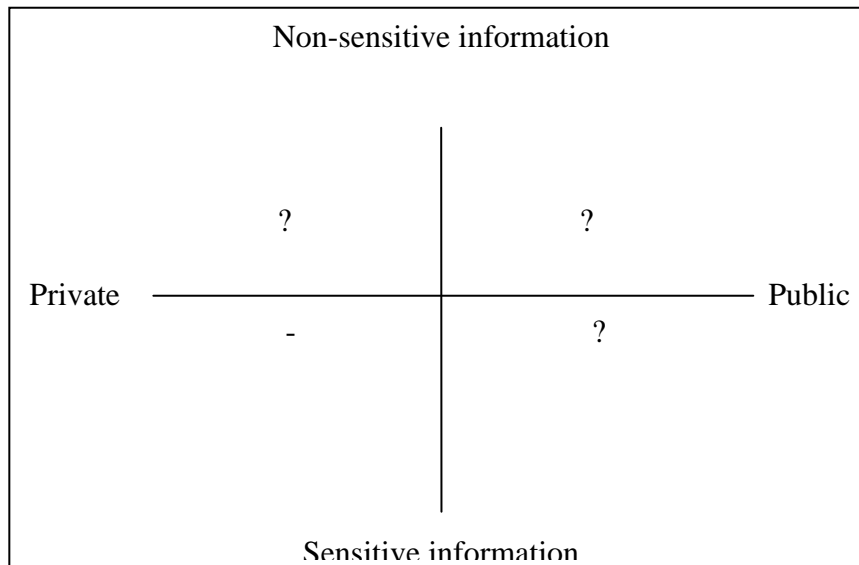


Figure 1. Variations of online environment (Sveningsson, 2004, p. 56)

As the figure shows, if the online environment is public and the information available is not sensitive, then it might be assumed that it is acceptable to waive ethical requirements. On the other hand, if the online medium is public but the information is private, then it will be wise to be careful about ethical norms. In cases where the online medium is private, researchers should have respect for people's right of privacy and do not collect data even if the available information is not sensitive. Furthermore, if the medium is private and the information is sensitive (left lower part of the figure), then it may become "forbidden fruit" (p. 55) to online researchers.

Sveningsson (2004) maintains that while the above classification of non-sensitive/sensitive and private/public may help researchers in their decisions in some cases, they are still problematic and may raise some questions. These questions can be regarding the definition of (non-) sensitive information and public/private aspect of the Internet. Who is the authority, for instance, to decide which information is sensitive or not? This might be obvious, as some researchers may say, in some cases such as rape victims online support groups especially if the identity of individuals is recognisable but not in cases where the sensitivity of information may be an individual interpretation.

Another difficulty is the definition of public and private spaces online. In order to distinguish the border between public and private space on the Internet various attempts have been made by online researchers. While some online researchers have come up with some kind of differentiation between the public and the private in online research settings (see for example Lessig, 1995; Allen, 1996), there is no general consensus among Internet researchers over what establishes these two spaces in cyberspace. Waskul and Douglass (1996) posit that these two spaces are defined based on

the degree of accessibility that the online space provides, and use “publicly private” and “privately public” (p. 131) maintaining that the private and public concepts are assumed labels for physical spaces which are applied metaphorically to online settings. Furthermore, they advise researchers to avoid defining public and private spaces in the hope that they can fit the research needs into the definition; instead, researchers should take into account the nature of the online setting and the degree of intrusiveness that the study aims at.

Herring (1996 cited in Bakardjieva & Feenberg, 2000) holds that different types of research imply different relationships between the researcher and participants, and hence different ethical requirements. She classifies the connection between research objectives and research ethics into:

1. Naturalistic where the researcher makes any attempt to minimise the disturbance of the natural setting of the research as much as possible;
2. Participatory when the researcher consciously wants the participants to reflect on and contribute to the research;
3. Consensual in cases where the researcher wants the participants to reconstruct their own view of the world;
4. And critical when the aim of the researcher is to expose the participants’ performance to certain criteria.

Each of the research classifications demands certain ethical norms that need to be taken into account. In naturalistic research, for example, the informed consent from the participants may affect the performance and thus the result of the study as they may perform differently; on the contrary, in a participatory study the researcher needs the conscious participation and reflection of the participants.

Based on the lack of general consensus among Internet researchers regarding the definition of private and public online spaces, researchers’ views regarding the definition of these two spaces may fall into three categories. First, there are researchers who believe that online archived materials which are publicly available can be used without the informed consent of the participants. This view relies on an analogy between online public spaces such as public forum, where the researcher can observe and record publicly accessible Internet content, with research on offline public spaces such as television or other public media. Second, there are researchers who maintain the idea that a lot of online materials are written publicly with a potential audience in mind, and hence can be treated as public. The third group is the researchers who believe that people need to be informed that they are part of a research project no matter how public their space is. This implies that in any type of online research, participants have to be informed and asked for consent if their online contents are going to be used.

WEBLOG RESEARCH

Although the number of weblog studies is growing, there is hardly any methodology or study that has specifically focused on ethical issues of researching weblogs. Part of the problem might be the fact that weblogs are treated the same as other online environments. However, weblogs can be as controversial as other online settings in any type of online research. Among the available literature Hookway’s (2004) work on ethical considerations for weblogs seems interesting as it highlights the nature of blogging and how to handle them in online research. Hookway (2008, p. 105) states that weblog researchers should “adopt the ‘fair game-public domain’ position” reasoning that they are “firmly located in public domain”. According to him, weblogs are in public domain not only because

they are available to the public but also due to the way they are defined by bloggers. He justifies his argument by asserting that bloggers write publicly for a potential audience although there might be exceptions where some bloggers make their weblogs private by activating features such as 'friends only'. Based on this reasoning, he concludes that weblogs which are publicly accessible may be called personal but not private.

Having discussed all the above issues regarding Internet/weblog ethics, the main challenge for me and my study was how to define my role as a researcher and how to justify my data collection procedures. My supervisors unanimously agreed that I could not use "participant observer" as I was not in direct contact with any of the bloggers in my study, and therefore no need for "informed consent". I was a blogger and weblog researcher publishing a weblog in/from the diaspora, and I was interested in what was published in other Persian diasporic weblogs in a "public domain". Yet, I needed to justify my data collection procedures and respect the bloggers and their online identity⁴.

In my search of an answer to my question I came across Bruckman's (2002) article on Internet research and found it a good fit for my study. I specifically considered her suggestions in the process of data collection as they seemed straightforward and easy to follow. She proposes four conditions for any online information which is supposed to be used as the target of any research:

the data are publicly archived;

1. the webpage archive is not password protected or does not require individuals to register in order to gain access;
2. the website policy does not prohibit it;
3. and the website does not include any highly sensitive topic.

Among the conditions, she maintains that if the first condition is not met, then the researcher needs participants' consent.

The weblogs in my study had all the four conditions; their archives were public, none of the weblogs was password protected or needed registration to access, they did not have any prohibition policy against the use of their materials, and the majority of their posts were about their life experience in the diaspora exclusive of any sensitive topic. In fact, all the bloggers were publishing their posts to share their experience with other Iranians and to ask for help on some aspects of their experience. Since these conditions were met, there was no need for participant consent form simply because the bloggers were publishing their weblogs for public consumption.

On the other hand, in order to be on the safe side I made every effort to protect the identity of the bloggers even though they were publishing in a public domain. In so doing, two measures were taken. Firstly, as the original data were in Persian and were translated into English for the purpose of the study, I did not bring into the study any original Persian transcript. In cases that data were needed to be in Persian, then I included the English transliteration. This way I reduced the chance of using the original sentences in search engines. Secondly, I did not disclose bloggers' online identities, and offline locations, and I did not use any IP, weblog address, and weblog name in order to ensure the anonymity and traceability of the bloggers.

⁴ In most cases, it was not clear if the bloggers were using real or pseudonyms as their weblog/screen names. Nonetheless, I still considered them as identifiers in cyberspace and an issue of identity protection.

CONCLUDING REMARKS

The above discussion of ethical concerns in online research shows clear contradiction among researchers in different disciplines, and researchers seem to be confronted with a range of potential ethical conflicts in doing Internet research. This makes it impossible to have a straightforward and unambiguous answer to the question of how to advance in online ethical considerations. However, what can be inferred, as Sveningsson (2004) points out, is that researchers should use their common sense and be aware of their role and the consequences of their study on their participants. This can be done by constant negotiation of the role of the researchers and reflection on the choices that they make in order to produce high quality research. In other words, it is the researcher and the online research environment that determines what ethical procedures to follow in order to achieve research of high quality.

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Tech-savvy Students: Implications for Teaching TESOL Online

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ABSTRACT

This paper focuses on online ESL language learners, their teachers and the relationship between the two. While recognising that online ESL language students come from a range of technical backgrounds, this paper is concerned with tech-savvy students generally born around the mid-1980s and the first to have grown up with computer technology.

Keywords: ESL learners, TESOL, online students.

INTRODUCTION

This paper focuses on online ESL language learners, their teachers and the relationship between the two. While recognising that online ESL language students come from a range of technical backgrounds, this paper is concerned with tech-savvy students generally born around the mid-1980s and the first to have grown up with computer technology. Digital natives are viewed by Prensky (2001) as 'native speakers of the digital language of computers, video games and the Internet' (p.1). In contrast, digital immigrants are viewed by Prensky as older individuals who have not been born into the digital world but who nevertheless are interested in using some of this new technology. As lecturers today mostly fall into this age group, it is likely that they may not be as technologically competent as their students. How does a technologically divided relationship such as this impact on student learning in an online environment? Earlier technologies, including the use of language laboratories, are briefly outlined, along with the factors that lead to the adoption of more sophisticated computer-based technologies in language learning or CALL (Computer Assisted Language Learning). Today this includes Internet-based technologies including email, chatrooms, online dictionaries, language websites, blogs and wikis, and interactive virtual reality. The focus of this paper is on tech-savvy students and the media/Internet tools that have become part of their everyday lives, in particular Web 2.0 technologies such as blogs, wikis, Social Networking Sites (SNSs) and virtual reality environments. It is the Web 2.0 technologies that have the most influence in language learning today and into the future (Harrison & Thomas, 2009; Sykes, 2008). Learning outcomes attributed to a range of Internet-based language learning technologies will be examined, along with the suggestion of an 'ideal' context in which these tools can be incorporated into teaching. This could include a fully online course or a blended learning environment that involves some face-to-face and online delivery. Factors that influence a student's level of motivation will be examined as well as the important role of the teacher in CALL or Internet-based language learning and the consequences of a teacher being significantly less technologically competent than the student. In conclusion the essay looks to the impact of future trends in second language learning

LITERATURE REVIEW

It is widely recognised that the Internet represents a major technological achievement for mankind with huge communication and social implications (Crystal, 2006), spreading its influence to areas such as education, business and the economy (Singhal, 1997). In the areas of second and foreign language learning the Internet represents the most recent of a string of technological innovations from tape based language laboratories of three decades ago to digitised audio technology. While the use of audio laboratories was a positive step in the incorporation of technology into language learning, there were several pedagogical shortcomings of this system (Singhal). This dissatisfaction eventually lead to a new approach in language learning, Computer Assisted Language Learning or CALL. In the 1990's language students were writing their assignments on word processors. By 2000 students were writing assignments on their multimedia-networked computers and at the same time accessing a range of information, communication and publishing tools (Lee, 2000).

Today, both the social and academic lives of students have been transformed by electronic resources such as online dictionaries, language videos, grammar checkers, email, discussion boards and chatrooms. Students commonly participate in blogs, wikis, and Social Networking Sites (SNSs) such as Facebook and MySpace. They are voice and text messaging over mobile phones and participating in virtual reality environments such as Second Life. In a study of undergraduates by Educause, released in 2007, it was found that nearly all participants owned a computer and spent on average 18 hours a week online doing study, work or recreational activities. One in 10 owned a smartphone and around the same number owned a PDA (personal digital device). While for most of them, technology is principally about communication – emails, instant messaging - they also used their computer to download music and videos (77.8%), play computer games (78.3%) and engage in social networks such as Facebook (81.6%), often on a daily basis (ECAR Research Study 6, 2007). These digital students have grown up with this technology, taking it very much for granted as an everyday part of their lives (Andone et al, 2006). Furthermore with such extensive use of these electronic tools, research shows that there has been a change in the cognitive functions of digital students (Andone et al, 2006; Barone 2003; Lai, 2011; Prensky 2001; Sykes 2008). Used to the 'twitch-speed, multitasking, random-access, graphics-first, active, connected, fun, fantasy, quick-payoff world' (Prensky, 2001 p. 3) of their video and Internet games they now become easily bored when exposed to the more traditional, passive methods of teaching. Barone outlines several significant behaviours in these students: they prefer to learn by doing and trying things out rather than by being shown; they are visual and social learners, comfortable with interactivity and connectivity with others and choosing to study in real or virtual groups; they enjoy instant communication and expect instant feedback. Today's students, according to Barone, think very differently from previous generations of students and because they view their learning environments as having no boundaries, they expect to have control over 'when, where, how, and how fast they learn' (Barone, 2003). With so many technological opportunities available to students what does the online classroom look like at present and how do students respond to the learning opportunities created?

Students studying online via Internet Learning Management Systems (LMS) such as WebCT or Moodle, can download study materials and use synchronous and asynchronous tools such as discussion boards and chatrooms. Online learning settings range from students in a traditional face to face classroom that also incorporates some aspects of online delivery (a blended or hybrid

learning environment) to students in a virtual classroom where they get together with their teacher in a fully online environment (Chapelle, 2010).

In contrast to LMS systems, Personal Learning Environments (PLEs) make use of Web 2.0 technology to enable students to develop their own Web-based applications such as Social Networking Sites (Harrison & Thomas, 2009). In these spaces participants learn a language using tools that many of them are familiar with in their everyday social lives: creating and sharing profiles, engaging in instant messaging and blogging and sharing photos and videos. Learners control their own learning in a decentralising process through 'rich social and cultural interaction with other learners' (p.121), and using asynchronous and synchronous Web 2.0 technologies.

Interactive virtual reality (VR) environments provide students with further opportunities for language learning and include collaborative virtual environments, such as Second Life, which allows multiple users to log on to the Internet site from their own computers where they can interact (verbally or by text) with each other in the virtual world in the form of avatars. Settings such as visiting a restaurant or attending a job interview could involve students interacting with each other and learning the language in an autonomous way where they can have control over the experience and receive instant feedback, (Jung, 2002). Motteram and Sharma (2009) describe a German language school where students and teacher get together for a face-to-face class then meet later in a virtual world such as Second Life for their next class together.

Whatever the degree of online learning environment it is clear that students today interact very differently within this type of environment and their style of learning in online environments is being reshaped by the tools and media they use every day (Dede, 2005; Harrison & Thomas, 2009). Using these tools, students are learning by 'seeking, sieving, and synthesizing' information (Dede, 2005 p.7) rather than relying on single sources from the lecturer or text book. Online environments also involve a degree of multitasking (Dede), a concept very familiar to the tech-savvy student who is quite at home researching on the Web while listening to their MP3 player, sending emails and texting several friends. However, while this form of multitasking may be seen as a formidable skill, Dede suggests that over a certain threshold it may result in cognitive overload and then become ineffective. How can this technology best be utilised in the language class to ensure its effectiveness and what are the benefits of this form of learning?

Several possible learning outcomes are attributed to CALL-based language learning (Singhal, 1997): while a student is engaging in online learning they are developing technical competency that leads to a greater sense of independence. Furthermore, in an online learning environment all students, including the shy and inhibited ones, are able to have input into discussions, in contrast to traditional classroom teaching where not all voices are heard. The Internet communication tools they are using, such as email and chat, provide them with opportunities to develop writing and communicative skills and foster peer interaction. Students in the online classroom, according to Singhal, can write freely without restrictions, exploring new ideas and expressing opinions. The fact that they sometimes need to use these skills on the spot, for example on entering a chatroom with other students from around the globe, constitutes further valuable learning outcomes, according to Fox (1998). In addition, Fox notes, the range of English that students are using on the Internet when emailing or contributing to discussion forums, appears to be a broader and more complex form than that spoken in conversational English.

Researchers have also noted an increase in cultural awareness amongst students through using Internet communication tools (Motteram & Sharma, 2009; Singhal, 1997). Emailing and chatting with native speakers and downloading resources from the target language country, enables students

to actively participate in the culture of the target language. Blogs, wikis and 3D virtual worlds provide further opportunities for the student to participate in 'an international language community that resembles real world experiences without leaving your own home or classroom' (Motteram & Sharma, 2009, p. 85). The Web as a search tool encourages higher order thinking skills in language students (Singhal). When students search for information they must scan, discard and evaluate material. Then the information needs to be developed coherently. When students are searching the Web it is as if they are exploring the real world and this can lead to incidental learning along the way.

Web 2.0 technologies have been hailed as potentially transforming education generally and foreign language learning in particular - enabling the learner to be an active creator of information (Harrison & Thomas, 2009; Lai, 2011). Instead of being handed lecture notes students may be required to add their own database of information to a Wiki and at the same time engage in rich social and cultural communication through social networking sites (Harrison & Thomas). The learner moves from 'knowledge consumer to that of knowledge producer' (Sykes, 2008, p. 530) – from a role of just a participant in the educational landscape to a contributor of that landscape. Motteram and Sharma (2009) point out that the production of information via Web 2.0 technologies links tool developers with the users that create the content and that this communication makes the prospect of language acquisition more successful as language can then be 'tried out in meaningful ways' (p. 88).

Social networking sites (SNSs), such as Facebook, MySpace and LinkedIn, are one of the most significant of the Web 2.0 tools, proving increasingly popular in the everyday lives of a wide range of age groups and cultures (Harrison & Thomas, 2009). Voigt, Barker, MacFarlane, Sawyer, and Scutter (2010) note the current increase in popularity of SNSs and that this has been particularly noticed by educators, many of whom see that social networking sites are creating new styles of learning with the current generations of learners. Opportunities for language learning are created when participants upload and share their profiles, send instant messages and comments, upload photos and videos and contribute to blogs. In addition to looking at how Web 2.0 technologies impact on learning, Harrison and Thomas (2009) believe it is also important to examine the affect that the users have on the technologies. As the user becomes more technologically competent, the tools themselves assume a lesser role in the actual learning taking place, and the learner takes more control over how they want to learn, choosing to build their own internet environments from the bottom up.

However technology on its own is not enough to make a difference – it is the lecturer's content knowledge and their understanding of language development and their students' needs that makes a real difference to learning (Motteram & Sharma, 2009). The lecturer's creation of an optimum learning environment is critical in assisting students' learning needs. It is suggested that the most important factors for successful language acquisition in a CALL environment are the student's attitude and motivation (Ushida, 2005). While studying online can offer the advantage of flexibility, it requires a degree of self-management which some students find difficult to achieve, the lack of which can lead to procrastination, a major problem for online students, as identified by Ushida. Motivated students however, according to Ushida, work well within the online instruction environment despite a frequently high level of anxiety at the start of the course. While students may become overwhelmed and frustrated in an online learning environment if their computer skills are not up to standard (Fox, 1998), they usually will improve during the course over time. Unexpected technical difficulties such as server problems, password difficulties, printer malfunctions and unexpected data loss can also be de-motivating for students, according to Kannan and Macknish (2000). Studies by Ushida show that even students that are computer literate can initially still feel

anxious about being in the unfamiliar learning environment of online delivery, especially if they are more used to face-to-face learning. It can take them much longer to get to know each other and to get used to the different way of interacting with each other. But what role do lecturer's play in the factors that influence a student's attitude and level of motivation?

From an educator's point of view the aim is for the student to develop a genuine interest in the subject that comes from within rather than from outside pressures such as homework and testing and for many language students the Internet appears to be providing this type of intrinsic motivation (Fox, 1998). In Fox's opinion, English language students in particular are further motivated when they realise that English is the predominant language encountered on the Internet. This gives them a real appreciation of the value of learning ESL (English as a Second Language) – a skill that will be valuable throughout their lives. The actual course, its content and how it is implemented, also play a vital role in a student's motivation. Ushida (2005) proposes that while it is clear that the motivation of a student is an important factor in the successful implementation of an online course, the reverse is also true – that an effectively implemented online course can increase a student's level of motivation in learning a second language.

Ushida (2005) recognises the important role of the language teacher in the creation of an online learning environment that enhances students' motivation. He outlines results from studies that suggest that a student's positive attitude towards their teacher can result in a positive attitude towards their language learning experience, regardless of whether the class is taught traditionally face-to-face, in a blended environment or fully online. Furthermore, the teacher determines what course materials to use and how to use them and how to teach and guide the students: these factors create a specific culture for learning that can influence a student's motivation and attitude. However this should not mean the lecturer taking a teacher-centred, controlling type of approach. With the integration of computer technology into language courses, now seen as common practice, the ideal learning culture should be a student-centred, constructivist approach where the student has more of an active involvement in their own learning, exploring and discovering content on their own using a wide range of technologies (Kim, 2008).

In addition to liking the teacher, students want to have adequate interaction with them. The ECAR study found that while students are enthusiastic about using IT in their courses, most want to have a degree of face-to-face time with their lecturers and peers. However one of the main disadvantages of online delivery is a resulting reduction in interaction between the teacher and their students (Trotter, 2002). Ushida agrees that teachers need to develop specific strategies to encourage interaction with the students. Mazer, Murphy and Simonds, (2007) suggest that the relationship between teachers and students is enhanced when they interact via social networking sites such as Facebook and that this can result in a positive learning experience for both. But what if the teacher is struggling to keep up with the necessary technological knowledge of an online environment and is perhaps reluctant to take on newer forms of teaching using technology?

Despite acknowledging that lecturers are more likely to use technology while students 'live' it, the lecturer can still implement programmes that enable the use of technology suitable for a digital native. Prensky's digital natives have grown up with the Internet and are very familiar with communication and information technology tools such as email, Internet, blogs, instant and text messaging, video computer games and Social Networking Sites (Thorne & Payne, 2005). These tech-savvy individuals expect to have constant and instant contact with peers and family through instant messaging or texting on their mobile phones. In contrast their teachers, generally born in an earlier pre-digital era, and referred to by Prensky as digital immigrants, may struggle in having the technical skills to teach these individuals and may bring a negative attitude about technology to the online

classroom. Thorne and Payne agree that the generation gap is widening between our students and teachers and that at least until the digital natives start taking on teaching roles themselves, students will continue to learn and process information differently to their teachers and will question the concept of the traditional classroom/teacher structure. They suggest that these students will use technology in several creative ways, even using it to get around institutional structures.

With the possibility that their students are more technically skilled than they are, it is important for teachers to have adequate training and experience in an online environment. However, according to Hubbard (2008), it seems that language teachers in general are leaving their training institutions with very little formal training in the use of technology in teaching language. Queiroz (2003) is concerned that if educators come from a background with little training and online experience they may try to simply replicate their traditional practices onto an online platform without fully utilising the benefits of the new media.

As well as technical skills, educators also need to have ongoing development of managerial and facilitator skills in the learning process, recognising that the educational paradigm of online teaching is one of student autonomy and that the student needs to be encouraged to take responsibility for their own learning. It's up to the educator, according to Queiroz (2003), to find ways to facilitate this learning process. Instead of the educator being seen as the fount of all knowledge he or she should share the searching for knowledge on the Internet with their students, forming a team in a cooperative learning environment. Kim (2008) agrees that teachers need to be encouraged to change their views on CALL, many holding to the traditional teacher-centred approach instead of the current student-centred teaching methodology. This may require quite a large shift in thinking for some individuals but a vital one for effective learning in an online environment. Research suggests that a teacher's poor handling of technology, whether it is underuse or even overdependence, can act as a barrier to a student's learning (ECAR Research Study, 2007).

While it has been recommended that higher education institutions use emerging technologies and effective professional development to match the evolving learning styles of students (Dede, 2005), teachers also need to keep in mind their learning goals (Stockwell, 2007). The digital age presents a challenge to teachers to take a responsible approach when choosing technology to support learning (Morgan, 2008). Teachers need to ensure that new technology such as that found on the Internet is compatible with teaching objectives. Too often, according to Bush (2008), when a new technology is discovered, thought is put into how it can be incorporated into learning instead of looking at the particular learning problem and considering how it could benefit from technology.

Research suggests that Internet technologies, in particular Web 2.0 technologies, will continue to have a significant impact on Second Language Learning (Sykes, 2008). Students can choose how and when they learn and also have input into constructing their own personal learning environments through the use of Web 2.0 technologies that are already part of their everyday lives (Harrison & Thomas, 2009). Interactive virtual reality offers the learner further opportunities to practice language skills in realistic communication settings (Jung, 2002).

While many learning outcomes have been attributed to Internet-based language learning including technological competency, writing and communication skills, fostering of peer interaction and greater understanding of the target culture (Singhal, 1997), we should also take note of the concerns expressed by some researchers.

The best technologically based learning environment, according to Motteram and Sharma (2009) is one where face-to-face and online teaching are blended and where both blends are pedagogically aligned (Ushida, 2005) – a learning environment that makes use of a range of Web 2.0 technologies,

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an in-depth understanding of Second Language Acquisition and teaching methodology, and an understanding of the student's needs (Motteram & Sharma).

CONCLUSION

Digital natives learn and process information differently to their teachers, questioning the concept of the traditional classroom/teacher structure (Thorne & Payne, 2005). They develop a sense of autonomy as they contribute to their own learning by using a range of Web 2.0 tools such as blogs, wikis and social networking sites, creating an interactive online community (Harrison & Thomas, 2009). A successful online language student is usually a motivated student who is supported in developing their computer skills, has sufficient interaction with their teacher and peers, is shown how to develop webpage search and evaluation skills, has developed an understanding of the target language culture, and has a positive attitude towards their teacher (Colaric & Jonassen, 2002; Motteram & Sharma, 2009; Singhal, 1997).

An effective online teacher, although a digital immigrant in this new environment, should be well trained in the use of technology and have excellent managerial and facilitator skills. They are clear on the teaching objectives of their course and the particular needs of their students (Queiroz, 2003) and carefully select technology that will be compatible with those teaching objectives. This leads to the creation of a learning culture that results in motivating their students, (Morgan, 2008) The effective online teacher recognises that in this new paradigm, they are no longer at the centre of the learning environment and the fount of all knowledge. They instead engage with their students as part of a team in a cooperative learning environment, Queiroz (2003).

In contrast to a student from three decades ago, sitting in a booth listening to cassette tapes, a future online language student will continue to cross the boundary between study and play as they practice their language skills via online games or in virtual learning environments that have been specifically set up to meet their learning needs (Sykes, 2008). They may decide to access their online language course via a mobile phone or personal digital assistant (PDA), mpblogging or vlogging material to their Personal Learning Environment and communicating with others via a social networking site. It appears that the Internet will continue to present possibilities for language learning well into the future, possibly in ways that we are not yet able to visualise.

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Quality Indigenous Education for Students in Rural and Remote Locations: Perspectives from Newly Qualified Teachers

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ABSTRACT

Most people would not dispute the need to improve education outcomes for our young Indigenous students in Australia. To make a difference, however, also means ensuring that our university graduates are competent in their knowledge and understandings about how best to teach Indigenous students to ensure best outcomes. This involves specific knowledge and skills about how these students may learn more effectively, and importantly, teachers' attitudes and expectations about 'raising the education bar' for Indigenous students. The study reported captured the perceptions, beliefs and experiences of thirteen teachers, all of whom completed a Bachelor of Education degree at the same Australian University. The participants are currently teaching Indigenous students in rural and remote primary schools in Western Australia. The overall aim of this research was to build a holistic picture of the reported key principles that constitute high quality education for Indigenous students. The study was qualitative and employed an in-depth structured questionnaire. The findings indicate that these teachers perceived the benefits of including a unit of work in the university undergraduate course that focused on teaching in rural and remote Indigenous communities. Teachers reported that to strengthen their practice the undergraduate course needed to include a greater focus on understandings about Indigenous culture and living in these communities, specific knowledge about Indigenous ways of learning, more emphasis on explicit teaching, particularly in the area of literacy and numeracy, knowledge about the Western Australian curriculum framework, the importance of Indigenous ways of dealing with behaviour matters at school, and the significance of quality student and teacher relationships

Keywords: Quality Indigenous education, rural and remote Indigenous education, pre-service degree course Indigenous content.

INTRODUCTION

The aim of this study was to draw on the experiences, beliefs and perceptions of thirteen recent graduates, from the same Bachelor of Education degree course in one Australian university, involved in teaching Indigenous children in rural and remote primary schools in Western Australia. The

knowledge and understandings gained from the research was to provide a sound basis for the introduction of an Indigenous education unit of work in a pre-service teacher education degree course. The intention was also to gain an overview of the knowledge and understandings needed by graduates to better equip them for teaching and working in Indigenous communities.

LITERATURE REVIEW

This brief literature review presents relevant research pertaining to studies, reports and discussions relating to the status of Indigenous education. It also explores possible ways to support Indigenous students' learning and, therefore, ways to support and prepare future graduates working in Indigenous communities.

Government and academic institutions are inundated with reports that discuss the significant 'gap' between the educational outcomes of Indigenous students compared to their non-Indigenous counterparts (DEEWR, 2008; MCEETYA, 2006). For example, the number of Indigenous students who achieve literacy and numeracy benchmarks is 20% lower than the figures for non-Indigenous students based on national data (Foley, 2007). In addition to this, there are poor levels of spoken English amongst Indigenous students, high absenteeism, and school retention rates are much lower when compared to the national average (Mills & Goos, 2007). Amongst the key social indicators, education is viewed by many writers to be the primary pathway towards reconciliation (MCEETYA, 2006; Reynolds, 2005). Despite the importance of education, the Federal Government admits that unacceptable disadvantages remain and gaps persist between Indigenous and non-Indigenous outcomes across the education sector (DEEWR, 2008).

There are many possible reasons for the significant difference in the educational outcomes between Indigenous and non-Indigenous students. One suggested reason is that schools have neglected the values and customs of Indigenous students and thus, diluted their identity (Reynolds, 2005). Ball and Pence (2006) suggest that another possible reason for the disparity of education outcomes between the groups may be the different ways Indigenous students learn in comparison to non-Indigenous students (Ball & Pence, 2006). Indigenous students are not as comfortable learning through enquiry-based learning strategies and prefer observation, participation and repetition (Harris, 1990).

In an effort to address the systemic challenges that plague Indigenous education (DEEWR, 2008), teachers need to be competent in their knowledge and understandings about how best to teach Indigenous children. This involves specific knowledge and skills about how Indigenous students may learn more effectively, and more importantly, discussing attitudes and expectations in relation to 'raising the education bar' for Indigenous children. A high number of the teachers in remote Aboriginal communities are recent graduates (Zevenbergen, Grootenboer & Niesche, 2009). These teachers are mostly from white, middle class, urban backgrounds and often they have had little or no interaction with people of other ethnicities and social class (Allard & Santoro, 2004). Despite this, Moyle (2005) states that university courses fail to prepare pre-service teachers to effectively teach Indigenous students because there is not enough preparation around Indigenous learning styles and knowledge about cultural contexts. Harrison (2008) asserts that understanding cultural ways is very important for teachers and this includes the matter of absenteeism. He explains how these students are expected to attend family business and this could involve attending a funeral, which for Indigenous families may last up to a couple of weeks.

Hooley (2009) suggests that pre-service teachers need specialist pedagogical skills to teach Indigenous students, such as further knowledge about explicit teaching, especially in the field of literacy. Explicit teaching involves directing student attention toward a specific learning goal in a

structured learning environment (Mellor & Corrigan, 2004). It involves modelling, explicitly explaining the task, including every logical step and 'thinking aloud' by the teacher (Mellor & Corrigan). Some believe this measure may assist in improving the dire literacy outcomes in Indigenous communities (Hooley, 2009). In addition to explicit teaching, some consider pre-service teachers need more Indigenous cultural awareness, such as training in Indigenous norms, morals, history, preferred communication styles and understanding of Indigenous communities in their teaching course (DEEWR, 2008; Foley, 2007; Mellor & Corrigan, 2004). The need to incorporate more Indigenous capital into pre-service teacher courses in Australia is of great importance if we are going to improve the systemic problems that plague Indigenous education in Australia (Mills & Goos, 2007). If pre-service teachers become skilled with a higher level of contextually specific cultural capital, this breaks down the barriers between the teacher and learner, and hence, the relationship begins to form (Mellor & Corrigan, 2004). The student-teacher relationship is paramount to learning, especially in Indigenous communities (Hooley, 2009).

As Harrison (2008) reminds us building positive relationships and understanding the cultural norms is critically important for Indigenous students. He contends that shame and embarrassment can easily be inflicted by teachers unknowingly. This can be triggered when students are signalled out, or when they speak out, because this type of behaviour can be seen as acting smart by others in the class and is seen as not appropriate (Christie, 1993). Shame is also considered by Indigenous students as a 'loss of face' with the others and this can occur if they are not able to read or correctly answer questions for the teacher (Munns, 1998, p. 181). As Munn states this may mean that Indigenous students shy away from 'having a go' at answering questions and doing their work.

Pre-service teachers also need the practical information one requires to function effectively in a remote community (Moyle, 2005). Pre-service teachers are not typically prepared to live in such communities and this may partly explain why the teacher turnover in remote Indigenous communities is so high (Zevenbergen, Grootenboer & Niesche, 2009). The literature indicates that universities must do more to equip pre-service teachers with the skills to effectively function in rural and remote Indigenous communities.

METHOD

The 13 participants in the research included recent graduates from the same Bachelor of Education course and university, who were teaching in rural and remote Indigenous schools in Western Australia. The study was qualitative and employed a structured questionnaire. The choice of this type of questionnaire was determined by the need to gain in-depth understandings about how best to promote Indigenous students' learning and engagement. It also concerned gaining insights from these recent graduates about their knowledge, beliefs and perceptions relating to the necessary pedagogical skills and understandings to effectively equip them for their work in these Indigenous contexts.

Data from the questionnaires were analysed thematically and coded to identify main themes and sub themes in relation to these teachers' knowledge and understandings about Indigenous culture, identity, learning and engagement, and living conditions. The analyses also considered and mapped the content that research indicates ought to be considered to support high quality teaching of Indigenous students in rural and remote areas and, hence, in the pre-service teaching degree course.

FINDINGS

Culture

The results from this study found that all graduate teachers had either limited or no knowledge of Indigenous culture prior to arriving at the location. Of these teachers 40% commented that there limited knowledge about Indigenous ways came from holidaying in locations where there were high Indigenous populations. Another 40% stated that their knowledge of Indigenous culture came from the media and 20% reported that they gained some understanding through their school studies. As one graduate teacher stated:

I have never lived in a community where there have been Indigenous people. The only experience I have had is from visiting family in a town in New South Wales where Indigenous people are a problem. #1

Another graduate teacher commented:

Through my internship I was able to develop awareness and knowledge and I felt happy to stay and work in the community. Before my internship, my knowledge was not a lot. I knew the general Aboriginal history, but knew little of community culture today. #5

When the graduates were asked if there were things about living with Indigenous populations that would have been useful to know more about prior to going to their current location, 75% mentioned Indigenous cultural norms. As one teacher said:

The concept of time is an important aspect of understanding about how things work but it is really different here because the values in the community are different to what I'm use to. The people can be quite transient here and sometimes if students don't turn up it's not necessarily something you or somebody else has done because it might be a family issue. For example, sometimes they have to go to funerals, which are often out of the community and so families can be away for weeks. #6

Another graduate talked about the need to be respectful about Indigenous ways of dressing. She said:

In some communities it is not appropriate for women to expose their thighs so a good idea is to wear board shorts, especially when you go swimming. #10

The other 25% commented that it would have been beneficial for them to know about the Indigenous living conditions in remote and rural areas. As one teacher reported:

The physical state of the community did give me a shock, there is rubbish everywhere, run down and dirty looking houses and cars, tattered looking camp dogs, bikes and prams left on the side of the road. For me I find it hard to deal with the way the people look after their belongings out here, which is not very well. #5

Pedagogy and Curriculum

In relation to graduate teachers' perceptions of learning issues specific to the location 80% stated that the area of literacy was the greatest concern. The following quotations from several of these teachers highlight the literacy challenge that they encountered.

In my kinder-prep class it is a big issue that the kids are coming to school with minimal English. It is very daunting at the beginning of the year, thinking that I needed to start from scratch with just about everything. How to hold a book, count, write their name, go to the toilet, sit on the mat properly, the meaning of yes and no and every other English word! #5

Literacy is a major problem. Many don't have letter/sound awareness. Some parents may speak a fair bit of Aboriginal English, so the students do too. Also parents and families are fairly uneducated so home readers are rarely done or brought back to school. #1

For 20% of the graduate teachers absenteeism was a dilemma for them in terms of learning issues for the students they were teaching in the rural and remote locations. The nature of this issue is shown below in a vignette:

Students in my school and not made to attend school and because of this, at least half of the students in my class have an attendance average of below 40%. Their learning is way behind the majority of students of their age. Most of my students, who do come to school, are learning at a very low level. #4

In relation to Indigenous students' learning one teacher said:

Sometimes students will just get up and walk around the room. It is not necessarily because they are bored or upset. These people in general are active and like to get up and about. They like to see what is going on and watch a lot. #6

When asked about actual teaching strategies for the Indigenous students they were teaching 87% of the graduate teachers reported that there was a great need for explicit teaching, particularly in literacy and numeracy, something that they were not aware of prior to working with Indigenous students. As one graduate stated many of these children have different ways of learning.

Indigenous students learn best with explicit teaching methods and structured processes rather than inquiry base ways. When I teach reading and writing the process needs to be broken into small steps to make it easier for the children to grasp. #7

One teacher mentioned that she wished she had known more about how Indigenous students learn best, because she was only knowledgeable about inquiry based methods. She said:

From a literacy perspective a scaffolding method would have been good to be told about prior to teaching in the location. Inquiry learning or student centred learning places huge demands on Indigenous students who are not familiar with traditional school settings and discourses. #2

The other 13% of graduate teachers stated that there was a need to know about behaviour management strategies. As one teacher commented:

With the Aboriginal families in the school it is handy to know which students are related. Some boys can get quite rough and have a punch up, and one time I went over to stop it and one of the older Aboriginal boys said to me, "Nah miss leave em, dah brothers." Sometimes the teachers just let them sort things out for themselves because they have ways of doing this that are different to how we would deal with it. This is where it is useful to have Aboriginal aides in the school. Families are very strong within this community. You have to stay firm and strict at all times but often it is still chaotic no matter how good a teacher you are. #1

Other teachers said:

It's really important not to single kids out because this is a sense of embarrassment for them and even shame. You have to give them lots of positive feedback and also let them know of your high behaviour expectations. As a teacher you need to have a strong relationship with the students and help them to have a strong sense of self and connection to their community. #3

You have to be firm but fair it's all about being direct and following things through. #6

Seventy-five percent of the graduate teachers reported that they were not very familiar with the Western Australian curriculum framework prior to teaching in the Indigenous location. More than

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half of these teachers considered they needed to be better prepared in this area of teaching and the following comments highlight this concern.

I had an understanding of the Tasmanian curriculum, which was useful for knowing and understanding the outcomes and levels. It took me a long time to get used to working with and understanding the WA curriculum. #5

I was not familiar with the WA curriculum like I was with the Tasmanian curriculum. #6

The other 13% percent of graduate teachers mentioned that they had some understanding of the curriculum in Western Australia. As one teacher commented:

We operate under a pretty mainstream curriculum here and I didn't really know much about the content – but in fact in might be better if the actual curriculum was adapted to better meet local conditions. #13

DISCUSSION

Culture

The aim for all teachers working in rural and remote Indigenous communities is to promote better educational outcomes for the children. Yet this was problematic for the graduate teachers in this study because they arrived at these locations having little or limited knowledge of Indigenous culture and ways of living, along with a lack of understanding about how these students learn best and the need for explicit teaching strategies. If Government and academic institutions are concerned about the significant 'gap' between the educational attainment s of Indigenous students compared to non-Indigenous students (DEEWR, 2008; MCEETYA, 2006), then it is important for graduate teachers working in rural and remote Indigenous locations to have sound underpinnings and effective teaching strategies to teach in these locations.

Recent discussions about reconciliation (MCEETYA, 2006; Reynolds, 2005) have also emphasised the need for teachers to improve their knowledge, understandings and skills to teach Indigenous students. They are also expected to incorporate into the curricula Indigenous viewpoints on social, cultural and historical matters, but as the graduates from the study reported they had little knowledge of Indigenous ways. As Batten and Batten (2011) assert Indigenous disadvantage remains a great concern in Australia and despite decades of government intervention the gap is widening. As some researchers highlight one way to help close the gap is through high quality education programs for Indigenous children (Ball & Pence, 2007; Foley, 2007; Harrison, 2008).

Pedagogy

As the current study shows pre-service teacher education courses need to emphasise the importance of working with Indigenous children's strengths and ways of knowing. The findings from this study highlight how graduate teachers entered the teaching profession in rural and remote Indigenous locations requiring more knowledge about how these children may learn best. This was emphasised when these graduate teachers reported that it would have been beneficial for them to know about the need for a greater focus on explicit teaching methods, as opposed to enquiry based learning. This strategy is further supported by Harris (1984; 1990) who purports that Indigenous students learn in different ways compared to non-Indigenous students. He asserts that Indigenous students are not as comfortable learning through enquiry based teaching strategies, but prefer supporting strategies that include observation, modelling, participation, and imitation, rather than listening and talking. Harris (1984) contends that their learning is more immediate and not a highly conscious act or thought process. He reminds us that Indigenous children have a propensity to learn

through watching, which may occur over long period of time, before they will attempt to 'have a go' at the task. Harris also states that Indigenous students tend to learn through trial and error, which is a different from teachers providing instruction through words. This way of knowing was also reported by a number of graduates in the study with their statements about the students watching to see how we do things over and over again, rather than listening to instructions about how to complete the task.

The study reported here also indicated a need for graduate teachers to know more about the interrelationship between cultural norms and behaviour management. As Harrison (2009) purports Indigenous children are encouraged to be self-reliant and to learn through their actions. His statements are supported by the findings of the current study, particularly about older Indigenous children being reasonably independent concerning daily matters and the expectation from parents is that, if needed, they will make decisions for themselves and their siblings. Harris (1984) contends that life at school for these Indigenous children is vastly different from their home ways, because at school they are monitored, the day is organised and they are disciplined by the teachers.

Curriculum

The graduate teachers were acutely aware of the differences in standards attained by the Indigenous children in these rural and remote areas. Some made a comment about how these children were well behind with their literacy and maths and that they eventually realised their way of teaching was not highly effective for these students. The graduate teachers commented on their need to be more focused and deliberate with their teaching, particularly in these curriculum areas. Harrison, (2008) agrees that this more explicit approach is popular with Indigenous students because it helps tasks to be broken down into more manageable components. He suggests that in this way they can learn one step at a time, and this mode of learning for literacy and maths was a finding from the current study.

Other contributing factor to possible lower educational outcomes for Indigenous children may be exacerbated because of high absenteeism rates. As Mellor and Corrigan (2004) state it is obvious that if students do not attend school day after day they will not be successful. For some graduate teachers in the current study this was a real concern and an unsolved issue that needed to be addressed. According to Ball and Pence (2006) teachers need to understand the critical importance of engaging Indigenous students in their school work. They purport that this can be encouraged by considering the cultural lens of the particular community because it is important that these children can study in an environment where their beliefs, tradition, language and cultural practices are valued and respected.

RECOMMENDATIONS AND CONCLUSION

This study highlights the need for pre-service teachers intending to teach in rural and remote Indigenous locations, upon graduation, to gain prior knowledge and understandings of how Indigenous students engage with learning in formal schooling. A recommendation from this study is to encourage these pre-service teachers to complete a practicum experience in a rural or remote Indigenous location. During this professional experience a requirement could be for them to keep a journal of their experiences and perceptions. Perspectives may then be viewed and voiced through multiple lenses addressing different aspects associated with living and teaching in rural and remote Indigenous locations. Encouraging conversations and sharing reflections about the importance of building trusting relationships with the children, families and community, and how best to improve educational outcomes for these Indigenous students, particularly in the areas of literacy and

numeracy, would be another enhancement. In gaining greater insights about teaching in rural and remote Indigenous locations, graduate teachers have the opportunity to be better prepared for this teaching environment. These lived experiences and rich understandings could be documented for research and future teaching purposes and shared with other pre-service teachers and interested parties.

Another consideration is to encourage pre-service teachers who have an aspiration to teach in rural and remote Indigenous locations, to successfully complete a specifically designed and developed unit of work about teaching in these areas. If the content of this unit included topics about cultural contexts and differences, building trusting relationships and Indigenous ways of knowing and learning, behaviour management understandings, language diversity, and strategies for improving educational outcomes then these newly qualified teachers would be better equipped to promote best learning outcomes of Indigenous students. With these skills in their toolkit, teachers may be able to promote a welcoming, nurturing and engaging educational environment for these students. Connecting to communities by building strong partnerships with the families and recognising that it takes a village to raise a child may hugely contribute to better education outcomes for these children.

These recommendations provide a window of opportunity for pre-service teachers choosing to teach in rural and remote Indigenous locations to gain insights into teaching and living in these communities. We know that teachers need to be knowledgeable about how best to teach Indigenous students (DEEWR, 2008), so that justice prevails and the educational outcomes of these children mirror their non-Indigenous counterparts (MCEETYA, 2006).

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Implementing Humour in ESL Classrooms

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ABSTRACT

Humour is considered to be a type of art due to its ability in representing the understanding of human communications. It is not limited in language or words, but also related to the meaning of different culture backgrounds and unwritten messages. This paper focuses on the generic structure of jokes. On the basis of the theories of humour, sense of humour and laughter research, the paper aims to understanding on the inherent characteristics of narrative jokes. As humour is considered to be a great motivating factor, using humour in English as a Second Language (ESL) classroom can bring- considerable opportunity to teach linguistic knowledge, intellectual ability and cultural awareness. Therefore, this paper hopes to provide strategies for incorporating humour into ESL teachers' pedagogy.

Keywords: Theories of humour, ESL teaching, linguistic and cultural awareness.

INTRODUCTION

The topic of humour has been researched for centuries. More specially, researchers have been working on humour study in numerous sub-fields, such as literature, sociology, psychology, and linguistics. The styles of humour have gradually developed into an extraordinary and independent discipline. Research humour helps people not only to understand the nature of humour, but also to introduce people to appreciate the amusing daily life and achieve better intercommunication. Also, research on humour has mainly been conducted by philosophers and literature critics for many decades, while only in recent years, it started to receive more attention from linguistics, sociologists and psychologists. The theories of humour can be classified into three categories: superiority theory, incongruity theory, and relief theory. These theories would be introduced in this paper.

THEORETICAL PERSPECTIVES OF HUMOUR

SUPERIORITY THEORY

Why do people laugh when watching somebody had a mousse cake slapped into their face or slips over a banana skin on a TV show? According to superiority theory of humour, when people recognise something that seems stupid, ugly, misfortune or infirmity, could come into having superior feeling from those "losers" comparatively, hence could generate amusement and laughing (Goldstein & McGhee, 1972). The superiority theory was initially proposed by Plato (424/423 BC - 348/347 BC) and Aristotle (384 BC - 322 BC) in ancient Greece. It was also called disparagement theory. Plato believes that the humourists demonstrates on the basis of their better observation

ability, background and culture knowledge to discover others' ignorance, vanity and hypocrisy, then to look down upon them; while later Aristotle states that laughter principally comes from the reaction of others' disadvantages and ugly appearances (Millicent, 2002).

Hobbes (1840) in the later generations promoted the most famous version of the superiority theory, which contributes an outstanding expression to this concept and suggests "that the passion of laughter is nothing else but sudden glory arising from some sudden conception of some eminency in ourselves, by comparison with the infirmity of others, or with our own formerly" (Hobbes, 1840). He points out that the objective of laughing at others' weakness and having the superior feelings is the promotion of self-esteem. It could be seen that Hobbes's expression on the superiority theory is more likely a theory of laughter rather than a theory of humour. Moreover, Levine (1977, as cited in Mio & Graesser, 1991) believes that laughter is derived from the internal delight which is the sense of control and the sense of mastery gradually formed in the toddler period; for adults, while facing the situation which could arouse the anxiety, individuals usually evoke the acquainted sense of mastery and the sense of control, such as when manipulating humour. Therefore, in Levine's idea, the feeling of humour could be perceived as the joyousness that comes from the controlling and self-reinforcement.

In the further study of the superiority theory, Holland (1982, as cited in Mark, 2002) believes that the objective of laughing is not only for glorying people's self-superiority, but also a strategy to minimise the threat suffered by people. Overall, the superiority theory expresses as a pattern of favourable fitting agreement when individual suffering threats, whether the pressure comes from people themselves or relationships with others, the sense of humour can greatly enhance the self-esteem and self-inherent strength, and thereby protect individuals' health and sense of security.

INCONGRUITY THEORY

The concept of incongruity was proposed by Immanuel Kant (1724 -1804) two centuries ago. Kant (n.d., as cited in Earman, 1991) points out that from the psychological aspect, humour is derived from the situation in which the hope or expectation crushed and therefore people burst into laughter. According to Kant, the so-called laughable things always exist within absurd, nondescript and incongruent situations, which usually come as a surprise or suddenly change people's psychological expectations.

The incongruity theory is currently one of the foremost humour theories. It emphasises on the cognitive characteristic of humour. This theory explains that things can be humorous because the incidents (such as language or body movements) are not incongruent with people's expectations, and therefore attract sudden cognitive efforts to solve the perceived mismatches (Lippman & Dunn, 2000). Once these mismatches are settled, this circumstance is cognised as humour. The incongruity theory emphasises the rational levels of humour and advocates the humorous feeling for the receiver. It is generated in the cognitive process to combine the two ordinary and completely disagreed concepts, viewpoints or circumstances together in a way as a surprise or excitement. The expectation of regularity or habituation suddenly been crushed could cause the situation of incongruity, and this helps people to get break out and release from the continuous rational activities; hence, the effect of humour comes into being.

The incongruity theory advocates that the incongruent settings representing in the humour genres are the essential element to produce amusement. Beattie (1976) states that humour integrates two or more sections which are incongruent, inapt or unconformable as a complicated entirety. Martin and Lefcourt (1983) believe that the nature of humour primarily comes with the concept of twists being opposite to one another and the circumstances appear with the modality of none expectable

or unsurprised. Meanwhile, there are also some scholars trying to support the incongruity theory by empirical research. The most famous one might be Nerhardt's (1976) "weight change experiments". In the experiment, the participants were required to lift up a series of objects and try to estimate the objects' weight. While at the end of the experiment, there was an object which had the appearance exactly the same with a previous one but a totally different weight. The result demonstrated that the bigger gap is between the expected weight and the real weight of this object, the more likely that the participants would come into laughter. Hence, Nerhardt (1976) advocates that, in a circumstance that is safe and none threatened, when an individual's expectation is incongruent with the actual consciousness, humour would be generated.

RELIEF THEORY

Relief theory is expanded from a process of extrapolation within the "hydraulic" theory of nervous energy, which was proposed by Spencer (1860). The crucial viewpoint of the relief theory is that the surveillance of a behaviour or condition attracts a development of nervous excitement or intensity, and then the amusement could be discovered in the liberation of that intensity. It presents the basic notion that laughter attend to release restraint energy. Spencer (1860) constructs the relief theory in accordance of nervous and muscular excitement:

That laughter is a form of muscular excitement, and so illustrates the general law that feeling passing a certain pitch habitually vents itself into [...] action, scarcely needs pointing out. It perhaps needs pointing out, however, that strong feeling of almost any kind produces this result. It is not a sense of the ludicrous, only, which does it; nor are the various forms of joyous emotion the sole additional causes. (Spencer, 1987, p. 104)

Freud (1905) develops a coarser grained version of the relief theory of humour in *Jokes and Their Relation to the Unconscious*, and an updated approach. He (1905) believes that with the accumulating of the periods, the inherent energy of human (self-centripetal force, such as sex or attack, etc.) would steadily accumulates to cause the situation of unbalanced psychodynamic perspective. The energy which caused these unbalanced situations should be released or mitigated, but the control of superego would push and make this energy not to be easily liberated. Freud (1905) considers humour as a means of "cheating over the censors" and names it as the internal suppression, because humour helps people to control many internal drives of human animality. According to Freud (1905), as long as these suppressed thoughts are tempted or released hostility in some ways, the "censors" will consider these impulses are negatively taboo and stop them to be activated. Hence, he believes that this kind of temptation achieves through humour behaviours, and jokes are a proper channel to release these internal primitive (Freud, 1905).

In addition, Freud (1960) discovers that the contents of jokes mostly lurk for the ignorance of people, the criticism of traditional social system, or the statement of sex. These kinds of jokes could create more challenges for the ethics, but more easily amuse people. Humour is the top defence mechanism, especially when individuals facing embarrassing situations, humour could protect them from being trapped in unpleasant emotions. Research conducted by Herzog and Larwin (1988, as cited in Gerard, 2001) states that humour contents mostly carry with some concepts which suppressed by the social ethics, such as sex, assault, ridicule and satirize, etc. On the whole, the relief theory represents that humour possesses the function which could satisfy human internal impulses and desires, as well as expresses individuals' attitudes and values.

THE CONCEPT AND THEORETICAL BACKGROUND OF GENRE

A “genre”, takes the meaning of “style, class or kind” in the most generalised definition. According to Chandler (1997), the English word “genre” was directly copied from French, but the prototype of the word “genre” was imported from the Latin word “genus” and originally derived from the Greek word “genos”.

The concept of genre early emerged in Plato’s mimetic principle (Sörbom, 2002) and derived from Aristotle’s *Poetics* in ancient Greek. The perception of genre was directly responsible for the discussion of manners of imitation in poetry. Aristotle (1961) states,

For the medium being the same, and the objects the same, the poet may imitate by narration- in which case he can either take another personality as Homer does, or speak in his own person, unchanged- or he may present all his characters as living and moving before us. (p. 53)

According to Aristotle, the structure of the poetry could be identified and imitated. Even the style and the poets’ individuality could be followed to create new works under the specific genre context. Aristotle (1961) established the fundamental framework of genre and defines the convention of genre in a historical observation. Conventional explanations of a genre tend towards the conception that some inherent elements build a particular convention of the style and content which are allocated by the self-belonging text (Chandler, 1997). For example, a story about love is expected to contain the hero and the heroine, the romantic events, sinuous or smooth plots, and a happy or teary ending. As Allen (1989) notes, “...for most of its 2,000 years, ... [genre] has taken as its principal task the division of the world of literature into types and the naming of those types...” (p. 44). Under the genre theory from Aristotle, dramas, lyric and epic are classified base on the independent particular content and the usage of the medium, such as comedy and tragedy are concluded in the category of drama.

In the modern concept of genre, the *Oxford Advanced Learner’s Dictionary of Current English* (2005) defines the word “genre” as “a particular type or style of literature, art, film, or music that you can recognize because of its special features” (p. 646). Simultaneously, other scholars suggest that there could have various theoretical disagreements to define the specific genres (Chandler, 1997). For example, Feuer (1992) notes that a genre could be the most ultimate abstractive concept than existing empirically others in the world. The contemporary concept and theory of genre has considerably updated and developed than in the ancient period.

Genre is widely introduced and practiced into rhetoric and linguistic field in recent studies. Swales (as cited in Malmkjær, 1991) describes a genre as “a more or less standardized communicative event with a goal or set of goals mutually understood by the participants in that event and occurring within a functional rather than a social or personal setting” (p. 166). As genres are not independent entities, yet actually interact and connect amongst themselves intimately, academic scholars evaluate genre as a rhetorical instrument to provide both the author and the reader more freedom to choose. For example, according to Chandler (1997), in some circumstances, genres could deeply affect and frame readers’ comprehension of a text. Genres provide considerable structure of reference to help public to select, identify and comprehend the meanings of the text. Buckingham (1993) also believes the conventions of genre which associating with the structure of the specific patterns are usually generate implicit agreements among the authors and the readers.

Moreover, some contemporary theorists believe that the traditional explanation of genre tended to consider genre as a formalised object, but in the current theory, the function and the form of a genre is regard as changing dynamically (Chandler, 1997). For instance, the art, such as comedy and

tragedy is usually used to comment or reflect on the ordinary lives of people. As Todorov (as cited in Swales, 1990) argued, “a new genre is always the transformation of one or several old genres” (p. 36). The implementation of genre as a dynamic tool can help the public to comprehend the unpredictable artistic creations. Furthermore, Perry (2009) defines a genre in the perspective of social communication functions that “Written genres are social constructions that represent specific purposes for reading and writing within different social activities, created by social groups who need them to perform certain things” (p. 258). It can be seen that genre is an objective social need that reminds us to notice the social nature from the textual meanings.

THE SIGNIFICANCE OF IMPLEMENTING HUMOUR IN ESL CLASSROOM

For centuries, scholars from western countries researched on humour from sociology, philosophy, psychology, cognitive sciences and linguistics field, and then gradually developed the humour theories to explain the nature of humour and its function from different positions. According to Salvatore (1994), verbal humour refers to humour that is constructed by various linguistic techniques through pun, satire, irony, hyperbole, periphrasis, oxymoron, spoonerism and synecdoche method. For the reason that linguistic humour is closely related with word appreciation, in recent years, researchers began to pay more attention to humour functions on the second language learning by improving learner’s understandings and concerning for the language forms (Sullivan, 2000) believes that the implementing of humour could improve.

Humour is a language of art, as well as a behaviour characteristic. In terms of psychology, people are mostly fond of humorous stories and appreciate others who have a sense of humour (Deneire, 1995). Most students who study English as a second language (ESL) or foreign language (EFL) have great enthusiasm and interests at the very beginning (Medgyes, 2001). However, along with the increasing degree of difficulties, some of them would start to feel the language learning to be boring, and may gradually lose their interests and confidence. Hence, it is suggested that humour as a teaching technique and strategy could be introduced in the ESL classroom. Gorham and Christophel (1990) believe that humour does not only help reduce the anxiety in the language learning process, but also help enhance learners’ understandings of vocabularies, improve memorise efficiency, break down the stationary state at the inter-language stage, and facilitate the further development of language learning.

Appropriate use of English humour and jokes in the ESL classroom can help improve teaching quality (Brown & Gibbs, 1990; Richardson, 1989; Schmitz, 2002; Zajdman, 1993). An ESL teacher who possesses a sense of humour would stimulate students’ sentiments and arouse their joy and laughter. It would help the students to gain a psychological enjoyment and pleasant sensation, then to arouse students’ interests and initiative. A sense of humour can also help the students to acquire further comprehension and memory for the knowledge, so as to improve the efficiency of classroom teaching. In this way, the teaching would have more “personal charm and sapiential lustre”, and therefore abstract and complicated teaching contents could be presented in a more vivid and interesting mode, and higher classroom efficiency can be achieved.

The application of humour teaching method should defer to some fundamental actualisation rules. Humour, as a teaching approach in language teaching, also needs to obey the requirements of teaching activities, in other words, the “dosage” of humour teaching should be appropriate. Using humour in language teaching should be purposeful. The purpose should not be making students laugh, but should be arousing students’ learning interests and stimulating them with new-fangled stuff, then to cultivate their comprehensive and memorial capabilities (Medgyes, 2001; Meeks,

1999). Meanwhile, humour implemented in the teaching process needs to avoid those off-colour jokes. For instance, humour contents that focus on sex or jokes that may make the students embarrassed are not appropriate to be used in an ESL classroom.

CONCLUSION

This paper introduced the history and implication of humour studies. It described jokes as a form of verbally expressed humour which involves cultural artefacts and social conventions and affect human behaviours in daily communications. It showed the literature on humour studies based on the theoretical perspectives. In particular, the explanations of the perspectives and the definition of genre were introduced. Finally, recommendations were provided for the future researchers and ESL teachers in implementing humour in everyday classrooms.

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Filipino Nurses' Caring Responses to Transcultural Encounters: A Case in Point for Hospital Administration

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ABSTRACT

Transcultural nursing has been recognized in nursing and other fields as one of the most significant and growing trends in the twentieth and twenty-first centuries Leininger (1997). This study aimed to determine the transcultural encounters and responses of the nurses in the selected tertiary hospitals in Iloilo City. It adapted the data gathering tool of Cang-Wong Murphy and Adelman which was developed in 2009. Another data gathering method employed was the focus group discussion (FGD). The researcher conducted the FGD in every hospital in separate schedules depending upon the availability of the informants. Grounded theory method was employed.

It has been evident that Ilonggo nurses are not indifferent to this phenomenon, finding it beneficial to practice the emergent "*Makibagay Theory*"- a culture engrained to any *Ilonggo*. This encompasses the value system such as compassion, respect and empathy. Thus, affirming the global image known as the Tender Loving Care of the Filipino nurse which reflects the Ilonggo nurse as highly value-oriented.

Keywords: Trans cultural nursing, transcultural encounters, transcultural responses, Ilonggo Nursing Care.

INTRODUCTION

Transcultural nursing has become recognized in nursing and other fields as one of the most significant and growing trends in the twentieth and twenty-first centuries (Leininger, 1997). Agravante (1996) stated that caring differs from culture to culture and has meaning only in the context of culture. Transcultural nursing has not found its importance in Philippine nursing circles as to merit being a topic for seminars or conferences or taught as a major thread in the Bachelor of Science in Nursing curriculum. This could be due to the fact that both nurses and clients come from the same basic culture, the Filipino culture. Therefore, transcultural care is not an obvious need. But due to the changes in society, sub-cultural life-ways is quite different from what one is familiar with what one has encountered.

Unless cultural differences are taken into consideration, optimal care to all patients cannot be provided. Misunderstandings can often lead to misdiagnoses and the worst scenario of a client deprived of culturally competent care will reflect the status of the Nursing profession deficient of

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integrity and foresight. The researcher reflected on the main problem of this study: “What are the Filipino nurses’ caring responses to transcultural nursing encounters: A case in point for hospital administration?”

OBJECTIVES OF THE STUDY

This study aimed to determine the following:

1. different ethno-linguistic groups, subcultures and communities of the patients they have attended to in the hospitals; and
2. nursing responses to transcultural encounters by the nurses from selected tertiary hospitals of Iloilo City in terms of:
 - processes employed to identify the existence of cultural differences;
 - most challenging experiences the nurses have when caring for patients whose ethno-linguistic origin communities differ from him/her;
 - barriers identified in caring for patients of different culture;
 - personal responses to the challenging experiences and barriers they have encountered; and
 - their needs to help provide culturally competent care.

METHOD

Qualitative approach was used in this study specifically the grounded theory method. The actual experiences of nurses in dealing with patients of different ethnicities specifically those patients/clients whose culture differ from them were given emphasis.

This study was conducted at St. Paul’s Hospital Iloilo (SPHI), located at General Luna Street and Iloilo Mission Hospital (IMH) located at Mission Road, Iloilo City, Region VI, Philippine both are private owned hospitals; For government owned hospitals, the setting were at West Visayas State University Medical Center, located at La Paz, Iloilo City and Western Visayas Medical Center, at Mandurriao (WVMC), Iloilo City.

Conveniently selected staff nurses from these different tertiary hospitals were the respondents of this study. A considerable 30% of the total population of permanent staff nurses was taken as respondents, while six (6) representatives from every hospital were chosen as key informants for the focus group discussion.

A questionnaire adapted from Cang-Wong Murphy and Adelman which was developed in 2009 when they conducted a Study on Transcultural Nursing in Santa Clara County, California, USA.

The tool includes multiple choice, fill in the blank and open ended questions. This format invited nurses to speak for themselves about what they observed as culturally important and unique experiences. The questionnaires were content validated by three (3) experts in the area.

A guide question for focus group discussion included the experiences of nurses and patients with varied cultural orientations specifically on age and gender differences, religious beliefs and practices. The interview was initially guided by an interview schedule on the dynamics of Filipino

nurses' caring responses to the transcultural encounters. The answers were extracted through formal and informal interviews, casual discussion and verbatim accounts of different situations.

This study utilized qualitative data, analysis employing the grounded theory by Strauss and Corbin (2004). This method is often referred to as the constant comparative method, which is a qualitative tradition built on compared concepts.

RESULTS AND DISCUSSION

CULTURE CARE IN A PRIVATE OWNED HOSPITAL

There were (111) nurses, majority of whom were female nurses and only a few male nurses volunteered to be answer. More than half of the informants were 22-25 years old, while the rest were in their early and mid-thirties and the oldest informant was 40 years old. All of the informants have their Baccalaureate degree in nursing and have no graduate units or degrees. Almost all of them are Hiligaynon speakers with a few Karay-a and Akeanon speakers.

As to their religion, majority of the informants were Roman Catholic while the rest were Baptist, Protestants and Aglipayans. A large number of the informants were residents of the Lone district of Iloilo City. A small number of the informants were from the other districts of Iloilo such districts 1-5. A few of the informants were from the other provinces of Panay such as, Aklan, Antique, Capiz, Guimaras and Roxas.

Transcultural Encounters of Nurses

Cultures encountered by the informants

Culture in the context of this study is not only limited to nationalities, and ethnic origin, but this encompass the different cultural orientations of the patients such as residence, age group, sex, occupation, and socio-economic status which are different from the nurses' demographic profile. It is the researcher's point of view that these groups have their own sub-cultures different from the others.

In their work as nurses assigned in different areas, informants have revealed that they have encountered lots of patients with culture different from them. Such as in the following:

As to the nationalities of their patients, they have encountered Chinese, Indians, Americans, Australians, British and Germans who do not know a single English word.

In terms of religion, informants revealed that they have also encountered some religions whose practices and beliefs differ from them, some of these patients were: Baptists, Born Again Christians, Jehovah's Witnesses, Muslims, and Roman Catholics.

As for ethnicity, the informants enumerated the following Filipino ethno linguistic groups they have encountered, Aetas, Capizeños, Akeanon, Guimarasnon, Dingleanon, taga-Pototan, taga-Sara, taga-Carles, taga-Passi, taga-Cabatuan, taga-Antique, taga-Bacolod, taga-Leon, taga-Anilao, taga-Alimodian, Ilonggo (taga-siudad) taga-San Miguel Chabakano, Tausog, Waray.

Some of the patients found to have different cultural orientations were those from other professions such as doctors, farmers and other professionals. Male nurses find it culturally different to cater to the female patients and same with female nurses to male patients.

There were informants who have stated that those coming from the social class different from them were also culturally different. Younger nurses find it challenging to cater to the older patients and older nurses to the younger patients.

Processes employed by the nurses to identify the existence of cultural differences

There are various ways or processes the informants have shared to determine the kind of patients they have, especially in terms of cultural orientation.

- Through Inquiry.
- Training and Experience.
- By Establishing Rapport.
- Observation
- Through Media.

Sources of information on other cultures as identified by the nurses

Majority of the informants revealed that education/training and the media were their sources of information about other cultures. Some shared that they got the information about other cultures through their friends, prior experiences with the family and from their travels; others said that they got it from personal study or interest and continuing education programs.

Most challenging experiences the nurses have when caring for patients whose culture differ from them

There were various experiences that challenged the nurses' care giving skills, based on their responses and sharing these experiences were classified according to the following:

- Attitude.
- Language
- Beliefs and Practices

Barriers identified by nurses in caring for patients of different culture

Cultural barriers according to informants influence their quality of care. Informants identified the following as the most common barriers to their nursing care: language and beliefs.

Nurses responses to the challenging experiences and the barriers they have encountered

Nurses has their own ways of responding to the challenges and barriers, for them rendering quality nursing care is the most essential responses to the challenges and barriers between them and the patients whose culture differ from them. In caring for the patients, informants pointed out that they must develop different approaches; empathize with the situation; provide adequate information to clear his thoughts or doubts; spend more time with the patient; improve communication skills; individualize care regardless of the culture; lengthen one 'patience, understanding them; deal with them with the knowledge regardless of their culture; respond to them by explaining to them in the most simple way they can understand; be sincere and dedicated. As one of the informants shared "I continued to do my job. At the same time, I was encouraged to do better especially in communicating and understanding their need despite our differences.

Another informant sincerely said that understanding individual differences, consideration of their preferences, asking them of their special needs, and taking care of them with sincerity.”

Caring involves respect, understanding, and sincerity. Nurses from a Christian Hospital find all means to render proper and quality to patients whose culture is different from them.

Identified needs of the nurses to help provide culturally competent care

Culturally competent care as defined by Giger and Davidhizar (2008), as a dynamic, fluid, and continuous process of finding meaningful and useful care delivery strategies based on knowledge of cultural heritage, beliefs, attitudes, and behaviors of those to whom care is rendered. In order to provide culturally competent nursing, informants from a Christian hospital have identified the following needs such training/continuing education/classes; resident interpreters; reading materials; exposure to more diverse culture; cultural health fair; more exposure/experience in the community. Based on their observations these needs will really help improve their transcultural nursing care.

CULTURE CARE IN A GOVERNMENT OWNED HOSPITAL

There were forty (40) respondents majority were male, the age group of 22-25 and 26-29 showed an equal share of the number of informants and also true with ages 30-32 and 33-36. Common features of these informants were, a Bachelor of Science in Nursing degree, a Hiligaynon ethno-linguistic affiliation and a pure Catholic Background. A large amount of the group are residents of Iloilo City proper and quite a very few comes from District two and only one from the province of Negros Occidental.

Transcultural Responses of the Nurses

Cultures encountered by the informants

Culture, in its essence and scope is a highly complex matter and its influence to the nursing profession cannot be undermined. Here then, in the pursuit of the Researcher to bring out one facet of Nursing Care, will be found a manifestation of culture unique to a group of people in this particular point in time.

Identified Cultural encounters were with Asians, more specifically, the Arabs, Burmese, Chinese, Indians, Japanese and Koreans. Caucasians like Americans and Australians were frequent clients.

In terms of religion, informants shared having rendered care to patients with different religious backgrounds such as Baptist, Born Again, Hindu, Jehovas witnesses and Muslims. A variation of unique approaches has been called for in these encounters since practices are affected by religious beliefs.

Ethnicities identified by the informants were Capiznon, Cebuanos, Kapampangan, Igorot, indigenous people and Tagalog.

Processes employed by the nurses to identify the existence of cultural differences

- Through Inquiry
- By establishing Rapport
- Experiences
- Protocol

Most challenging experiences the nurses have when caring for patients whose culture differ from them

There were a mixture of experiences that challenged the nurses' care giving skills, based on their responses and sharing these experiences were classified according to the following:

- **Beliefs.**
- **Attitudes.**
- **Language**

Barriers identified by nurses in caring for patients of different culture

Cultural barriers according to informants influence their nursing care such as language and communication, superstitious beliefs and food preferences.

Nurses responses to the challenging experiences and the barriers they have encountered

Nurses find ways to respond positively to the challenges and barriers they have encountered: familiarization and updates.

Identified needs of the nurses to help provide culturally competent care

In order to provide culturally competent nursing care, informants from this hospital have identified the following needs such as Training/Continuing Education/ Classes, exposure to more diverse culture, more exposure and experience in the community, reading materials and even interpreters and culture health fair.

EMERGENT FRAMEWORK OF THE STUDY

MAKIBAGAY MODEL: An Ilonggo Response to Transcultural Nursing Care

The model shows the relationship between the patient's culture, nurses' culture and its influence to nursing care. The model indicates that the kind of nursing care nurses are rendering to their patients who have a different culture from them is influenced by their own culture and the way they respond to it are based on their experience, knowledge, personal values, and education and training. The nurses' and patients' culture are determined by their gender, age, ethno-linguistic group, religion, place of residence, educational attainment, occupation, and socio-economic status. The prevailing nursing care that emerged based on the result of the study is the Ilonggo nursing care known as Makibagay, which reflected the nursing professionals as being respectful, empathetic, compassionate, and competent.

As stated by Agravante (1996), caring differs from culture to culture and has meaning only in the context of culture. Transcultural nursing has not found importance in Philippine nursing; this could be due to the fact that both nurses and clients come from the same basic culture, the Filipino culture. However, the changes in society, sub- cultural life ways quite different from what one is familiar with have been encountered. Nurses must be challenged to use transcultural knowledge so as to improve client care. This is manifested in the results of the study which revealed that nurses have found out that even though most of their patients were Ilonggos they still find it difficult to deal with their sub cultural differences in terms of their age groups, religious affiliations, ethno-linguistic groupings, gender, educational/professional backgrounds, socio-economic status. Their beliefs and practices vary.

With Leininger's Culture Care Theory as its underlying framework, the researcher's emphasis was on the subcultures that comprised today's Ilonggo society, particularly their age groups, religious affiliations, ethno-linguistic groupings, gender, educational/professional backgrounds, socio-economic status as the bases of transcultural encounters in nursing care. The researcher identified particular folk care that varies due to practices that take place from the above mentioned variables.

Makibagay is an Ilonggo version of pakikisama which is a Filipino trait. This is the ability of a person to get along with others to maintain good harmonious relationships. It implies camaraderie and togetherness in a group and the cause of one's being socially accepted. Makibagay requires someone yielding to group opinion, pressuring him to do what he can for the advancement of his group, sacrificing individual welfare for the general welfare.

Makibagay, in the context of Ilonggo care means, the ability of nurses to deal with the barriers to nursing care delivery as a result of cultural differences between him and his patient. As evidenced by the responses of the informants, the most prevailing approach were respect, empathy understanding, compassion, concern and collaboration. Ilonggo nurses maintain smooth interpersonal relations with the patient/s and their folks to avoid conflict so as to render quality nursing care through the spirit of friendship, compassion, concern.

Ilonggo's are generally known to be mainanggaon or malambing in Filipino. This trait, unique to the Ilonggos alone, is characterized by "tonal sweetness" and it is in this that Ilonggo nurses charm their most difficult situations with grace and perseverance. Herein is an advantage point that is practically useful for the nurse in dealing with culture conflicts and provides an opportunity for rapport and better communication. Thus therapeutic communication comes as a natural nursing care quality to them. Makibagay encompasses tender loving care where the nurses collaborated with the patients, folks, and medical experts and staff to provide the quality care congruent to the needs of the patients whose culture differ from that of the nurse.

Cang-Wong, Murphy, and Adelman (2009) expound that to develop an effective and therapeutic relationship with a patient, a nurse must establish trust and respect with the patient. Acknowledging a patient's individual cultural perspective is an important part in establishing this trust. Ilonggo nurses as reflected in their responses, are willing to extend an extra hand of care to their patients, they will find any means just to deliver the care their patients need.

Cultural awareness allows nurses to gradually become more sensitive to cultural diversity and modify biased attitudes and beliefs related to clients from cultures different from their own (Campinha-Bacote, 2005). Ilonggos have an innate character of being calm but firm, nurses tried their very best to deal with the situation in a compassionate manner so as not to aggravate the situation. Their "sweet" therapeutic communication of "ma'am/sir, okey man na ang inyo gina-ubra sa pasyente, naintindihan gid na namon, galling may mga bagay nga dapat naton ipa-iway para madali ang pag-ayu sang pasyente. Ti puede ma'am/sir nga amu lang ni anay ang sundon naton...?" (Ma'am sir, what you are doing to your patient is fine, but there are medications or treatment that we need to avoid for the fast recovery of the patient, so, ma'am/sir shall we just follow the doctor's orders..?) Ilonggos are very passionate in dealing with conflicts. As stated by Nolen and confirmed by Kuan (1975), Filipinos seek compassionate personalized care. He believes that health workers need to understand how folk practices and beliefs function in meeting the needs of Filipinos, especially in the Rural areas. Based on the results of the study, today's nurses seem to transform these kind of observations as evident by their sharing, and as experienced by the researcher who is a nurse herself.

The emerging concept or framework in this study is the Ilonggos' way of rendering tender loving care, through makibagay, which is referred to as caregiving through respect, understanding, compassion, empathy, concern and collaboration with the patients' folks.

The symbol for this emerging framework is the hand that holds another's hand with a nurse's cap on top, this represents the caring, nurturing, understanding, compassionate, empathetic and collaborative response of nurses to transcultural nursing encounters. The hand that holds another's hand is the nurse's hand that illustrates the tender love rendered to patients whose culture is different from them. As what W.H. Auden (as cited in Watson, 2011) had said, in the end, love is all that really matter. Our patients remind us that every day we should do an act of power and an act of beauty.

The cross on the nurse's cap symbolizes the Filipino's deep sense of Christianity. As evident in the profile of the informants, regardless of religious affiliations they belong, their belief in the Supreme Being is beyond doubt. The high regard for one's well-being is anchored on Filipino's profound spirituality. Ilonggos as Filipinos are known for their strong sense of spirituality, as apparent in their response that spiritually I draw on in caring for the patient is my faith in God; I see God in my patient; I treated them with respect because they are God's creations. These only contend that Ilonggo nurses way of makibagay is clothed by their inner sense of Christianity which becomes tangible through their tender loving care.

Being compassionate, this means being maluloy-on (maawain), as stated by the informants: "make the patients feel that you really wanted to help; show them human care; being patient; just be considerate." Ilonggos are inherently compassionate. They have a soft heart to those people who are in need of their support, care, and understanding. This kind of Ilonggo trait is prevalent not only in the family, friends and other close relatives but also very evident in caring for the sick. This trait was illustrated

through the nurses' sincere support to the patient even to the extent of contributing for the medicine, food or other medical needs of the patients, "I learn how to respect my patients, I try to make them feel comfortable and respected, thus drawing on their trust." Informants, as Ilonggo, show respect to their patient's religious beliefs and practices; social status; ethnic rituals; and medical background to deliver quality nursing care. Culture has a powerful influence on one's interpretation of and responses to health and everyone has the right to be respected for his/her uniqueness and cultural heritage. Caregivers need both general and specific cultural information to provide sensitive and culturally competent care. Cultural awareness improves the caregiver's self-awareness, Purnell, 2002 (as cited in Payne, 2004). Ilonggos show respect to their patients in order to know their patients more to provide culturally congruent nursing care. The acts of makibagay manifests through their being respectful or pagrespeto sa ginhalinan nga kultura sang pasyente (respect for one's cultural origin).

Makibagay transcultural nursing care is also depicted through the informants' pagka maintyendihon or being understanding. "I try to understand them in order to develop rapport; I tried to understand them to build a good nurse-patient relationship."

Ilonggo nursing care is shown as an expression of being accommodating. Filipinos are known for being hospitable, which is evidently depicted in Ilonggo being madinumdumon (thoughtful), mabinuligon (helpful), mapasensyahan (patient), and ma-abi-abihon (accommodating). These traits translated the delivery of nursing care when nurses are confronted with patients whose culture differs from them that they have to MAKIBAGAY to their patients. This is the Ilonggo transcultural nursing.

It has become clearly pertinent in this study that the Makibagay Theory mirrors a nursing care rich in culture and meaning to a particular people in a given time. It defines a multi-dimensional aspect of Transcultural Nursing Care bridging the gap between culture conflicts and culture needs.

CONCLUSION

The Ilonggo nurse understood that transcultural encounters are tough and challenging. The Ilonggo nurse understands that a transcultural encounter requires initiative, receptivity and open-mindedness the reason why he/she takes all the possible insights and benefit from resources both internal and external. This is an active role the Ilonggo nurse assumes because he/she stands on a professional responsibility that any patient is entitled to appropriate care regardless of race, culture, orientation or religion.

The Ilonggo nurse is highly value-oriented. A stand out characteristic has been observed from the informants bringing emphasis to personal values such as respect, empathy, compassion from which they draw relevant guidelines in their transcultural encounters. The Ilonggo nurse is by nature truly committed. The barriers he/she recognizes in varying situations seem to always arouse new creativity, flexible responses and strengthens professional outlook. In all the addition, this all the more encourages him/her to sustained commitment the nursing profession.

Generally, the Ilonggo nurse is highly responsive to Transcultural events but the level of his/her competence needs further assessment and enhancement. The Makibagay Theory is a Consolidation of the Ilonggo Nurse Professional traits championing the ‘tender loving care’ with the consistency of values inherent to the culture of Ilonggo. This model emerged from the responses of the informants and the unique approaches they employed to make sense out of transcultural encounters.

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Higher Order Thinking Skills and Academic Performance in Physics of College Students: A Regression Analysis

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ABSTRACT

The study determined the relationship between higher order thinking skills (HOTS) of students and the performance in physics. Specifically the study intended to determine and compare the HOTS along the areas: analysis, comparison, inference, and evaluation in physics of college students grouped according to gender; and to determine the regression correlation of the HOTS to academic performance in physics of students when grouped according to gender. The research was conducted at Benguet State University during the school year 2010-2011 and respondents were students enrolled in Physics. Result shows that on the analysis aspect of HOTS, a little more than 50% of male students are below average while almost half of the female students are average. On the comparison aspect, almost 50% of both male and female students are below average. The HOTS on inference of more than half of the male and female students is average. The HOTS on evaluation of almost half of the male students are below average while 40% of female students are average and the other 40% is below average. Male and female students have similar level of HOTS on analysis, comparison, inference and evaluation. Moreover, analysis, comparison, inference and evaluation combined effect to the physics performance of male students is significant but among the four areas, only inference does not have a significant combined effect to the performance in physics of male students. Among the four areas of HOTS - analysis, inference and evaluation have significant effect on the physics performance of female students.

Teachers should incorporate teaching techniques in physics that enhance higher order thinking skills of students. Furthermore, seminars or trainings on enhancement of students' higher order thinking skills could be given to physics teachers. This would include formulation of activities in class and diagnostic tests or examination questions that will enhance the four areas of higher order thinking skills of students.

Keywords: Higher order thinking skills, academic performance, physics, college students, regression analysis.

INTRODUCTION

The type of thinking process that students need to develop in order to prepare them to confront the real world as it changes, must go beyond simple learning of facts and content. “Knowledge obtained through higher-order thinking processes is more easily transferable, so that students with a deep conceptual understanding of an idea will be much more likely to be able to apply that knowledge to solve new problems” (*Teaching Higher Order Thinking*, n.d.). As highlighted in the website of Central Board of Secondary Education (CBSE) Physics:

...the concept of higher-order thinking skill or HOTS is a fundamental shift in evaluation reform that aims at promoting thinking skills in learners and taking them away from rote learning. Higher level mental abilities of the learners such as to analyze, interpret, reason out, synthesize or evaluate the given information are likely to enable them transfer learning to totally different situations. (<http://cbse.nic.in/phycareer/hots.html>).

Across subject areas, when teachers ask higher-order questions and provide opportunities for students to develop deep explanations, learning is enhanced. Higher-order questions often start with question stems like: why, what caused, how did it occur, what if, how do they compare, or what is the evidence? When teachers ask higher-order questions and encourage explanations, they are helping their students to develop important critical thinking skills.

Physics is a unique and fascinating discipline. It is hard to teach and harder to comprehend. Physics can be considered as HOT - higher order thinking. Thus, it makes immense academic demands on students in its learning (Adeyemo, 2010). The learning of physics is difficult at best and almost impossible at worst. But because of its enormous importance to science and technology, there is understandably huge interest in students' achievement in Physics, hence the conceptualization of this study. Results of this study is hoped to be used by physics teachers as guide in providing more opportunities for higher order thinking in their physics classes. It is hoped that the results of this study will guide physics teachers in designing effective methodologies and assessment tools that promote higher-order thinking among students.

BACKGROUND

Higher Order Thinking Skills

Higher-order thinking basically means thinking that is taking place in the higher-levels of the hierarchy of cognitive processing. The most widely accepted hierarchical arrangement of this sort in education is Bloom's Taxonomy, viewing a continuum of thinking skills starting with knowledge-level thinking and moving eventually to evaluation-level of thinking. As Hammond (n.d.) stipulates:

...critical/creative/constructive thinking which is closely related to higher-order thinking.

Critical/creative/constructive thinking simply means thinking processes that progress upward in the given direction. First one critically analyzes the knowledge, information, or situation.

Then they creatively consider possible next-step options, and then finally, they construct a new product, decision, direction, or value. (<http://xnet.rrc.mb.ca/glenh/hots.htm>)

According to Thomas and Thorne (n.d., para. 5), “higher order thinking or HOT requires that we do something with the facts. We must understand them, connect them to each other, categorize them, manipulate them, put them together in new or novel ways, and apply them as we seek new solutions to new problems”. Analogous to this is the following definition:

Higher order thinking occurs when a person takes new information and information stored in memory and interrelates and/or rearranges and extends this information to achieve a

purpose or find possible answers in perplexing situations. A variety of purposes can be achieved through higher order thinking, deciding what to believe; deciding what to do; creating a new idea, a new object, or an artistic expression; making a prediction; and solving a nonroutine problem (Lewis & Smith 1993, p.136 as cited in King, Goodson and Rohani, n.d., p.35).

The significance of higher order thinking in the classroom is best clarified in the Department of Education, Training and Employment (DETE) Education website:

Higher-order thinking by students involves the transformation of information and ideas. This transformation occurs when students combine facts and ideas and synthesise, generalise, explain, hypothesise or arrive at some conclusion or interpretation. Manipulating information and ideas through these processes allows students to solve problems, gain understanding and discover new meaning. When students engage in the construction of knowledge, an element of uncertainty is introduced into the instructional process and the outcomes are not always predictable; in other words, the teacher is not certain what the students will produce. In helping students become producers of knowledge, the teacher's main instructional task is to create activities or environments that allow them opportunities to engage in higher-order thinking.

(<http://education.qld.gov.au/corporate/newbasics/html/pedagogies/intellect/int1a.html>)

Correspondingly, higher order thinking skills or HOTS include skills such as creative and critical thinking, analysis, problem solving and visualization ("Higher Order Thinking Skills", n.d.). These skills involve categorizing items, comparing and contrasting ideas and theories, and being able to write about and solve problems ("Definitions and Terminology", n.d.). In the classroom, abilities and skills that include the use of HOTS are complex thinking that goes beyond basic recall of facts, such as evaluation and invention, enabling students to retain information and to apply problem-solving solutions to real-world problems. In addition, according to King, et al. (n.d.), higher order thinking skills include:

...critical, logical, reflective, metacognitive, and creative thinking. They are activated when individuals encounter unfamiliar problems, uncertainties, questions, or dilemmas. Successful applications of the skills result in explanations, decisions, performances, and products that are valid within the context of available knowledge and experience and that promote continued growth in these and other intellectual skills. Higher order thinking skills are grounded in lower order skills such as discriminations, simple application and analysis, and cognitive strategies and are linked to prior knowledge of subject matter content (pp.32 -33).

Thus, higher order thinking skills are valued because they are believed to better prepare students for the challenges of adult work and daily life and advanced academic work ("K-12 teaching and learning", n.d.).

Quellmalz Framework of Thinking Skills

Although different theoreticians and researchers use different frameworks to describe higher order skills and how they are acquired, all frameworks are in general agreement concerning the conditions under which they prosper (King et al., n.d.). In this study, the Quellmalz Framework of Thinking Skills was utilized. "The levels in this framework collect all of the elements common to a great many other taxonomic structures of thinking skills" (Stiggins & Conklin, 1992, p. 158). Furthermore, the levels are considered to be conceptually clear and straightforward making coding of questions easy. The four cognitive processes of analysis, comparison, inference and evaluation are collectively called

higher order thinking skills (HOTS) or critical thinking skills. These are the four areas considered in the study.

Analysis include understanding relationships between the whole and its component parts and between cause and effect; sorting and categorizing, understanding how things work and how the parts of something fit together; understanding causal relationships; getting information from charts, graphs, diagrams and maps. Analysis is more than rote repetition; instead it involves reflectively structuring knowledge in new ways (Stiggins, Rubel, & Quellmalz, 1988). Whereas comparison involves explaining how things are similar and how are they different. Comparisons may either be simple or complex. Simple comparisons are based on a small number of very obvious attributes. Complex comparisons require examination of a more extensive set of attributes of two or more things. Comparisons start with the whole/part relationships in the analysis category and carry them a step further.

Inferential thinking involves reasoning inductively or deductively. In deductive tasks, students reason from generalizations to specific instances and are asked to recognize or explain the evidence. In deductive tasks, students are given the evidence or details and are required to relate and integrate the information to come up with the generalization. According to Corpuz and Salandanan (2003, pp. 68-76) as cited in Saingan (2008), "inferential thinking is an ability to form an idea, opinion or a conclusion after a series of reasoning and speculating outcomes of a situation. Students who are able to formulate conjectures, possibilities and surmise consequences based on sufficient proofs are considered capable of this higher-order thinking skill".

Evaluation, on the other hand, means expressing and defending an opinion. Evaluation tasks require students to judge quality, credibility, worth or practicality using an established criteria and explain how the criteria are met or not met. From "Quellmalz Taxonomy" (n.d.) key words such as assess, appraise, defend, argue, recommend, debate, critique are used if evaluation is to be measured.

Higher Order Thinking Skills, Gender and Academic Achievement

Across different levels, same results were shown on the relation of gender and higher order thinking skills. In the study of Saingan (2008) the level of achievement of high school students in the experimental class when they are grouped according to gender along analysis, inference and evaluation thinking skills achieved the same moderate or average level. Similarly, investigating the level of Marzano Higher Order Thinking Skills among all technical education students in higher education Heong, Yunos and Hassan (2011) find that female and male students have the same level of thinking skills. Both male and female students in the grade school level also show statistically no significant differences in their achievement as shown in the Higher Order Thinking Skills Program (HOTS), a computer-based program for teaching thinking skills developed by Stanley Pogrow at the University of Arizona, that examined gender differences in the HOTS and Chapter 1 programs of grade five pupils (Eisenman, 1995). Although the program appeared to be more effective after 2 years of treatment, with females affected more than males. In addition, Song, Koszalka and Grabowski (2005) investigated boys and girls in middle school and found neither sex has superior higher order thinking skills in perceiving different instructional design elements as helpful in prompting their reflective thinking. Noble and Powell (1995) on a sample of nationally represented sophomores and PLAN-tested sophomore population in the United States conclude that "gender is found to minimally relate to levels of higher order thinking skills". However, at higher academic levels, gender seems to be a factor as found by King, Wood and Mines (1990). When critical thinking tests were given to graduate and undergraduate senior students, the gender effect was significant, with males consistently having higher critical thinking skills than females.

On the other hand, several studies showed mixed results on the influence of gender on academic achievement. Female students out performed male students across subject areas (Dayioglu and Türüt-Asık , 2004; Hedges & Nowell, 1995; Linver, Davis-Kean & Eccles, 2002; Nori, 2002 as cited in Habibollah, Rohani, Aizan, Jamaluddin & Kumar, 2009); male students performed better than female students (Geary & de Soto, 2001; King, Wood & Mines, 1990; Voyer, Voyer, & Bryden, 1995; Wai, Cacchio, Putallaz & Makel, 2010;); girls are better in some areas while boys better in others (Gallagher & DeLisi, 1994 and Linn & Kessel, 1996 cited in Odell & Schumacher, 1998; Zembar & Blume, 2009); no gender difference in many nations and variability of gender difference across nations (Else-Quest, Hyde & Linn ,2010); and no differences in their performance (Abubakar & Oguguo, 2011; Habibollah et al., 2009; Llanes, 2002; Moses & Daniel, 2008; Pey-ag, 2001). But in higher education, there seems to be similarity in the findings as stated by Dayioglu and Türüt-Asık (2004):

In higher education women are often found to outperform men. Hyde and Kling (2000) state this to be the case irrespective of the measure of success used. Betts and Morell (1999) report that sex remains a significant predictor of CGPA after controlling for various individual attributes such as ethnic background, SAT scores and the high school attended. Similarly, investigating about 60,000 students from 22 public research universities, Kim, Rhoades and Woodard (2003) find that SAT scores have a significant impact on student graduation, although at the individual level gender is a more powerful correlate of graduation than the SAT score. Women are also found to obtain better grades than would be predicted from their SAT scores (Leonard and Jiang, 1999; Hyde and Kling, 2001; Bridgeman and Wendler, 1991; Wainer and Steinberg, 1992).

Investigating success in terms of course grades, Bridgeman and Wendler (1991) find that women typically had equal or higher grades in math classes. Wainer and Steinberg (1992) on a sample of 62,000 students conclude that although women had lower SAT-M scores, they received similar grades from first-year math courses (pp. 5 - 6).

The Study

The studies mentioned above show conflicting results of the gender gap on achievement that a study exploring the role of gender to HOTS is also worth investigating. Unlike mixed results on gender and academic achievement, most studies cited showed that gender is not a predictor of HOTS. In the current study, the level of HOTS of college students was investigated as well as compared their HOTS level according to gender. Though critical thinking is not the same as HOTS but considered as a sub skill of HOTS, study shows that critical thinking is needed in physics (Rodrigues & Oliveira, 2008). The current study also investigated if the level of HOTS of students shows a relationship to the academic performance of students, particularly physics.

Specifically the study intended to: (1) determine the level of higher order thinking skills in physics of college students grouped according to gender along analysis, comparison, inference and evaluation; (2) compare the level of higher order thinking skills of male and female students along analysis, comparison, inference and evaluation; and (3) determine the relationship of the level of higher order thinking skills of male and female students along the four areas to academic performance in physics.

Based on the problems stated and with all the considerations mentioned above, the following hypotheses were investigated: (1) There is an average level of higher order thinking skills along analysis, comparison, inference and evaluation in physics of male and female students; (2) There are no significant differences between the levels of higher order thinking skills along analysis,

comparison, inference and evaluation in physics of male and female students; and (3) There are no significant relationships between the levels of higher order thinking skills along analysis, comparison, inference and evaluation in physics and academic performance in physics of male and female students.

METHODS

Respondents

The respondents used in the study were students enrolled in Physics at Benguet State University during the first and second semester of school year 2010-2011. Particularly, Physics 11 is a general education course taken by all students. A total of 393 students took part in the study, one hundred twelve are male and two hundred eighty one are female.

Instrument

The instrument used to measure the level of higher order thinking skills of the students was a teacher-made test consisting of multiple-choice type of questions covering topics in Physics 11 that include Kinematics, Dynamics and Statics. The area grouping of the higher order thinking skills namely analysis, comparison, inference and evaluation were based on the criteria of Quellmalz taxonomy (Stiggins & Conklin, 1992, pp. 159-160). The questions were formulated by the researchers and some were lifted from physics books. Next, the questions were evaluated if these are considered as HOTS questions. All the identified questions were then categorized along the area grouping mentioned above. The instrument was divided into two parts: first part is comprised of multiple-choice questions that measure the four areas mentioned above covering topics during the midterms while the second part is comprised of multiple-choice questions that measure the same four areas from topics that were covered during the final term. Fifteen questions for each area were prepared with a total of 60 items. After completion of the teacher-made test, other physics teachers in the university evaluated the developed instrument and necessary suggestions were incorporated. Then it was administered to 40 of Nursing students and 34 Engineering students who were not part of the respondents. The test results were used to determine the validity and reliability of the teacher-made test and a reliability coefficient of 0.71 was measured. Meanwhile, the academic performance of students in physics was measured based on their final grades in Physics.

Data Analysis

To determine the level of higher order thinking skills of the male and female students, the frequency count was utilized. The scores of the students in each area were determined. Kolmogorov Smirnov test was used to determine if scores are normally distributed and result showed distribution were normal at 0.05 level of significance. The means and standard deviations of test scores of male and female students were further used to form the score ranges used in categorizing the level of higher order thinking skills on analysis, comparison, inference and evaluation. A five-point Likert Scale was used to determine the level of HOTS of the students based on their scores (e.g. a score of 5 in one area will be categorized as below average level higher-order thinking skills or BHOTS and assigned a scale of 2).

The following Likert Scale was used to measure the level of Higher Order Thinking Skills of the respondents:

Scale	Mean	Description	Symbol Used
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1	1 - 3	Low Level Higher-Order Thinking Skills	LHOTS
2	4 -6	Below Average Level Higher-Order Thinking Skills	BHOTS
3	7 - 9	Average Level Higher-Order Thinking Skills	AHOTS
4	10 - 12	Above Average Level Higher-Order Thinking Skills	AAHOTS
5	13 - 15	High Level Higher-Order Thinking Skills	HHOTS

To test if the levels of HOTS of male and female students differ from the average level higher-order thinking skills, the t-test was used. A significant result would mean the level of HOTS of male and female students is either below or above the average level. Likewise, the t test was also used to determine the differences in the level of higher order thinking skills along analysis, comparison, inference and evaluation of students when grouped according to gender.

Finally, the linear regression was employed to analyze the relationship between the level of HOTS along the four areas and academic performance in Physics of male and female students to find an underlying correspondence between the variables involved.

RESULTS

Higher Order Thinking Skills of Male and Female Students

Figure 1.A shows the level of higher order thinking skills along analysis of male and female students. The graph shows that almost half of the female students have an average level of HOTS on analysis as indicated by 47.7% of female students having scores with average rating. This is followed by almost 40% of female students with below average level of HOTS along analysis. The rest have above average and low level of HOTS. On the other hand for male students, almost half have below average level while almost one third have average level of HOTS along analysis. The rest have above average (6.1%) and low (3.5%) levels of HOTS along analysis.

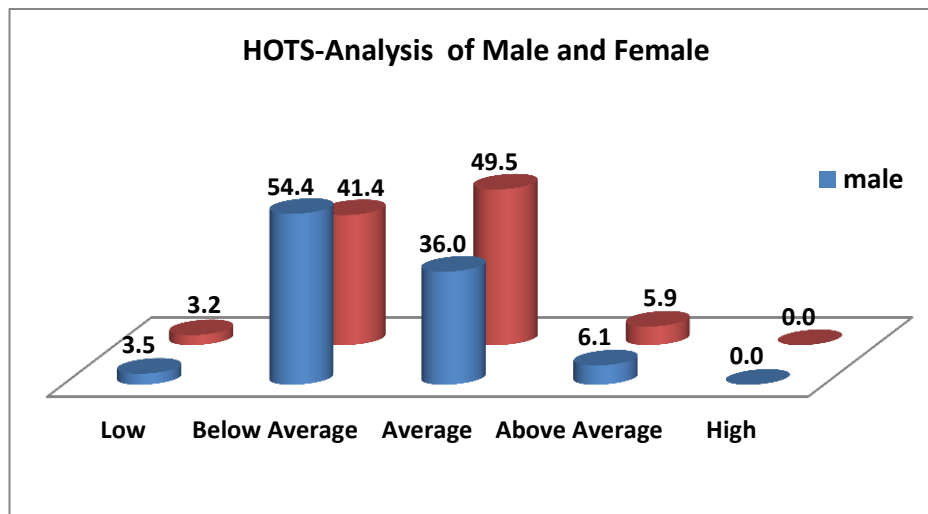


Figure 1.A. Level of higher order thinking skills along analysis of male and female students.

Figure 1.B presents the level of Higher Order Thinking Skills along comparison of male and female students. The graph shows that almost half of the female students have below average level of

higher order thinking skills along comparison. This is seen from 48.60% of female respondents who have scores under below average rating. About one third of the female students were observed to have an average level of HOTS along comparison while 13.6% have low level and only 5.50% have above average level of HOTS along comparison. Alternatively for the male respondents, about 60% have below average level, almost 30% have average level, 8.80% have low level while only 3.5 % have above average level of HOTS along comparison.

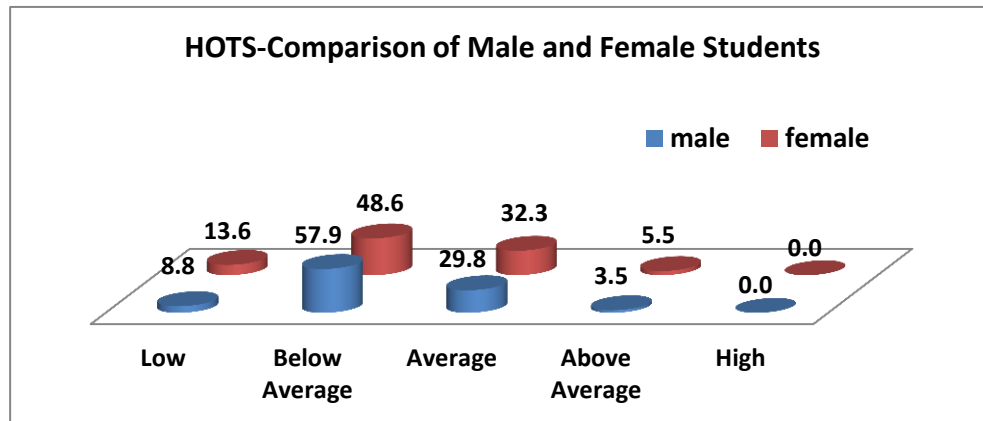


Figure 1.B. Level of higher order thinking skills along comparison of male and female students.

Figure 1.C presents the level of higher order thinking skills along inference of male and female students. It could be gleaned from the graph that half of female students generally have an average level of HOTS along inference as indicated by more than 50% of them having scores that fall under the average range. This is followed by 35% having below average level of HOTS and about 5% with low level of HOTS along comparison. The graph also shows that more than 60% of male students have an average level of higher order thinking skills on inference. Almost 30% of the male have below average higher order thinking skills on inference, while almost 5% have above average level and only 0.9% have low HOTS on inference.

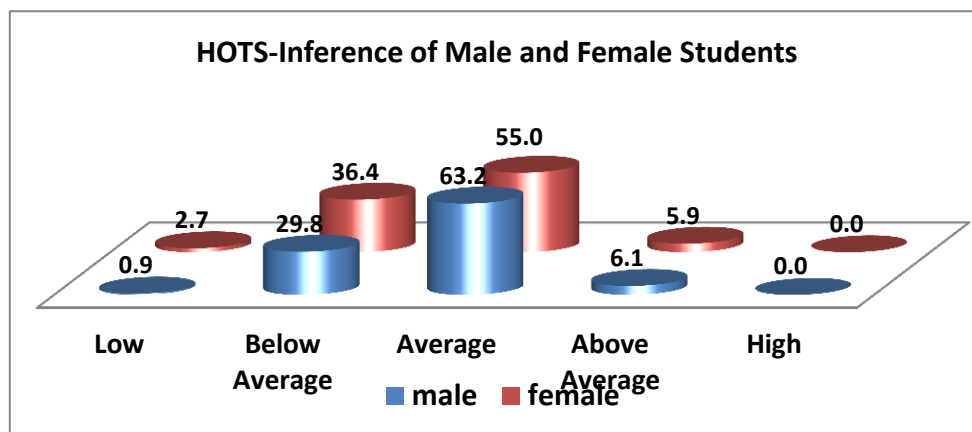


Figure 1.C. Level of higher order thinking skills along inference of male and female students.

Figure 1.D. presents the level of higher order thinking skills along evaluation of male and female students. The graph shows that 40.9% of female students have below average level of higher order thinking skills along evaluation, almost 40% have average level while about 10% of them either have low or above average level of HOTS along evaluation. For the male respondents, more than 40%

have below average level of HOTS, about 30% have average level, 13.2% have above average level and about 10% have low level of HOTS along evaluation.

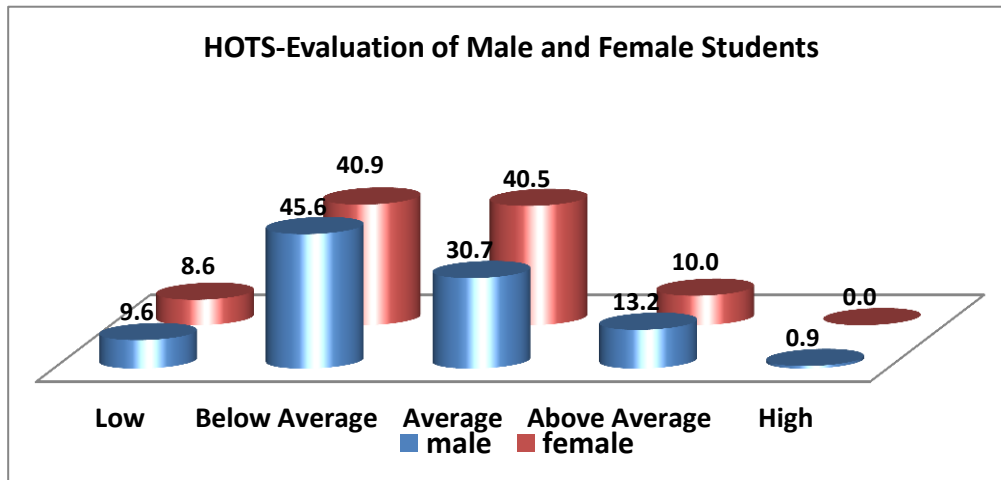


Figure 1.D. Leves of higher order thinking skills along evaluation of male and female students.

Table 1 presents the comparison of the level of higher order thinking skills along analysis, comparison, inference and evaluation of male and female students from the average level of higher order thinking skill. The computed t values for each area of HOTS are presented by gender in the second and third columns. For male students, the t values of analysis, comparison, inference and evaluation were all found to be significant at 0.01 level of significance. This implies that the level of higher order thinking skills along analysis, comparison, inference and evaluation of male students differ significantly from the average level of HOTS. The hypothesis that male students have an average level of higher order thinking skills along analysis, comparison, inference and evaluation is therefore rejected. The level of higher order thinking skills along the four areas of male students are below average.

Similarly, the t values of each area for female students are found to be significant at 0.01 level of significance. The scale of the HOTS along analysis, comparison, inference and evaluation of female students differ significantly from the average level of HOTS. Therefore, hypotheses 1 for female students are likewise rejected. The level of higher order thinking skills along the four areas of female students are below average.

Table 1. Comparison of the higher order thinking skills of male and females students from the average level Higher order thinking skills.

Higher order thinking skill (HOTS)	t - values	
	MALE	FEMALE
Analysis	34.74**	54.44**
Comparison	33.32**	39.63**
Inference	49.05**	61.08**
Evaluation	28.29**	43.17**

**Highly significant

Comparison of Higher Order Thinking Skills of Male and Female Students

Table 2 presents the comparison of the level of higher order thinking skills along analysis, comparison, inference and evaluation of male and female students. It could be seen from the table

that the t values of analysis, comparison, inference and evaluation are not significant. This implies that the level of higher order thinking skills of male and female students do not differ significantly. The hypotheses are therefore accepted. There are no significant differences in the higher order thinking skills on HOTS along analysis, comparison, inference and evaluation between male and female students. Male and female students have similar level of HOTS on analysis, comparison, inference and evaluation.

Table 2. *Comparison of the level of higher order thinking skills of male and females students*

Higher order thinking skill (HOTS)	t – values MALE-FEMALE	Sig
Analysis	1.809	0.161ns
Comparison	0.962	0.225ns
Inference	1.429	0.121ns
Evaluation	0.568	0.387ns

ns – not significant

Relationship of Level of Higher Order Thinking Skills and Academic Performance in Physics of Male and Female Students

Regression analysis gives the relationship between the four areas of higher order thinking skills with physics performance of male and female students. The two regression equations, the first for male and second for female students, show the relationship of the four areas of higher order thinking skills on the physics performance of male and female students.

The negative sign in the coefficients of the equations indicates a negative relationship between level of HOTS and grades in Physics. In the university, the grading system makes use of the grade point equivalent (GPE) where 1.00 is the highest possible grade. So the higher the grade, the lower will be its equivalent. In that case, the higher the level of HOTS of the students, the higher will be their grades in Physics implying a better performance in physics since according to the study the indicator of physics performance is the grade in physics.

$$Y_M = 3.419 - 0.035\text{Analysis} - 0.026\text{Comparison} - 0.020\text{inference} - 0.072\text{evaluation}$$

(<0.01) (<0.01) (<0.05) (>0.05) (<0.01)

It could be observed from the first equation that analysis, comparison, inference and evaluation combined effect to the physics performance of male students is significant. Analysis and evaluation have highly significant combined effect to academic performance in physics of male students while comparison has a significant combined effect to performance of male students. These are indicated by p for analysis and evaluation less than 0.01 level of significance and p less than 0.05 for comparison. However among the four areas of HOTS, only inference does not have a significant combined effect to the performance in physics of male students. This is indicated by $p > 0.05$ for inference.

This result implies that the higher the level of higher order thinking skills on analysis, comparison and evaluation, the better the performance in physics of male students. The hypotheses that the higher order thinking skills on analysis, comparison and evaluation have no significant relationship to the academic performance in physics of male students are therefore rejected, while the hypothesis that the higher order thinking skills on inference has no significant relationship to the academic performance in physics of male students is accepted.

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 $Y_F = 3.413 - 0.014\text{Analysis} - 0.025\text{Comparison} - 0.037\text{inference} - 0.082\text{evaluation}$
 (<0.01) (<0.05) (>0.05) (<0.05) (<0.01)

The second equation shows that among the four areas of HOTS - analysis, inference and evaluation have significant effect on the physics performance of female students. Evaluation has a highly significant combined effect to the academic performance in physics of female students while analysis and inference have significant combined effect to performance of female students. These are indicated by p less than 0.01 level of significance for evaluation and p less than 0.5 for inference and analysis. However, only comparison has no significant combined effect to the academic performance in physics of female students. The result implies that the higher the level of higher order thinking skills on analysis, inference and evaluation, the better the performance in physics of female students. The hypotheses that the level of higher order thinking skills on analysis, inference and evaluation have no significant relationship on physics performance of female students are therefore rejected while the hypothesis that the higher order thinking skills on comparison has no significant relationship to academic performance in physics of female students is accepted.

DISCUSSION AND RECOMMENDATIONS

The study shows that college students do not have the necessary skills needed in Physics. This result confirmed the report of Cotton (1991) that “students, in general, do not have well-developed thinking skills” (p. 10). Students should be exposed to instructional approaches that promote higher order thinking skills. Research has shown that these skills can be significantly enhanced through interventions such as demonstration strategy, incorporation of creative activities and other teaching learning processes (Jackson, 2000 as cited in Kocij, 2005, pp. 5-6; Saingan, 2008; Zohar & Dori, 2003;). In addition, Ives and Obenchain (1996) found out that “experiential education (EE) instruction in high school classes can promote HOTS more than traditional instruction does” (p. 61). Another study explored the designs of classroom related to development of HOTS and found that the use of technology can create “an environment that promotes and encourages the development of higher-order skills [of students]” (Hopson, Simms & Knezek, 2001, p.116). Unlike the study of Ramirez and Ganaden (2008) where interventions such as those mentioned above did not significantly improve the higher order thinking skills of students. However, students from both experimental and control groups used in the study appreciated the activities that were used during instruction.

Teachers should incorporate teaching techniques in physics that enhance higher order thinking skills of students. They should encourage students to engage in tasks that involve higher order thinking skills (Zohar & Dori, 2003). As complex real-life problems often demand complex solutions, these can only be obtained through higher level thinking processes. Teaching higher order thinking, then, provides students with relevant life skills and offers them an added benefit of helping them improve their content knowledge, lower order thinking, and self-esteem (King et al., n.d). Nevertheless “the development of these skills requires practice, and that the more work students have in a particular discipline, the more able they will be to demonstrate these sorts of educational outcomes” (Haller, Monk & Tien, 1993, p. 67).

Teacher training is a key factor in the success of fostering HOTS inside the classroom. Thus, seminars or trainings on enhancement of students’ higher order thinking skills could be given to physics teachers. This would include formulation of activities in class and formulation of diagnostic tests or examination questions that enhance the development of higher order thinking skills of students. As Cotton (1991) concluded, “training teachers to teach thinking skills is associated with student

achievement gains” (p.7). The need for such trainings is substantiated by the study conducted to physics teachers by Barak and Shakhman (2008). They found that only a minority of the teachers view fostering of higher-order thinking as an important objective of teaching physics. Most are frequently puzzled or uncertain about the entire issue of fostering higher-order thinking in school. Only a few consider the development of higher-order thinking as a regular ingredient in science teaching. Additionally, these trainings should be extensive. According to Levine (1994) as cited in Ives and Obenchain (2006) “teachers are not likely to implement new approaches that they have learned about in teacher education programs unless their training in new approaches is continuous, large scale, offers incentives, and can be done without a significantly greater time commitment” (p. 73).

With regards to the second objective, there seems to be no gender gap in the physics classroom as far as level of higher order thinking skills of students is concerned. This is in agreement with Saingan (2008) where result shows no significant differences in the level of achievement of male and female students in the experimental class along analysis, inference and evaluation. This non-significant role of gender also concurs with the findings of Abubakar and Oguguo (2011), Habibollah et al. (2009), Llanes (2002), Moses and Daniel (2008) and Pey-ag (2001). Male and female students should be given equal opportunities to develop their higher order thinking skills in the physics classroom. Strategies to be adopted by physics teachers should be designed to appeal to both groups. One suggestion is given by Baird (1997) when he recommended, “use examples and applications familiar to both girls and boys instead of drawing mainly on sports and military applications familiar in greater part to males (Chap.6, para. 7). Consequently, it can be surmised that the teacher plays a critical role for these strategies to be effective because “different instructors may enact these teaching strategies differently; and instructors set the tone, norms of behavior, and attitude in the class both explicitly and implicitly” (Pollock, Finkelstein & Kost, 2007, p. 2). As emphasized by Baird (1997), “through their attitudes and actions, teachers have the potential to make a significant positive or negative impact on gender balance in physical science” (Chap.6, para. 5).

On the relationship of level of higher order thinking skills along the four areas and academic achievement in physics, level of HOTS of students influence the physics performance of male and female students. For male students, the higher the level of their higher order thinking skill on analysis, evaluation and comparison, the better is their performance in physics though the former two areas have much greater influence than the latter. Analysis and evaluation are skills closely associated to problem-solving skills, so it would seem that a mathematical approach in teaching physics is beneficial to male students in getting better grades in physics. For female students, the higher the level of their higher order thinking skills on evaluation, analysis and inference, the better will be their performance in physics, though evaluation have the most combined influence on physics performance among the three. This could mean that activities that require female students to maximize their evaluation will be helpful in their physics performance. These results are in agreement with the findings of Rodrigues and Oliveira (2008) when they pointed out that “critical thinking level is a predictor of the pupils’ performance in physics” (p. 6). This finding is not surprising since Physics is considered as a higher order thinking or HOT subject. Hence, the importance of fostering such skills in the physics classroom. As Rodrigues and Oliveira (2008) stated in their conclusion:

It’s time to change physics teaching. Teaching physics is still too frequently centred on a transmissive approach demanding the memorization of physics equations, principles and laws or the performance of mere exercises based on a drill approach. This way of learning physics is boring and uninteresting for young people and does not meet the actual requirements of society and of the new trends of physics curricula (p. 6).

Also from the findings, some issues arise like no differences in the level of HOTS of male and female students and the low level of higher order thinking skills of the students. Since the study focused only on gender influences, it could be that other factors came into play such as degree program of the students. A research on the level of higher order thinking skills of students from different degree programs could be conducted. In addition, a similar research could be conducted to consider the role of level of higher order thinking skills of students' academic performance in other fields.

Finally, while questions might arise on whether the assessment tool used in the study actually measured the level of higher order thinking skills of the students, results are validated and justified as these agree with the implications of most of the researches on achievement, gender differences and higher order thinking skills reviewed in the study. Such as the need for the enhancement of HOTS of students, the need for adopting pedagogic strategies that foster HOTS of students especially in the physics classroom, the critical role of the teacher in encouraging the development of HOTS of students and the importance of teacher training on HOTS. However, the limitation mentioned above could be addressed as a future undertaking.

CONCLUSION

The results of the study call for push toward higher-order thinking skills in the classroom. These skills are necessary for people to have in this rapidly changing, technologically oriented world. Instruction in thinking skills promotes intellectual growth and fosters academic achievement gains (Cotton, 1991). To further highlight the importance for students to develop these skills, the authors in "Teaching Higher-Order Thinking" (n.d.) assert:

First, information learned and processed through higher-order thinking processes is remembered longer and more clearly than information that is processed through lower-order, rote memorization. Consider for example, the difference between memorizing a formula and explaining the derivation of the formula. In each case, a student who has the latter-type of understanding will carry that knowledge longer. Moreover, the student with the deeper conceptual knowledge will be better able to access that information for use in new contexts. This may be the most important benefit of high-order thinking. Knowledge obtained through higher-order thinking processes is more easily transferable, so that students with a deep conceptual understanding of an idea will be much more likely to be able to apply that knowledge to solve new problems (p. 55).

From the study, it can be noted that the higher the level of higher order thinking skill of students, the better is their performance in physics. Truly there is a need to enhance such skills especially in the physics classroom as substantiated by McLoughlin and Hollingworth (2001) when they suggested that:

The learning environment for science, whether it be a face to face or distance education setting, whether it is at first-year level or higher, whether it is computer assisted or not, should encourage students to engage in higher-order thinking activities. Teachers of science subjects need to move away from an over-emphasis on content mastery and adopt pedagogies that enable the development of thinking processes. Graduates cannot rely on recall of content knowledge alone to operate effectively in the workplace, but must also be equipped with the procedural, strategic and metacognitive knowledge to solve complex problems. Students need adequate practice and opportunities to develop these skills, and must be able to manage their own learning (p.8).

Accordingly, with appropriate pedagogical strategies along with teacher having the proper training and right motivation, HOTS of students can be enhanced (Cotton, 1991; Haller et al., 1993; Ives & Obenchain, 1996).

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Innovative E-Business Prototype for E-Auction and Group Purchasing

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ABSTRACT

This research presents an e-commerce innovation focusing on B2B e-commerce because of its prevalence, especially among SMEs in Thailand, the increasing importance of the internet in improving marketing, sales, and brand management effectiveness as well as the growing number of Original Equipment Manufacturer (OEM) using the internet to market their products directly to end customers. This paper focused on e-auction trading and group purchasing in B2B context. The concept of e-auction is to bring buyers and sellers worldwide to auction via the internet. The lowest bidder will be granted the right to sell. The group purchasing is the concept of how individuals increase their bargaining power by joining together to buy in volume via e-commerce and purchase goods or services at a discount rates. The results revealed the process, mechanism and impacts of e-auction and group purchasing as well as problems and benefits

Keywords: Innovation, e-commerce, group purchasing, e-auction.

INTRODUCTION

Information technology has been continuously developing for over a decade. The major drivers of this development have been the changes in economic and social environment together with technology advancement. Moreover, increasing business competition necessitates companies/businesses to increase their competitive advantage to meet customer requirements and to gain access to every market segment. Therefore, companies need to exploit new advanced technology to enhance and improve their marketing mix (4P's: Product, Price, Place, and Promotion). E-commerce is one such tool to help companies improve their effectiveness and efficiency. Its key advantages relative to the traditional model were its ubiquity, accessibility, personalization, completeness, and customization.

The problems found in B2B e-commerce were small numbers of e-marketplace available as well as buyers and sellers participating compared to B2C e-commerce. One underlying issue was the development of business model for e-marketplace. Therefore, we opted to study innovation in e-commerce development in Thailand –an e-auction and group purchasing. The concept behind e-auction was to create a place where buyers and sellers meet to auction via internet network where the lowest bidder earns the right to do business on that particular item. E-auction is part of e-commerce system and has gained popularity in e-commerce trading. Some familiar examples of C2C and B2C e-commerce are eBay and Bidz. E-auction trading creates sense of partnership and satisfies both parties. Group purchasing is model of trading that buyers increases their bargaining power by

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collectively purchasing goods, services or information together and received a discount or other special offers. The study focuses on both the purchase of direct materials and indirect materials.

This research aimed to study the forms of e-auction and group purchasing in B2B business. The scope of the study covered consumer behaviors in e-commerce and group purchasing trading through Thailand's B2B e-commerce. Benefits expected from this research were to better understanding on e-auction and group purchasing processes; to learn issues in, benefits and impacts of e-auction and group purchasing trading as well as the processes in which e-auction and group purchasing are most effective and meet Thai consumer requirements.

LITERATURE REVIEW

Electronic Commerce or widely known as e-commerce has been defined by many as follows:

E-commerce is the use of internet to facilitate business transactions or, in another word, the use of digital technology for commercial purposes between organization and individuals (Laudon and Travor, 2007).

E-commerce is the process of placing an order, selling, moving and exchanging of goods, services and information via computer network including internet network (Turban and King, 2008). Five significant modules were identified:

1. Business Process;
2. Service;
3. Learning;
4. Collaboration;
5. Community

Electronic Commerce is the use of technology as a medium for exchanging goods and services among all involving parties such as those between individuals and organizations or vice versa to support and facilitate business activities both internally and externally (Taweesak Kanchanasuwan, 2009).

B2B E-commerce is the transactions between business and business via electronic media such as the internet or extranet etc. Business organization is a company or for-profit and not-for-profit organization (Taweesak Kanchanasuwan, Dr.). Its origination was driven by the needs of suppliers and buyers to reduce purchasing costs and times as well as to improve transaction effectiveness and security. Number of buyers in B2B e-commerce tends to continuously increase through efforts put forth by various organizations. For example, the ministry of commerce initiated thaitrade.com project to add alternative marketing channel for Thai SMEs. In addition, there is growing trend in same industry alliances in B2B business such as Thai metal industry association, aviation business association, and real estate industry association etc. to jointly develop conforming policies and standard.

E-auction was defined by Dian Pradhana Sugijarto as the process that buyers and sellers can publicize their desired price for particular items via the internet or portal. In B2B marketplace, it usually begins with buyers requesting for quote (RFQ) on interested products and potential sellers will offer their quality products and services at best prices. Reverse e-auction has several advantages as follows:

Table 1: *Advantages of e-auction*

Buyers' Advantages	Sellers' Advantages
Buy products or services at the prices that reflect best current prices without additional negotiation required	Increase competitive opportunity through multiple price submissions
Improve purchasing process effectiveness and transparency (in accordance with good governance policy)	Get update on competition in real-time manners
Know new buyers introduced via e-marketplace	Additional channel to access new buyers through e-marketplace
Reduce price negotiation processes and times	Real anonymous price competition

Group Purchasing: Definitions and meanings

Group purchasing is a model of collective purchase that buyers join together as a group to purchase goods or services at discounted prices or to gain other special purchasing conditions through increasing bargaining power. Currently, it is practiced in industrial B2B market among small and medium companies. Group purchasing is part of the efforts to achieve purchasing cost reduction. Participating in group purchasing, some companies need to pay admission fees. Transactions under group purchasing such as negotiation and contract will be done by a representative who will act on behalf of the companies. From group representative's point of views, it may face some difficulties in gathering all members' various requirements and each company different contract details and conditions; moreover, it needs to ensure potential suppliers introduced are capable of meeting customer requirements in terms of price and quantity. Thus, it is necessary that supplier monitoring and assessment be carried out regularly. There were questions whether GPO was an innovation; whether it introduces new suppliers or buyers, new products, services and strategies, whether additional costs it incurred will impact profits and losses of the company.

Currently, group purchasing is not done in the form of e-commerce business.

Based on Turban and King, number of companies attempted to transition into group purchasing. Group purchasing gather purchase orders from various buyers to increase purchase volume and thereby increasing group bargaining power. Purchase orders can be accumulated from within the group and from third party.

Internal purchase orders

Large corporations purchase large volume of MRO items annually and that means huge amount of money spent on both products and transaction. For example, GE purchased MRO approximately \$1,000 M a year. It collects requirement volume data from company's intranet. In term of economy of scale, GE can buy at lower costs when purchasing in large volume. Moreover, it can also reduce transaction costs from \$50 - \$100 per transaction to \$5 - \$100 per transaction. With estimated 4 M transactions annually, GE can save more than \$180 M annually from group purchasing.

Third party

It is not simple for an SME to increase purchase volume and get volume discount. Group purchasing allows SMEs to be able to buy at lower costs. Orders will be accumulated online and there may be price negotiation with sellers or reverse auction. Survey on US companies, revealed that 90% of US

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 organizations employed fewer than 100 employees/workers which were equal to only 35% of MRO value.

METHODOLOGY

This research focused on the development of innovative e-commerce prototype for e-auction and group purchasing. It is a qualitative research to explore problems, needs, and appropriate methods to develop web application for e-auction and group purchasing. Research methodology was designed to meet its objectives as follows:

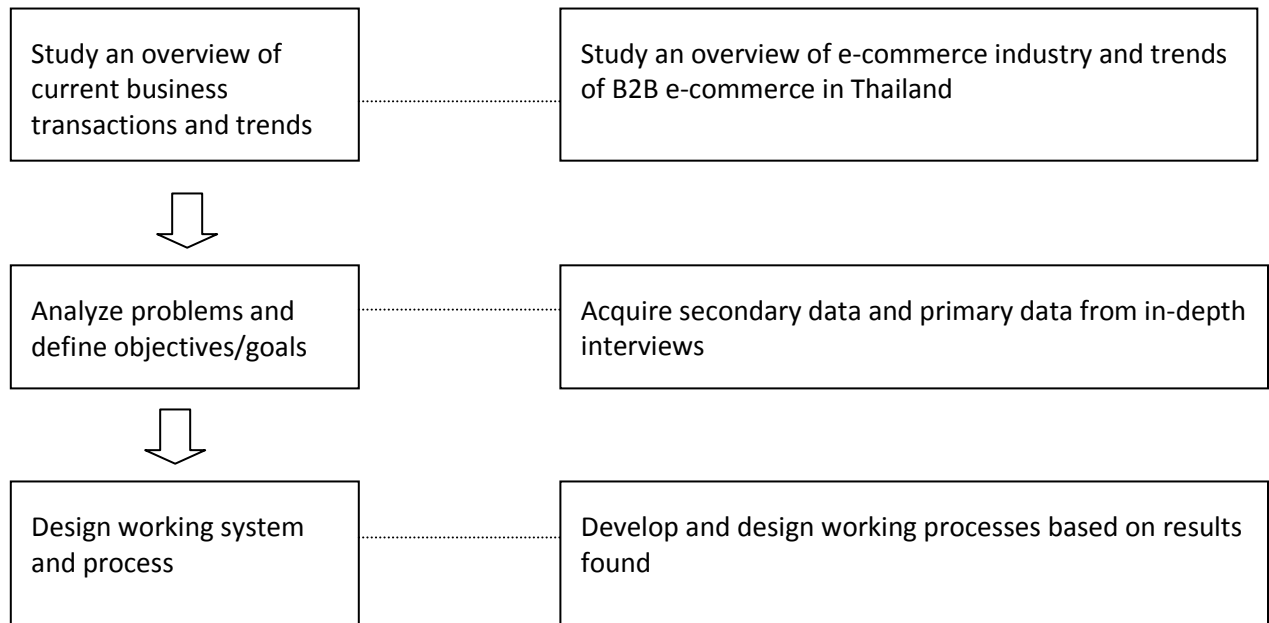


Figure 1: Research Methods

Research Tools

Qualitative research methods were employed. Data were collected from in-depth interviews and documented/ published/ public secondary sources i.e., successful e-commerce websites, trends of the industry studied/surveyed by public and private sectors, growth of the industry, analyses from books, magazines, and newspaper to gain better understanding on opinions, needs and attitudes of research subjects as well as organization culture about forms of business trading, and criteria on supplier selection. Researchers select subjects by purposive sampling-sample group with specific characteristics aligned with research objectives. Sample included both buyers and sellers across all industries from provinces with dense population. The purposive sampling process allowed us to have desired specific subjects.

1. Buyers were groups of office personnel in purchasing departments whose duties included supplier selection. The interviews focused on studying current procurement and purchasing processes and criteria for supplier selection.
2. Sellers were groups of personnel in sale departments whose duties were to acquire customers and provide after sale services. These groups of personnel were the income generator for the companies. The interviews focused on studying current processes and means of sale as well as opinions on selling through auction and admission fee acceptance.

RESULTS

Researchers collected data by interviewing subjects their opinion on group purchasing and e-auction. We started explaining about how group purchasing and e-auction work and indicate some web applications with similar concepts and processes to illustrate how they work. The data collected can be summarized as follows:

Purchasing personnel in small and medium companies see new purchasing processes to be advantages in several aspects, for example, easier to find sellers, potential to get better prices than negotiation by single buyers. While purchasing personnel from large companies think new purchasing process will benefit them in term of seller search but were uncertain it will benefit them in price negotiation.

There was waiting time in the new purchasing process that some buyers see it acceptable for some items and were not for others. Items allowed waiting times were those purchased regularly with annual volume forecast. Items did not allow waiting times were those without advance purchasing forecast or unable to forecast. Items that cannot be purchased through new processes were MRO (Maintenance Repair and Operation). Moreover, items with unique designs cannot be procured via this process either because of the complexity and uniqueness in their specifications that were different from other manufacturers.

Buyers revealed that they do not want to pay the administrative fees as it involves complicated processes. Similarly, sellers do not want to pay the admission fees either. In conclusion, both sellers and buyers were not willing to pay any fee to use the new system.

After additional explanation and reference of international literatures, buyers agreed that bid winners should pay the administrative fees like in typical e-auction. However, there were disagreements on how much they should pay. The range was between 1% and 5%. Similarly, buyers want admission fees to be included in the auction prices to avoid complicated payment process or add unnecessary processes.

Buyers were interested in participating in group purchasing and e-auction because it was not only additional selling channel but also an additional public relation channel. In addition, if buyers and sellers arrived at mutual agreement, they can generate large sale volume. However, sellers worried about the accuracy of sale volume forecast as over estimation may result in management problems.

e- Auction

To learn about current practices and features of e-auction and group purchasing in B2B market so that it help us understand and develop an effective prototype for commercial e-auction and group purchasing. E-auction processes are:

1. Buyers specify their requirements in RFQ including product specification, prefer sellers, quantity, quality, delivery date, and acceptable price range etc.
2. Identify e-auction service provider i.e., Pantavanij (www.pantavanij.com), Biz Dimension, (www.BizDimension.com), INC System (www.inc.co.th), Pop Network (www.govmarketexchange.com), CAT (www.catcommerce.com) etc.
3. Publicly invite interested bidders. They may cooperate with the service provider to advertise about the event.
4. Select eligible sellers based on set criteria and announce eligible bidders.

5. Qualified e-auctioneers will join the auction on date and time specified. The service provider will provide user ID and password to auctioneers. Any auctioneer new to bidding via internet network will be trained by the service provider on its details, methods, processes, bidding, and other regulations.
6. Auction conclusion will be done once the auction is closed. Once the lowest bidder won the bid. Contracts between seller and buyer will be preceded on the agreed price.

Key success factors for e-marketplace in web application form are:

High priorities:

- Two-ways communication between sellers and buyers
- Information privacy protection is important, the dissemination of it only when granted permission by information source
- Buyers can specify expected/ desired prices
- Sellers should clearly specify unit price for any purchase volume, for example, 10 pcs. For ₱100 ($10 \times 10 = 100$), if buy 100 pcs. It will cost ₱ 9000 ($100 \times 9.5 = 950$) etc.
- Customers can create and save their profile for future tracking on purchase history
- Good system security to protect customers from identity breach
- Good information/ product/ service search by categories by search and advance search features
- Chat room and instant messaging features available for information exchange or contact
- Medium priorities:
- The architectures of the web should be simple and user-friendly
- Web should be regularly updated, information displayed should be current
- Product requirement can be posted on the web

We studied how much different are final prices concluded in each process based on the assumption that all else equal except purchase volume. We discovered that through conventional purchasing process, sellers agreed to sell at ₱52 per unit for purchase volume less than 100 units. Through auction, sellers were willing to sell at ₱50 per unit for 100 units or less while buying from group purchasing; sellers would sell at ₱45 per unit for a purchase of 500 units. Group purchasing and e-auction process can reduce unit price to ₱43 for 500 units purchase. In case of large volume, buyers can negotiate with sellers to lower their prices. The result shown below was a study on paint markers used in production process for piece work marking.

CONCLUSION AND DISCUSSION

E-auction and group purchasing prototypes benefit both buyers and sellers. To buyers, it could be strategy to help an organization achieves purchasing cost reduction by increasing bargaining power to gain discount or other special offers, improving purchasing process effectiveness, improving process transparency through easier and better monitoring. To sellers, it provides alternative access to new buyers through the introduction of e-marketplace, opportunity to enter new market and adaptable to e-commerce system as well as increase sale volume and fair competition.

There were 4 types of purchasing processes: auction, competitive purchase, direct purchase, single source purchase. Among these, auction and direct purchases could be used as a prototype for e-auction and group purchasing. Competitive purchase was most suitable for products with unique specifications/qualities. It requires further in depth study to before implementation. Single source purchase may not benefit buyers as much as suggested by Linda T. Kohn's study that single source procurement can be negotiated by comparing with similar products or by bundling orders with similar products with different specifications to negotiate for discount similar to group purchasing concept. From group purchasing referred to in our literature reviews was conventional practice. Buyers apply for membership and pay admission fees to participate. GPOs' representative will represent the group for negotiation. This research focuses on the online group purchasing necessary to be studied further for future system development.

Table 2: *Data used for analysis was collected from our sample group from small and medium companies.*

Purchasing Method	Type of Product	Value (THB)
Competitive Advantage	Direct material or the parts that require long lead time for product development	
Single Source	Specific technical specification or indentify supplier	
Auction	Any products or service Not in 2 above criteria	Over 1,000,000
Direct Purchasing	Any products or service Not in 2 above criteria	Under 1,000,000

They informed that group purchasing can help organizations procured goods/products at lower costs and increase bargaining power. However, sample group from large organizations believed group purchasing benefits their organizations but were uncertain whether it helps in terms of bargaining power and special offers. Our findings support Turban and King Concept referred to in the literature review section that "this concept focused on facilitating small and medium enterprises to procure right products at lower costs."

Our study revealed that buyers were not willing to pay for membership fees to join group purchasing because they were uncertain if the discounts gained or costs saved from group purchasing will be greater than additional expenses incurred. From sellers' perspective, it would be like no return investment if they do not win the auction. However, sellers expressed their willing to pay for the e-marketplace membership to GPOs in the form of sale/order percentage if they won the auction. We did not find any information about how the admission/ administrative fees should be paid from previous studies on the subject. Here are two possible ways of managing admission/administrative fees:

Turban and King suggested that "for participating in group purchasing, some companies need to pay to participate and they may allow a representative to act for them in negotiation and contracting activities.

Linda T. Kohn mentioned administrative fees charging that "funding services using contract administrative fees paid by vendors or by directly charging customers that used the services."

Concerning the appropriate percentage should be charged for administrative fees, vendors have diverse opinions. It could be explained that since different products charged different rate of profit

margins so each vendor's ability to pay for administrative was different depending on their profit per unit. Companies selling products with high profit margin are more capable of paying for administrative fees. On the other hand, companies selling low profit margin products are less capable of paying for administrative fees. This data supports Linda T. Kohn's research that mentioned percentage charged for administrative fee was 0.09% at the lowest and 10% at the highest. (Vendors willing to pay at 10% were in emergency consulting and brokerage service industries)

E-Auction

E-Auction processes observed in our study were conformed to e-auction principles adopted by many public and private organizations as well as e-marketplace administrators except some minor differences based on each organization's policy. The findings can be considered in two aspects:

1. Comparison between online auction and conventional auction

- In a conventional auction, vendors can only offer their best price only once per auction while they can do it as many times as they want within time limit in e-Auction
- In term of transparency, an e-Auction can reduce the price conspiracy potential because it was a complete anonymous process and price update was available to all parties.
- Bidding process in a conventional auction was done by submitting bid in an enclosed envelope while in an e-auction, there were number of ways for bid submission i.e., English Auction, Dutch Auction, Private Auction, Reverse Auction, Vickery Auction, and Yankee Auction. This supports Tippawadee Meksawan's (2004) ideas that have classified e-auction types (information showed in Chapter 2)
- In a conventional auction, participants must meet at a meeting place to participate while in an e-auction, they can enter the auction from anywhere with internet access. This was supported by Wanlapa Waitayakorn's definition of e-Auction. (Information provided in Chapter 2)

2. Comparison between a general e-auction and group purchase e-auction

- Online auction for group purchasing can be done via e-marketplace without any central service provider involvement.
- In a general e-auction, buyers will select qualified bidders. While in a group purchasing e-auction, e-marketplace will identify bidders who meet the set standards.
- Supplier Assessment

The results revealed that an important thing in e-auction was to ensure buyers that sellers who won the bid were capable of delivering products at agreed date and time, with agreed quality. Therefore, there should be standard/ criteria to screen sellers. Sellers must be evaluated based on set standard and criteria to participate in the e-auction and group purchasing. Moreover, there should be processes to develop and improve some sellers who do not meet the criteria. The process to screen suppliers- supplier assessment review (SAR) – major categories in which suppliers will be assessed were overall performance, production capability, technological capability, management effectiveness, quality management ability, and emergency plan.

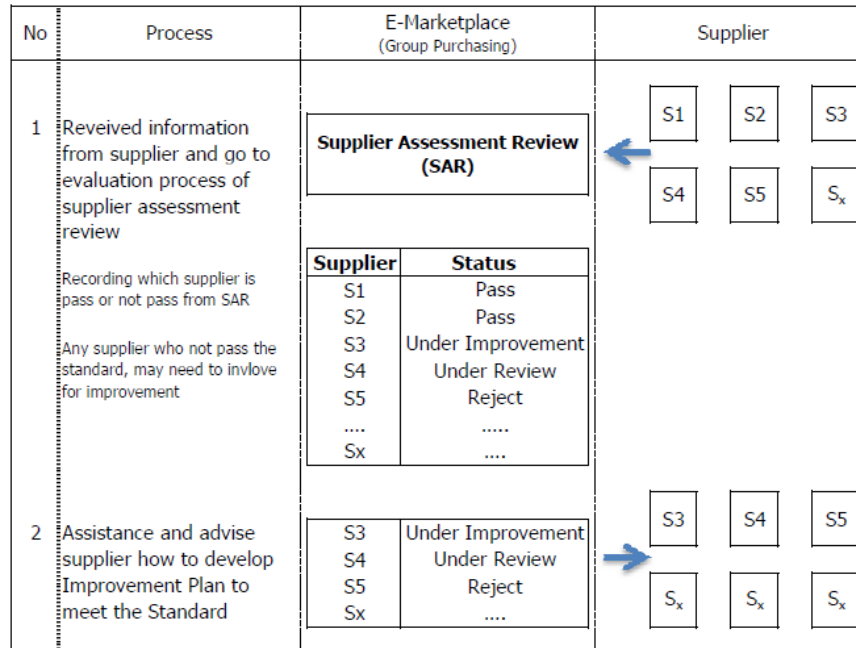


Figure 2: Supplier assessment review process.

The SAR (Supplier Assessment Review) was carried out by the e-marketplace but once the qualified vendors were selected, continuous vendor evaluation was necessary to ensure buyers that acceptable standards will be maintained and improved. Feedback system is a system for evaluating suppliers after the transactions. Buyers will evaluate suppliers in various aspects how they can satisfy buyers expectations such as products or services, after sale service, on-time delivery, and product/service quality. Feedback scores will be shown in term of a percentage and are available for all participants. Feedback scores can impact sellers' qualification for the participation in the next auction. If any supplier's scores do not meet standards, it must have materialized plans for improvement otherwise it won't be qualified to participate.

E-auction and group purchasing processes can be illustrated as follows:

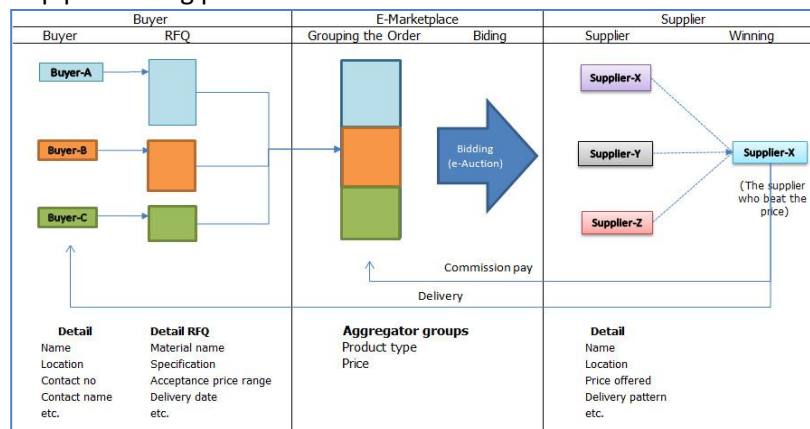


Figure 3: Trading processes via group purchasing and e-auction

Recommendation

Online group purchasing was limited to products with unique specification so it required more time for the development and search for single source vendor. A conventional group purchasing was easier to manage. It may be necessary to let users learn about its benefits for 1-2 years and then conduct further study because group purchasing for unique products or single source vendor products may have different business processes. Buyers may be required to pay administrative fees for vendors or both parties may be required to pay the administrative fees.

Although this research scope focused on an e-commerce, data collected from the interviews suggested that for M-commerce and F-commerce, consumers require:

- M-commerce: A study an overview information on current practice, trends and case study of auction website suggested that trends are moving toward M-commerce. This finding was supported by the secondary data research – Thailand's wireless network technology development and smart phone and application system development. With large number of smart phone and application available, along with the lowering costs, and easier internet access. Next project was to study M-commerce using mobile application to trigger group alert when there are products with similar specification available.
- F-commerce: Group purchasing via social network like facebook becomes important due to its widespread use. There are over 1 M facebook users in Thailand, therefore integrating facebook with social network group purchasing will help establishing strong user base.

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In Praise of Popularizers

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ABSTRACT

Research and teaching: companion practices, as are teaching and learning, learning and research. Teachers who blend these practices companionably and who communicate well nudge their students by example toward doing likewise. The teachers we admire most, along with the writers whose work we return to rather than skim over or read the crib notes for, are generous, gracious, graceful prose stylists.

This essay is a shout-out to popularizers who bring important but sometimes difficult subject matter to life for the layperson. Not all research wants a wide audience, nor can every scholar be an Explainer to the Rest of Us. But if research is to be meaningful to the most people possible, someone's got to hoe the middle row. Thanks to writers like Bill Bryson, Steven Pinker, and others, this work is being done in a host of fields and in the overlap between them as well as the spaces in-between.

Last spring at Webster University Thailand, the class I enjoyed teaching most was a First Year Seminar for which the main text was Bryson's *A Short History of Nearly Everything*, a book that spans disciplines and covers a world of discoveries and debates. Whatever its shortcomings—a tendency to oversimplify complex ideas, or to focus too much on the catfights of egocentric experts—*A Short History* is a huge achievement. Bryson makes a hard job look easy. He boils down big ideas we are all interested in but that baffle some of us with their bigness and even, we suspect, conspire with high priests to keep us bewildered. What's more, Bryson savors questions still unanswered. Anyone still spoiling for a creation vs. evolution fight should find enough mystery in matter in Bryson's book to just read and sit and wonder.

This essay also explores how books meant for a popular audience—and by this I don't mean pop-culture artifacts or post-modern articles about them—can help meet the teaching and learning challenges of university first-year programs like the one at Webster University. These challenges can be especially tricky to reckon with in academic (vs. ESL) classes conducted in English but containing students whose English fluency is still a work in progress.

Keywords: Teaching, learning, literacy, popular, research.

INTRODUCTION

Besides being a course for students just starting their college studies, the First Year Seminar at Webster University Thailand has a diverse roll-call: students from half a dozen or more countries some of whose first language isn't English. The challenge of last spring's course—a deeply rewarding one in the end—was to help both non-native English speakers and non-science nerds warm to a not-so-short (625 pages in the must-have illustrated edition) history of a whole lot of things. I for one

found it gratifying to read about quarks and dark matter without my eyes glazing over—and then oddly thrilling to learn this summer (2012) that the Higgs Boson particle is really for real.

Granted, other writers besides Bryson could have explained such stuff to me had I been paying attention. And hard-to-follow doesn't always mean badly written or not worth reading. Even at just two pages, John Nash's "Equilibrium Points in N-Person Games" (which lays out the concept that won him a Nobel Prize) is hard going for a novice to game theory like me. Yet "Nash's theory...should now be recognized as one of the outstanding intellectual advances of the twentieth century," according to economist Roger Myerson (cited in Klarreich, 2012). Science writer Erica Klarreich elaborates:

The influence of a scientific paper can usually be measured by counting how many times other scientific papers have cited it. In the case of Nash's 1950 PNAS paper, however, that measure would be useless, observes economist Avinash Dixit of Princeton University. "No one cites Nash's paper any more, for the simple reason that 'Nash equilibrium' has become a word in the language," he says. "That's the ultimate test of success." (Klarreich, 2012)

A first-year college student referencing Nash's work might be confused by a claim like the one above. But "cites" here is used in the loose sense of "referring to" rather than the stricter academic sense. Even so, and even though I know the presumed reasons why, I still don't get how a research paper written on Nash for a class or for an academic journal has to be full of parenthetical or footnoted citations and a book meant for popular consumption doesn't. This dual system, while of merit in steering clear of plagiarism and leaving a breadcrumb trail for researchers, creates a deeper than necessary divide between "research paper" and "essay."

If critical thinking skills and an ever-expanding list of literacies are ultimately what teachers hope to help students develop, and if the essay is the ideal exploratory form as Montaigne discovered (Massey-Warren, 2011), why not encourage students to write more exploratory essays (but not formulaic 5-paragraph ones)? For that matter, honest research involves questions in search of answers rather than notions on a mission for proof. It's possible to quest for evidence in a spirit of open inquiry—it just takes more effort than only reciting what you already know or just insisting your side of the argument is right.

Lord knows science, like religion, has made its share of faulty claims. We're all well-versed in the maxim of today's miracle turned tomorrow's nightmare. A recent item in the International Herald Tribune ("From Our Pages...50, 75, 100 Years Ago") excerpted an article from 1937 proclaiming a new chemical "said to kill germs which have entered the bloodstream," the (then) latest "greatest medical discovery in twenty years." The unnamed substance, a sulfa drug as it turns out, also "had amazing results, it is said, in reducing deaths from child bed fever," or puerperal infection, which many women contracted after childbirth, mostly due to physicians' nonchalance about washing their hands (Mitchell, 1937). Certainly sulfa drugs saved many lives in the pre-penicillin days, but 1937 was also the year of an infamous drug disaster: 100 people dead from a toxic raspberry-flavored syrup called Elixir Sulfanilamide. Science moves on, making life-enhancing discoveries as well as big mistakes.

I recently read a peer-reviewed paper in which the author admitted he might be wrong...three exclamation marks implied. Why should an admission like that be so unusual in academic writing? Why should honest exploration be confined, again, to the exploratory essay? And what's wrong with considering contradictory ideas, even ideas that contradict our cherished notions? The writers most of us admire most, far from being kneejerk contrarians, instead excel at entertaining contrarities.

Take Peter Elbow. Forty years ago his *Writing without Teachers* inspired my mother to take a new (for conservative Mississippi in the 1970s) approach to conducting a college composition class. She went right on professing writing, and so did Elbow, but as they'd both agree and others have pointed out, writing can't be taught really, only coached. Elbow's latest book is equally inspiring. *Vernacular Eloquence* makes a convincing case for the power of speech to improve writing, both at the early "talking onto the page" stage and with later drafts, read aloud to hear whether they sound right—not just correct but conversational, human-voiced rather than pedant-inflected.

SOME METHODS, NO "METHODOLOGIES"

A Short History of Nearly Everything (2005) was some of my students' first real dip into some major scientific questions and discoveries. Some had studied, say, Einstein's Theory of Relativity in high school, and one or two knew more about it than I did. But even for those students there were challenges in reading, writing, and talking about such concepts in English. Does that matter? That is, if they get the gist, is it important that they be able to discuss it fluently in English as well as in their native language? Well, yes this sort of matters if, as at Webster University, the entire curriculum (except foreign language classes) is in English and the students come from all over the world. For some of these students, even the "content" courses they take at Webster have an ESL aspect. A fine line has to be navigated between facts and stats and fluency in the language being used to discuss them—and another line charted between both of these and the beliefs and concepts behind and beyond them.

In Thailand's "English Speaking Year 2012" and an age when English language study is on the rise across Southeast Asia and other parts of the world, it's worth considering how teaching approaches that draw on findings from cognitive science can help students become better communicators, especially those whose first language isn't English. The shift from "instructivist" to constructivist teaching and learning began years ago (at least in what's called the West) and, some would say, has hit its ludicrous limit. But true student-centered education—taking students as they are, using (and letting them use) what they already know as a starting point—still takes a lot of work on everyone's part. Perhaps it also requires a way of talking about the process, a meta-language with which to dissect the communication challenges in classrooms where not everyone shares the same native language. The notion of a universal grammar (though still being debated) is a potent one. If "mentalese," as Stephen Pinker (1994) calls the language of thought, has a syntax of its own, one that all natural languages share, then maybe the study of a mix (a multitude) of media is an important part of all learning, and an important force for a kinder, gentler globalization. In any case, in any classroom or anywhere, at some point we encounter the limits of language, even a shared one, to reflect our lived and felt experience or to explain it.

Literacy

"Literacy" has given way to "literacies": Academic, Visual, Information, Digital, Cultural, Financial. My pet literacy of late is what Mark Hurst (2007) calls Bit Literacy, the skill of managing information overload in the information age. But isn't being literate just understanding something and showing so? Or are we headed toward a day when every branch of knowledge, every academic discipline, even every sub-specialty declares its own list of literacies? Still, even if overused or indiscriminately applied, the "literacy" label implies a growing awareness that it isn't enough today to know the 3 Rs, and by the same token that it's becoming more and more important to assess learning in a broader way than in the past. "Texts" include more than just books, and "reading" isn't just to do with words. Multilingual is good, multiliterate better. Ambiliterate, anyone?

Integrative Learning

In her essay “Media Literacy—Challenges Ahead” (2005), Sonia Livingstone advocates a “convergent notion of literacy,” which sounds to me like the sort of skills-synthesis university first-year programs aim to foster. Again, at Webster University Thailand this aim isn’t and can’t be only about breadth and depth of knowledge and skills. In some classes, English is the medium but sometimes inadvertently becomes the message. When that happens, native English speakers usually (not always) have an edge over those who learned English as a second or foreign language. To return to the idea that “literacy” today means more than the ability to read, write, speak and understand a common tongue: how to give the old-school skills their due without letting them eclipse other ones? The First Year Experience program at Webster University aims to help students build critical-thinking and integrative-learning abilities, which (especially at the university’s overseas campuses like Webster Thailand) can be hard to assess using a single standard based largely on a student’s English fluency.

The First Year Seminar at Webster University isn’t exactly a writing class, though students do a lot of writing for class and in class. (But then, most college courses are to some extent writing classes.) Writing counts, but not as much as students’ understanding of and engagement with the course content...if only the two could be so easily sorted! Well, they can at least be juggled without dropping one ball or the other. Many FY-Seminar students also take a Composition class, and some are enrolled in subject-matter courses as well. Academic-course instructors sometimes complain (sometimes understandably) that students should already know how to write well and do research before entering their classrooms—but except at top-tier universities that turn away more applicants than they admit, that expectation just isn’t realistic. More than ever, college teachers today have a shared responsibility to coach students in improving so-called basic literacy skills, or at least to accommodate different fluency levels in an English-language international setting. Again, it’s worth asking if the focus on research papers helps students become better writers and better scholars or just adds to the tribe of scribes penning papers only a few people will ever read.

The First Year Experience is part of Webster University’s Global Citizenship program. This year all students in the St. Louis program (and at some of the other Webster campuses) will be reading and discussing *The Last of the Tribe: The Epic Quest to Save a Lone Man in the Amazon* by Monte Reel. The idea is to get students not just globally aware but actively concerned, perhaps locally involved. As Linda Christenson (2009) writes, “If we intend to create citizens of the world...then we need to teach students how to use their knowledge to create change.” Christenson believes “we need to create a pedagogy of joy and justice.” While I’m uneasy with any good idea in search of a mandate, I support her goal of “uncovering brilliance” by having students write life stories and making them “the subject of their own education.”

Maybe the teacher/student arc has swung too far—from “I talk, you listen” to “Whatever you want.” But that’s how pendulums swing: from extreme to extreme until settling on a workable in-between. Grade inflation is forever on the rise (as is the backlash against it), and while this doesn’t necessarily mean students are being overindulged or even well-served, it does signal a shift in the balance of power. Christenson argues that “Too often the rigor offered students [in place of the real challenges they crave and need] is a ‘rigor’ of memorization and piling up of facts in order to earn high scores on end-of-course tests.” I think she’s right, but I can also hear back-to-basics hardliners demanding to see the better plan.

So: How to better cater to students without caving to their every whim? With non-native English speakers, is it possible to go easy on their English skills while still helping hone their critical thinking?

What used to be called pidgin English now has a host of more demographically (if not politically) correct labels like Spanglish, Manglish and Tinglish. Some non-native English speakers can, should, and do become English-fluent, but is this absolutely necessary for every college student even at an English-curriculum school? It makes sense that as Thailand gears up for ASEAN Economic Community membership in 2015, the education ministry would call attention to the need for more and better English. Still, the trend in the world outside academia seems to be away from so-called proper English as essential and toward tolerance of different dialects. Do we need an Esperanto to rescue us from the Tower of Babel? If so, what would it look and sound like, what should it be? The Literature of Film? Machine language maybe?

Critical Thinking

Both critical thinking and integrative learning are often evaluated in terms of how well students demonstrate these skills in their reading, writing and discussion. But both are to some extent skills- unto-themselves, independent of linguistic fluency that requires some consideration beyond fluency in the language being used to test them. It does seem, as Pinker has long claimed, that there is a “mentalese” in which we think—a language of thought with a universal grammar at its heart that doesn’t vary nearly as much as the words do from language to language. Perhaps we do need an Esperanto, and maybe we already have one, and it may not be the language that goes by that name.

What is this common lingo—or the closest thing to it? Is it story, image, film story, moving image, sign language, the stuff of bits and bytes? Some combination of all these plus impulse, sensation and emotion—something like the language of thought? James Joyce wanted the epiphanies that end his *Dubliners* stories to occur for readers just as they do for the stories’ characters. Such “aha” moments—not always pleasant, not even always conscious—are something we all experience, like dreams, but which we often struggle to communicate even to people we share a language with. Epiphanies do seem to be a type of universal experience. But reading about someone else’s wide-eyed moment doesn’t always evoke one in us, if we aren’t fluent in the nuances of the language the story is told in, have hold of a bad translation, don’t like the story, or just don’t much like to read.

Just about everyone thinks critically without having to think about it. Some people do it better than others, and most of us could stand to improve at it. But what we call “critical thinking” can’t be completely unhooked from the language we use to demonstrate our skill with it. I don’t know if this means that language skills matter more or less than other ones. Regardless, let’s not mix up smarts and fluency any more than we have to or have already. Most every student has the potential to do well one way or another, I think most everyone would agree.

Telling stories

“History is meant to be shared,” quipped sportswriter Christopher Clarey (2012) after a golf fan voluntarily returned the game-winning Masters-championship ball he’d made a lucky catch of and could have sold for good money on eBay. The same can be said for all of history’s important ideas and discoveries, in every field including the study of language itself. Not every single big idea should be dumbed down for those without the background or expertise to follow along—but none should be hoarded either. Making good stories of them doesn’t have to amount to pandering. We impulsively tell stories and we intuitively connect ideas and try to connect with others, going so far as to pantomime or play charades when language fails us. And even when our stories don’t add up, they can still work a bit of magic if (as E.M. Forster put it) we manage to somehow “bounce” our audience into sticking with us.

Conference proceeding

International Conference: Innovative Research in a Changing and Challenging World

James Burke has been practicing the art of popularizing for even longer than Bill Bryson. His TV series *Connections* comprises three groups of episodes produced decades apart and dating back to the mid-1970s. In these shows and today on his Internet site the Knowledge Web, Burke tells stories and asks questions that make sweeping yet fascinating connections:

Question: How was Napoleon important to the invention of the modern computer?

Answer: Napoleon's troops in Egypt buy shawls and start a fashion craze.

In Europe the shawls get made on automated, perforated-paper control looms.

This gives an American engineer Herman Hollerith the idea to automate calculation using punch cards...

Which get used to control ENIAC, the first electronic computer. (Burke, 2012)

Not only is Burke's analysis less fanciful than it sounds, but it neatly links momentous developments that changed and are still changing the world. New Media sage Lev Manovic takes the story further. In *The Language of New Media* (2001), he traces the connection between the invention of the computer and the birth of photography and, later, of motion pictures. Manovic characterizes the movie camera as the first and most important convergent-tech device: recorder and projector, movie maker and movie player.

As for telling stories, Gavin Fairbairn (2000) makes a persuasive case for narrative-driven writing as the cure for deadly dull academic prose. He argues (and I agree) that a big problem with much student writing is the bad models some of their teachers churn out and exhort them to mimic. "All academic writing," Fairbairn writes, "can benefit from being construed in terms of story, whether you are writing an abstract, or something longer like an article, chapter or even a whole book." If film is the lingua franca of storytelling, storytelling may be the lingua franca of language.

Everyone is every thing

"Convergence" is another buzzword, overused but with good reason. In an age when we can be instantly connected to anyone anywhere yet often find ourselves just as alien to one another as ever, we could do worse than try to chart the interconnectedness of things. And whether we consciously consider it or not, we seem to crave a medium (or media) and a device (or devices) to go with it that connects us on demand. Since the dawn of filmmaking, movies have been heralded as the closest thing there is to an Esperanto, to a language everyone can understand. That hasn't caused us to give up our respective mother tongues, but it seems true that film is the most influential medium of the past century. And with the advent of digital audio and video and the personal computer and the Internet—the three combined to make media producers (not just consumers) of us all—comes the YouTube era in which we are all audio-visual auteurs.

Prodigies and Prototypes

When he was still in his teens, Ray Kurzweil wowed a TV audience with a huge contraption that played music its software had composed—one of the first machines successfully programmed to approximate creative thinking. Kurzweil went on to invent musical synthesizers, poetry generators, and other smartware and is best known today as the biggest cheerleader for the Singularity: a not-far-away moment when human and artificial intelligence converge to transform life as we know it more than even the personal computer and the Internet have. Kurzweil may be beyond brilliant and near science-blinded if some of his critics are correct. He takes dozens of vitamins and supplements a day in hopes of living until he can commune with his dead father and even be reinvigorated (if not regenerated) himself via DNA dabbling (Kushner, 2009). But he has been uncannily apt in his predictions and generous in his willingness to explain things plain, and his inventions have helped change the way we work and play.

WAYS FORWARD?

What does all this convergence herald for education? For one thing, the rise of long-distance learning signals a new notion of what it means to go to school. No longer is “online program” a euphemism for “diploma mill.” These days, for better or worse, even Harvard and Cambridge want a piece of the action that Phoenix University and other virtual universities (along with pioneers of low-residency programs like my alma mater Goddard College) put into play years ago. Anyway, what can we learn from convergence about how to learn, and how to better communicate with one another?

Lev Manovic (2010) argues that in an age of information overload we need to move “from reading to pattern recognition”—to do what computers do best, or at least better harness their enormous info-aggregating power.

Until now, the study of the social and the cultural (individual beings, individual artifacts, and large groups of people/artifacts) relied on types of data: “shallow data” about many (statistics, sociology) and “deep data” about a few (psychology, psychoanalysis, anthropology, art history; methods such as “thick description” and “close reading”). However, the rise of social media along with the computational tools that can process massive amounts of data makes it possible for fundamentally new approach to the study of human beings and society. We no longer have to choose between data size and data depth. (Manovic, 2010)

Still we have to figure out how to process all this data and discuss it. Robert Kowalski (2012) suggests we would do well to try a lingo somewhat like computerspeak. If there is indeed a language of thought (despite the naysayers), Kowalski says it may resemble machine language and should be further studied and finessed. This may come as dubious news: the idea that people should speak like their devices. Isn't that what's wrong with public discourse today—that it's empty, robotic? Maybe so, but I blame clichés, jargon, euphemism, and other lousy language that all too many of us overuse. But the prospect of inching closer to a truly common medium of communication continues to work its spell on us. If talking more like androids helps us better commune with others, who's to say there isn't a kind of poetry in that?

In summer 2012 the planet Venus made its last pass across Earth's view of the sun for a hundred years. A couple of my Freshman Seminar students said they planned to stay up late that night in June and watch for it. They were intrigued to learn that the Transit of Venus matters because—in its pairs of occurrence 8 years apart with a century in-between—it has helped us figure out how old the universe is and added a missing piece to the puzzle of how we got here. There is no question simpler yet more complex, more esoteric yet so down-to-earth.

CONCLUSION

In *A Short History of Nearly Everything*, Bill Bryson writes about big but basic (in the sense of fundamental) stuff with characteristic grace and wit. Books like Bryson's casually but compellingly remind us of profound matters: our shared hopes and desires and our good luck at getting to thrive in a universe that may not care whether we survive or not. I'm a bit more switched-on to science now thanks to Bryson, and I love this line from Kary Mullis, though I don't know nearly enough science to nod sagely in agreement:

Science, like nothing else among the institutions of mankind, grows like a weed every year. Art is subject to arbitrary fashion, religion is inwardly focused and driven only to sustain itself, law shuttles between freeing us and enslaving us. (Mullis, 2009)

Like his fellow Nobel laureate Linus Pauling, like inventor and futurist Kurzweil, Mullis has rankled some of his peers by weighing in on subjects supposedly outside his field. In my view, all three deserve applause for wanting to make the world a better place, trite as that sounds, and even if their noble aims are mixed with ego and errant thinking. John Nash's prize-winning concept has to do not with how people, given their egos and other factors, behave in real life but how life would be if we all behaved purely rationally. Considering his own real-life problems (as revealed in the book and movie *A Beautiful Mind*), Nash must know better than most how hard it is to do so. And with their gain-saying and power-jockeying, scientists can't always be trusted to be reasonable, let alone purely rational.

This paper is more reference-heavy than I meant it to be and asks too many rhetorical questions. I don't mean to be a practitioner of what I'm preaching against or to seem soft on citing sources. Just this week journalist Fareed Zakaria, whose writing I admire, got a month's suspension from TIME and CNN for plagiarizing parts of a story on gun control. Sadly, not just students but also a lot of professionals commit copy/pasting. But can we agree that although plagiarism should be deterred, so too should wanton referencing and citation-scattering? And does anyone need an "experts say" to figure out, for instance, that train travel in the USA is inching back up because flying has become such a hassle? This sort of overcautious, faintly patronizing tag—from another *Herald Tribune* article (Nixon 2012)—appears way too often even in newspapers I admire.

A drawback of using a fat book like Bryson's (no matter how big a pleasure to read) for a First Year Seminar is that it doesn't allow much room to roam elsewhere. New college students need to read wide as well as deep, and they need practice in other skills than just the 3 Rs. In theory, even a short and bittersweet novella like Joseph Conrad's *Heart of Darkness* could provide plenty of grist for a semester's worth of readings, discussions, and assignments, whereas just getting through *A Short History* in a semester left us little time for much else. This fall I plan to take a different approach in the Freshman Seminar, drawing on, yes, bits of Bryson's book but also following more closely Webster University's recently updated First Year Experience plan...and drawing on excerpts from populist-spirited works like these:

- Peter Elbow's *Vernacular Eloquence*—"Write It Like You'd Say It" (McKean, 2012) says it all.
- *Choosing Civility: The 25 Rules of Considerate Conduct* by P.M. Forni—because how we can we expect to communicate with anyone if we don't proceed with courtesy?
- Poet Robert Bly's *A Little Book on the Human Shadow*—a lot less ponderous than a tome on Freud (or by him) and a great small guide to reconciling our inner Dr. Jekylls and Mr. Hydes.
- *The Better Angels of Our Nature: Why Violence Has Declined* by Steven Pinker—Humanity, says Pinker, isn't in the hopeless downward spiral it sometimes seems or the news leads some of us to believe.
- *The Einstein Factor: A Proven Method for Increasing Your Intelligence* by Win Wenger—Improve intelligence, creativity and fluency by practicing the technique of Image Streaming.
- *Digital Storytelling Cookbook** by Joe Lambert—Storytelling is as old as we are, but modern-day storytellers (that's all of us) need to know how to add sound and vision to their tales.

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- *How to Architect by Doug Patt*—"Architect" as a verb, from a guide for anyone interested in workplace and living-space design, not just aspiring building designers.
- *Occupy*, Noam Chomsky—Part of the Occupied Media Pamphlet Series from Zucotti Park Press, this short book is more a collection of speeches than essays. But Chomsky's tribute to activist historian Howard Zinn is lovely.
- *The Independent Scholar's Handbook*, Ronald Gross—Even an incomplete list like this one would be remiss in leaving out "the indispensable guide for the stubborn intelligence" (the book's subtitle). Thanks to veteran indie scholar Kenneth Houston for pointing me toward it.

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