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Volume 8, Number 1, April 2007



CONTENTS

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Designed by Katherine Dix

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Bringing critical thinking to the education of developing country professionals

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Cultural differences between Asia and the West and their influence on teaching, are reviewed along with previous experiments in bringing critical thinking to Asian education, and recognition of needs for and barriers to achieving change. Principles driving design and implementation of a two-course sequence in professional transportation studies are presented. Asian students were cast as teachers who made regular presentations and understood they had valuable contributions to make, not traditional passive roles to play.

The students showed an ability to undertake interdisciplinary analysis; to question assumptions of existing practice; and to seek solutions for local needs that often departed from those suggested by commonly-taught Western-based theory. The students gained notably in presentation skills and self-confidence. These are important attributes for attaining change in developing countries. Inferences from the results of the study are limited by the sample of highly-talented graduate students. Further finely-documented experiments involving the implementation of student-centred learning in Asian settings are needed.

Critical thinking, developing country education,
Asian education, professional education, transport planning

INTRODUCTION

The educational methods commonly used in developing countries, particularly rote learning by students expected to be passive recipients of knowledge, are mostly ineffective at training professionals to think critically and creatively about the development needs of their nations. Whether mathematical formulae or facts are memorised, parrot-learned material lacks practical applications without an ability to place it in the context of local environments, where social and economic systems and priorities, finances, and managerial and political practices may be anything other than that outlined in the textbook.

In order to move their countries forward, development professionals require the critical thinking skills to enable them to identify and question planning and operating assumptions, which act as constraints, rather than blindly adopting inappropriate measures which may have become institutionalised. They also need the creativity to design responses to local problems that are sensitive to local needs, and which may require changes to existing practices or the use of approaches that vary from the Western ones taught in textbooks.

Planning for transport systems development and management is one of the most important infrastructure activities for developing countries. Inadequate transport systems limit mobility and commerce. Most of the developing countries of Asia suffer from severe and increasing congestion as rising incomes promote car purchases, and inadequate and poorly-managed road and public transport systems fail to take the strain. Dealing with such intense problems requires not only professionalism but interdisciplinary knowledge and skills, and the ability to understand what actions are appropriate for meeting local needs, and what are politically and organisationally

practical. Transport planning for developing countries therefore presents an excellent case for examining the effectiveness of student-centred teaching practice that engages participants in critical analysis to find effective solutions to complex problems that go beyond easy textbook solutions.

This paper starts with a literature-review based overview of (a) cultural differences between East and West and how they relate to teaching practices commonly used in Asia; (b) of recognition of the need for change in approaches to teaching; (c) previous innovations which have introduced critical thinking to education; and (d) barriers to widespread adaptation of such innovations. It then presents a reformed teaching approach for teaching transport planning introduced at a university in Thailand (which will be referred to as the Asian International University, that is not its real name). Detailed notes on each student's in-class behaviour were taken on a laptop during every class meeting throughout the two courses under the new regime and during a field trip held in Singapore to track student responses to the new educational environment over time and to provide data to evaluate the impact of the experiment. The implications of the experiment for professional education in the developing world are subsequently discussed.

Differences in Eastern and Western Patterns of Socialisation and What it Means for Critical Thinking

In his revealing book, *Why Asians are Less Creative than Westerners*, Singaporean Ng Aik Kwang (2001) identifies characteristics that help explain why passive education is deeply set in Asian culture. The Western concept of the self revolves around individuals in pursuit of their own interests rather than following a group. Emotions tend to focus on the self: pride, anger, joy and sadness, for example. In dealing with others, Westerners tend to be frank and direct, differentiating themselves from others and establishing their uniqueness.

In contrast, an Asian person tends to be “psychologically dependent on the ingroup, and conforms to it instead of following the wishes and desires of his own heart”. Social order and harmony are important, along with the upholding of group social rules and norms. Emotions tend to be ‘other-focused’, such as feelings of shame, embarrassment and empathy. Caution and indirectness are keynotes to interaction, with a focus on reading the other person's mind rather than expressing personal opinions. In this way, group approval is gained (Ng, 2001, p.27). In addition, Ng stated, respect and obedience to parents is emphasised, rather than self-reliance:

The cultural emphasis on filial piety means that children from a traditional Asian family are raised in terms of whether their conduct meets some external moral criteria e.g. not being rude to one's parents or not treating them in a disrespectful manner... Dependence of the child on the parents is encouraged, and breaking the will of the child, so as to obtain complete obedience, is considered desirable. (Ng, 2001, p.29)

Furthermore, Ng (2001) argues that Western socialisation tends to “identify those positively-valued attributes of the self that accentuates the person's uniqueness. Hence, Western caretakers will draw attention to children's positive features, praising and complimenting them”. In the East, principles of obedience to parents and group, rather than individual identification, lead Asian caretakers to “draw a child's attention to shortcomings, problems or potentially negative features that have to be corrected to meet the expectations or norms common in a social relationship” (p.43). In the West, a focus on a person's uniqueness gives them scope for criticism of differences surrounding them. In the East, the ideal was to merge with the group, suppressing differences separating the individual from the group's membership.

The emphasis on obedience and conforming to group expectations, together with the avoidance of losing face as a result of appearing different, limits capacity for creative and critical thinking according to Ng (2001, p.56, p.87). Typical Asian social constructs therefore fit with an authoritarian teaching structure, where the flow of knowledge was from teacher to student. The

role of the student, as a member of a group bound to obey the teacher, is to absorb information provided by the teacher, not to open it up to criticism, and especially not to do so in a way that marks them out from other members of the student group.

Teaching Practices in Asia – The Pervasiveness of Rote Learning

As *Newsweek* pointed out, “Asia’s elite, of course, always knew it takes a lot more than memorisation to make it in the modern world. That’s why they sent their own children to school in the West” (Elliott, 1999). In addition, exclusive private schools have mushroomed in Asian capitals, where they advertise Western-style education. Take this Pakistani school, which headlines “An American educational approach values and encourages Active Learning”:

Learning is not a spectator sport. Students do not learn much just sitting in classes listening to teachers, memorising pre-packaged assignments, and repeating back answers. Students must talk about what they are learning, write about it, relate it to past experiences, and apply it to their daily lives. Students must make what they learn part of themselves. (Lahore American School, web undated)

The promotion of active and critical learning is a hot topic in the West, with a growing literature on critical thinking and curricula innovations (Meyers, 1986, p. 2). While, “The lecture tradition fosters a generally passive style of education in which critical thinking is taught only implicitly or not at all” (Meyers, 1986, p. 2), in the United Kingdom, lectures have traditionally been complemented by small-group tutorials or seminars which revolve around critical discussion of subject matter, and which are at the core of the educational process.

While lectures still play a major role at the university level in the United States, U.S. academic practitioners generally require student participation in class discussions from undergraduate, graduate and professional students. Oral presentations and completion of major papers are regular requirements of many courses in the United States (Haas, 1996, p. 355). Because participation is seen as an integral part of university learning, “American university professors are often frustrated by what they see as a lack of participation by foreign students” (Johnson, 1997, p. 48).

American education is usually considered to promote active learning, “where the students are very much involved in and often responsible for much of the learning that takes place. The ideal student is considered to be creative, inquisitive, resourceful, and – to some respect – skeptical” (Upton, 1989, p. 24, citing Chen, 1981). American teachers, who see themselves as facilitators of learning rather than founts of knowledge, are often willing to admit their ignorance of subjects and are not embarrassed by challenging questions. “Americans will probe for questions, encourage discussion, praise creative thinking and daring ideas; but often they will not give direct answers” (Upton, 1989, p. 25).

In Asia, much education revolves around rote learning. A typical Japanese university lesson, for example, “consists rather heavily of the teacher lecturing while the students take notes which they then repeat in order to pass exams” (Potter 1996, p. 31). In Pakistan, teaching relies heavily on dictation and “examinations are tests of memory” (Hoodbhoy, 1998, p. 251-252).

Perkins (1992, p. 31) questions the value of learning based on the accumulation of facts and routines. He is critical of tests which “press for fact upon fact, procedure upon procedure, emphasizing multiple-choice responding rather than thoughtful performance on complex, open-ended tasks” (p. 32). As a consequence, Perkins says, students remember knowledge when directly quizzed on it, but do not know how to use it in open-ended situations (p. 22). This is a critical deficiency when knowledge is to be applied for real-world problem solving. It puts students taught this way, along with their countries, at a competitive disadvantage.

The origins of rote learning are, however, ancient and rooted in civil practices as well as in the cultural understandings identified by Ng. In China, traditional texts of study, the ancient classics, remained the same over two thousand years of study, and success at civil service exams depended on memorizing them. “Students were not expected to interact with, give their opinions on, evaluate, or discuss the classics; they were expected only to memorise them. Even the slightest deviation in thinking from established orthodox thought was likely to result in failure” (Upton, 1989, p. 21, citing Ebrey, 1981).

In Confucian China, words from the teacher were considered “absolute truth and one did not disagree with them. To do so would be to place oneself in a position of authority over one’s teacher, which was unthinkable” (Upton, 1989, p.22). In modern China, lecture-based education has continued this teacher-centred tradition in which the learner was seen as a passive

receptacle into which knowledge is poured for safekeeping. This prevalent view of students in modern China is well illustrated in the following excerpt from a Chinese student’s description of a good student. “A Chinese student comes to the classroom to **take in** knowledge, to learn everything he doesn’t know yet. He is ready to **receive** whatever his teacher is going to offer. He will listen to the lecture carefully, **write down** everything from the blackboard [into] his notebook, and **follow** the instructor’s chain of thought... So long as he can **take in** everything, comprehension is not of primary concern. (Upton, 1989, p.21, citing Chen, 1985. Emphasis added by Upton)

Similarly, in Thailand, education remains focused on transferring academic knowledge, and on memory-based learning, rather than trying to enhance the learners’ abilities in acquiring knowledge, creativity, and problem solving skills” (Somwung and Sujiva, 2000, p. 87). As a result, Thai education performs poorly at cultivating analytical thinking, critical thinking and problem solving. The passive nature of education is reinforced in Thailand, as in China, by traditions of authority and obedience. Students, of socially lower status than teachers, are expected to be respectful, humble and avoid embarrassing their teachers according to the principle of “greng jai” (Servatamorn 1997, p. 13). “Students greng jai their teacher by not asking questions, even when they do not understand the lesson” (Hallinger and Pornkasem 2000, p. 50). Individualism or standing out from the group is frowned upon in Thai culture (p. 51), a further deterrent to speaking out in class.

In Japan, the same principle held true. McVeigh (2002, p.99) reports that:

Some students had a negative attitude toward those who answered in class: “a person who answers cannot be a nice person”; “such students are imprudent”; students who answer are being bold...” They also explained that they were very much concerned that other students might think they are showing off if they answered (or they might be embarrassed if they gave the wrong answer) (also see Johnson, 1997, p.48).

According to McVeigh (2002), Japanese students are socialised to regard knowledge only as a step towards passing examinations which are the key to getting jobs. “Knowledge is shattered into a vast number of unrelated bits and pieces useful only for filling in exam sheets, filling out forms, and proving to the authorities that one has persevered through the ordeal of ingesting large amounts of data” (p.96). Doing well in exams implies being obedient and uncritical (Yoneyama, 1999, p.146). With high-stress cramming at the school level, Japanese students, by the time they got to university, are “noted for their general passivity and apathy towards matters academic” (McVeigh, 2002, p.232).

Another study compared Indonesian and Dutch student study patterns and found that Indonesians tended to process information in a stepwise fashion, while the Dutch students used deeper learning strategies (Ajisuksmo and Vermunt, 1999, p.56-57). The authors reported that the dominant instructional practice in Indonesia was explanation, with an emphasis on rote-learning to be reproduced in examinations. Teachers are viewed as powerful know-all, responsible for

student learning. Students are seen as know-nothings who must absorb knowledge from teachers and obey them. “Students are not expected to employ their higher cognitive skills, such as relating the information to their prior knowledge, developing analytical and critical views, or relating the subject matter to their social and physical environments or daily experiences” (p. 56).

The Lack of Relevance of Education in Developing Countries

Educational systems established in many developing countries under colonial administrations were arranged to follow Western liberal arts ideals, with an emphasis on learning for learning’s sake. Designed for a social elite, often expatriate, the education system was inappropriate for the needs of the majority of the local population and for stimulating development for the nation as a whole (UNESCO, 1989, p.57).

A recent World Bank study draws attention to the “knowledge gap between the subject matter currently being taught and the knowledge and skills that are required if individuals and countries are to be competitive in the globalized world” (World Bank, 2005, p.71). The bank highlights secondary school curricula that are “profoundly abstract and alien to social and economic needs,” but which hold the key to university access and to elite professional jobs. “Abstract, fact-centred, and decontextualized narrative knowledge prevails in the secondary curriculum... The endemic irrelevance of the secondary curriculum is one of the greatest obstacles to successful expansion of secondary education via curriculum reform” (World Bank, 2005, p.77-78).

The practice of requiring students to absorb facts without recourse to context becomes of particular concern when it extends to the university level, especially if students are engaged in preparation for professional job markets. Obeyesekere (2004, p.35) gives an illustration of this problem in the field of veterinary science in Sri Lanka where teaching is heavily biased towards theory, without adequate practice-based training and little exposure to non-conventional subjects such as practice management, client handling, and finance. The ‘blackboard degree’ received by students tends to be based on a routine of content-based learning and examinations, with little time for real-world clinical skills which are essential to effective veterinary practice.

Knowledge to be taught at Asian universities is often a function of the textbooks used. Educators rarely help translate textbook learning into real-world applications. Very few of them “consider ‘education for nation development’ as the approach to take in their service” (Chalio and Pratern, 1980, p.270). Textbooks come predominantly from the West, furthermore, particularly in areas of science and technology (Ahmed, 1985). “A major difficulty of most developing countries is that while science and technological knowledge is seen as important for solving a country’s problems, such as poverty, disease and illiteracy, its importation from the industrial countries poses difficulties of adaptation and use” (Saha, 1996, p.85). In the area of infrastructure development, for example, resources available may be limited in a development setting, implying a need to adapt or completely transform idealised techniques for Western settings to local realities. Infrastructure usage patterns may be quite different also – with a greater presence of pedestrians and non-motorised vehicles on roads, for example – requiring radically different approaches to design, as well as sensitivity to both national needs and the requirements of low-income users. Students taught only Western-based theory do not acquire the skills to tackle such problems.

The inadequacies of teaching through rote memorisation and the problem of relevance are intertwined. If students are expected to memorise rather than to understand and criticise, they are unlikely to realise that the education they are receiving is irrelevant to the needs of their home countries. Students learn the contents of Western textbooks which may have little application to the problems of their own countries; they pass exams; but they are ill-prepared for the very real and difficult problems their nations must transcend if they are to move forward.

There is Strong Awareness in Asia of a Need for Educational Change

Singapore's Prime Minister Goh Chok Tong contrasted the American and Japanese education systems in a June 1997 speech (Goh, 1997). Americans, he said, were "unsurpassed in their ability to produce highly creative, entrepreneurial individuals... Employers and government in the US are, however, deeply concerned about the low average levels of literacy and numeracy among their young." In contrast, the strict, centrally-controlled Japanese curriculum with its heavy emphasis on testing students' knowledge of factual content was successful when Japan relied on basic knowledge from the West. With Japan now a world leader in many areas, however, "Japan's major employers believe its educational system will not produce the individual creativity, the originality of thought and inventiveness in basic knowledge that they need to retain their competitiveness."

Goh announced a new program for Singapore called "Thinking Schools, Learning Nation," to focus on creative thinking and learning skills. Thinking Schools "must be the crucibles for questioning and searching, within and outside the classroom", he said, emphasising the need to "get away from the idea that it is only the people at the top who should be thinking, and the job of everyone else is to do as told. Instead we want to bring about a spirit of innovation, of learning by doing, of everyone... asking how he can do his job better".

The new initiative was "designed for increased instructional flexibility and relevance. It pushed the system towards a more student-centred, active learning paradigm, with the aim of producing autonomous and independent learners" (Luke et al. 2005). In order to meet the new needs, teachers in Singapore must shift from their traditional role of disseminator. "Instead, a more facilitative and coaching role, whose main task is to provide the scaffolding of knowledge, will be necessary. This means they need to use more active teaching-learning strategies to engage students to actively process the data and to assume more responsibility for their own learning" (Ong, 1999, p.113).

The new Singapore Management University is committed to an "interactive, participative and technologically-enabled learning experience" (SMU, web undated). As its president writes, with ever-changing information and knowledge, "what to know" is facing obsolescence sooner than ever. The importance of educating students in "how to think" is therefore of increasing importance in a knowledge-economy that is constantly evolving and reinventing itself, and is reflected in SMU's "teacher-as-mentor" and "interactive learning" approaches (Hunter, web undated).

Other nations in the region have also seen a need for change. China's leadership has recognised problems with dependency on rote learning (Wan, 1985, p.24). Government agencies have encouraged the use of case study methods and launched training programs for such approaches. The Chinese Case Study Teaching Society was founded, and the journal *Case Study in Business* began operations. Returning Chinese scholars trained in the United States, furthermore, have objected to over dependence on classroom lectures and promoted independent and experiential learning, peer teaching and group learning (Hawkins, 1984; Jiang, 2005, p.234-235).

In Korea, Choon Geun Rhew of the Korean Ministry of Education has complained that traditional education "hampers a balanced development of qualities that shape a good character". With the increasing role of computers, "education will focus on the part of learning which cannot be dealt with by computer, namely high-mental processing skills and character building" (Choon, 1994, p.71).

Bangladesh has shown a commitment in its five-year plans to develop a knowledgeable and socially committed workforce by emphasising relevance in education and improving quality, especially at the higher level (Chowdhury 1997, p.6), while India has seen a similar need to move away from the traditional academic approach of a colonial past and seek a new relevancy (UNESCO, 1989, p.57).

Malaysia has introduced a “Smart Schools Program” (Elliott, 1999), while Thailand’s National Education Commission (NEC) started a major reform program in 1999. Rung Kaewdung, Secretary General of the NEC (Rung, undated web) complained of “chalk and talk” pedagogy and rote learning of “knowledge that is not relevant to the needs of the learner or the community... We do not want... machine-like human beings or a walking dictionary”.

The new Thai program was established to provide training in thinking processes and the application of knowledge for solving problems. It was designed to organise activities that would allow learners to draw from experience and would enable them to think critically. According to Buddhism, Rung writes,

learning has three purposes: learn to know oneself, learn to know the surrounding world, and learn to know the relation between oneself and the surrounding world... Buddhism perceives a human being both as an individual and as a member of society living with others... It can be said that Buddhism is the religion of human development which emphasises the learning of each individual. Thus, learning reform in Thailand is likely to be successful for the concept of learning adopted from western educators goes hand in hand with our own Buddhist concept of learning.

Practice at the Thammasat medical and dental schools, which implemented Problem-Based Learning (PBL), provides an example of reformed practice in operation in Thailand. The approach involves student-centred and collaborative problem-solving in small groups. A tutor acts as a facilitator to encourage the development of clinical reasoning skills to help students choose actions in a patient’s best interest when faced with complex diagnostic situations. The innovative approach to teaching could be introduced at Thammasat because the medical and dental schools were brand new, permitting a fresh start, although the ideas have also been partially adopted in a few other locations in Thailand (Siriwan, 2006).

There is awareness, also, by the Vietnamese government, of the need for educational reform, which was one of the reasons that Royal Melbourne Institute of Technology (RMIT) was invited to set up a campus in Ho Chi Minh City, where student-centred approaches to learning typical of an Australian university were introduced, differing markedly from the practices of local Vietnamese universities and high schools (Paris, 2006).

Evidence Suggests that Asian Students Do Not Want to be Spoon Fed

Force of habit clearly influences student behaviour. Thus, one study on Chinese students in American universities reported that “most Chinese students are completely handicapped in classes where discussion is the main mode of instruction, and few feel comfortable participating” (Upton 1989, p.25). A study of Australian academics teaching in Singapore found that while many students did well in assignments and examinations, some learned large sections of material from texts verbatim (Dunn and Wallace, 2004, p.299).

More significantly, however, that same study found that the majority of students in the Australian-taught university program in Singapore wanted interaction, with interesting face-to-face teaching sessions and real-life experiences and examples from lecturers and tutors (p.297). Another study found that, contrary to stereotype, adult Hong Kong Chinese students reported a stronger preference for high-level learning and avoidance of rote learning than Western Australian students (Watkins and Biggs, 1996, p.49).

Littlewood (2000) received 2307 responses from students studying at the secondary and tertiary level in eight East Asian countries that demonstrated that the stereotype of Asian students as “obedient listeners” did not reflect the roles they would like to adopt:

They do not see the teacher as an authority figure who should not be questioned; they do not want to sit in class passively receiving knowledge; and they are only slightly on

the ‘agreement’ side that the teacher should have a greater role than themselves in evaluating their learning. The results suggest that, if Asian students do indeed adopt the passive classroom attitudes that are often claimed, this is more likely to be a consequence of the educational contexts that have been or are now provided for them, than of any inherent dispositions of the students themselves (p.33).

Citing other studies in Hong Kong and Japan, Littlewood (2000, p.34) concluded that

Asian students do not, in fact, wish to be spoonfed with facts from an all-knowing ‘fount of knowledge’. They want to explore knowledge themselves and find their own answers. Most of all, they want to do this together with their fellow students in an atmosphere which is friendly and supportive. So too, indeed, do the European students who responded: in all of the respects mentioned above, there is much less difference between the average group responses of students in Asia and Europe than there is between the individual responses of students within the same country.

Ho and Crookall (1995) found that Hong Kong students taking part in an exercise in which they were not told what to do, but had to take initiative to plan, make decisions, debate, deal with people from other cultures, handle unpredictability, and manage time and conflict issues, rose to the challenge and took responsibility for their own learning. Kember reported on the results of a series of 90 action learning projects at Hong Kong universities, which introduced a “wide variety of innovative teaching and learning – almost anything other than didactic lecturing to passive students” (Kember, 2000, p.109). Examples of concepts tried included group projects, peer teaching and writing reflective journals as preparation for group discussions. He found that the level of support for the project from students “was greater than that from departmental colleagues and at least as great as that from department heads. This is hardly indicative of a student body resistant to innovative forms of teaching and learning” (p.110-111).

Students sometimes found the new approaches taxing “but eventually came to appreciate them... Those who formed the impression that Asian students resist innovation may not have allowed the students time to adapt. They might not have taken steps to ease the transition process” (p.111). The evidence, Kember found, was that Asian students “are perfectly capable of participating actively in their own learning” (p.117). At RMIT, Ho Chi Minh City, the student-centred emphasis “can be quite a challenge for the students, but they can and do rise to the challenge... Once the Vietnamese students do adjust, they frequently surpass our international students (Australian, Korean, Taiwanese, French, American)” (Paris 2006). In Cambodia, only a small number of students can attend the elite new private universities which are opening, but in that situation as well change is in evidence, with students encouraged to be courageous in expressing their opinions and the culture of saving face replaced with a new spirit of openness (Suon, 2006).

Facilitating a Critical Learning Approach in Asian Settings

Steps are cited in the literature that can help ease the transition from traditional to participatory and critical-thinking based education. In one study of Asian students in an English-speaking university culture, a Thai student remarked, “When I want to say something to the teacher, the body language says, “What you say is not important”, or “Asian people act very stupid”, then I don’t talk anymore” (Major, 2005, p.89). Given that fear of “loss of face” can act as an impediment, furthermore (Watson 1999), it is critical that students be taken seriously and are given the confidence to understand that they have contributions of value to make.

As Nouwen (1966, p.68) writes:

The teacher has first of all to reveal, to take away the veil covering many students’ intellectual life, and help them see that their own life experiences, their own insights and convictions, their own intuitions and formulations are worth serious attention. It is easy to impress students with books they have not read, with situations with which

they are unfamiliar. It is much more difficult to be a receiver who can help the students to distinguish carefully between the wheat and weeds in their own lives and to show the beauty of the gifts they are carrying with them...

Teachers who can detach themselves from their need to impress and control, and who can allow themselves to become receptive for the news that their students carry with them, will find that it is in receptivity that gifts become visible.

Since, as Burton et al. (1960, p.273) state, natural thinking capacities possessed by everyone need training and development, specific steps should be taken to inform students of the values of critical and participatory education, and help given in acquiring techniques for effective learning. Since, "there is nothing natural about learning a framework for analysing a modern novel or management system," analytical frameworks "must be taught explicitly and constructed consciously, beginning with simple operations and building towards complexity and subtlety" (Meyers, 1986, p.10).

Lee (1997) stresses the need for good communication on the part of the teacher – speaking clearly and presenting assignments and other information in ways that could be well understood. As Hodne (1997, p.87) suggests, care should be taken with encouraging quiet students – whether native or non-native speakers – who might be more willing to speak up if risks were minimised. One technique she recommends is to use open-ended rather than specific questions to start discussions. Littlewood (2000, p.34) found that Asian students generally liked working in groups. Advantage could be taken of cultural orientations towards group rather than individual activities by encouraging students to study and do presentations in groups of peers with whom they felt comfortable. Christensen (1987) writes that interaction can also be encouraged by arranging classroom space to provide a hospitable environment for communication: "The primary goal should be for everyone to be able to see everyone else" (p.64).

While it was not typical Asian style for teachers to encourage students with positive feedback on their performance (Hau, 1992), such encouragement can play an important role in facilitating change (Cole and Chan, 1994). "Developing a positive self-concept is crucial for creativity. This is because creativity requires the person to feel confident of himself, i.e., to have faith in his own inner resources as a person. Only then will he be able to attempt to do something that is risky and different from the rest" (Ng 2001, p.184). Nouwen (1966, p.99) calls for the teacher to be seen as a "coach, cheerleader, and source of support" rather than authority figure and taskmaster. A teacher's enthusiasm, interest, and genuine concern help create a challenging yet safe atmosphere in which students feel confident enough to let go of old ways of thinking and try out new ones".

Barriers to Implementing Critical Learning Approaches in Asian Settings

Thoughtful learning requires "settings where teachers and administrators know a lot about learning and working together and have time to learn themselves and where the management style, schedules, and forms of assessment create positive energy in everyone" (Perkins, 1992, p. 195). However, in many traditional Asian educational settings, there is little knowledge of modern educational theories amongst faculty or teachers, and the tradition of presenting the same facts in lectures year after year does not stimulate personal development amongst teachers.

As Yinger (1980, p.58) points out, "Lecturing is obviously a very comfortable mode of teaching, as witness its long tradition and continued predominance. After all, monologue is much less risky than dialogue". Teachers not used to letting go of the controlled safety of the lecture approach are unlikely to be able or willing to move to interactive approaches which encourage critical thinking in the absence of experience or training in skills necessary for successful implementation.

Underlining this point, the World Bank states that there is a:

...profound mismatch between the radically new key competencies demanded of students in the knowledge society and the teaching skills acquired from teacher training colleges and in-service training programs (World Bank, 2004a). For developing countries, designing appropriate policies for selecting and training teachers who can help students acquire the new competencies required by society and labor markets is an extraordinary challenge. The new competencies clearly require that teachers behave in classrooms in a way contrary to the training they receive...

The implementation of curriculum reform is basically a problem of in-service teacher training. And such training is difficult because of the “stickiness” (resilience) of teachers’ preexisting know-how. (World Bank, 2005, p.106-108)

The glue of the traditional is made yet more sticky when central government fails to devise appropriate strategies for implementation of new policies, as has been the case with Thailand’s new educational approaches. In Thailand, Hallinger and Pornkasem (2000, p.48) report, government had tended to regard change as an “event” to be announced, not as a process to be carefully constructed and followed through. Without support, change was on the level of teachers who politely accept orders to implement new approaches without understanding or agreeing to them, and who then fail to implement them (Sykes et. al 1997, p.4-5). The problem is exacerbated because “Thai people would rather maintain things the way they are than to take initiative, be different, or shake the ground... Even if a new practice holds potential for the organisation individuals will feel uncomfortable departing from accepted practice” (Hallinger and Pornkasem, p.52). Even at Thammasat Medical and Dental Schools, where the creation of completely new institutions in 1996 provided the opportunity to adopt student-centred approaches, it was not possible to recruit a full compliment of tutors able to engage adequately using such methods by a decade later, and this had led to frustration among the students (Siriwan, 2006).

Successful participation in interactive approaches is more personally taxing than lecturing. It calls for greater knowledge of the field and preparation on the part of the teacher in order to respond to unexpected questions from students and also to direct debate in fruitful ways. It requires overcoming the cultural hurdles inhibiting free communication identified by Ng and demands the people skills to make students feel personally encouraged and stimulated to participate creatively. Not only must teachers help students avoid “losing face” by inspiring self-confidence; they must also avoid losing face themselves by knowing what they are talking about. As Curle writes, where teachers are not of high calibre “it is advisable that much of the instruction be of a routinised and formal character”. If such teachers “had no guidelines and were expected to display the initiative and flexibility which are rightly lauded in more developed school systems, the result might well be chaotic” (Curle, 1966, p.81).

Pham and Sloper, writing about education in Vietnam, are equally pessimistic about prospects for change, stating that academic staff qualifications were too low for effective work in higher education.

Their training abroad was often related to scholarships available rather than to national needs. They are generally weak in professional areas, particularly in relation to practical knowledge. They are short of new information, have not been trained how to renew knowledge; and another set of crucial issues results from the extreme shortage of knowledge about modern educational theory and research, about teaching methodologies, and how to develop a capacity for self-learning. All of these factors hinder improvement in the professional skills and vocational interests of academic staff. (Pham and Sloper, 1995, p.104)

Ng (2006) makes the point that a pressure for schools to show they had high-scoring students, and for students to perform competitively in examinations, acted as a further barrier to change, with teachers focusing on helping students get good results, and students failing to reflect critically on

the content taught. Instead, they become “exam-smart, learning to spot what are the likely questions to appear in a coming test or exam.” Ng maintains that because of such continuing pressures, change, even in environments such as Singapore, is slow (Ng, 2006).

Active debate on bringing about change in education is nonetheless taking place in both Hong Kong and Singapore, with a growing academic literature on the subject and institutional support for change. Both environments are on a manageable scale, furthermore, which facilitates change. Singapore has the capacity to fund entirely new universities devoted to critical learning approaches in furtherance of its reform objectives. Singapore also has the government control to implement secondary level education reform to feed the universities with students receptive to such approaches.

In contrast, most developing Asian countries are a long way from initiating such moves. The tradition of rote learning is entrenched in practice and cemented by cultural norms which resist attempts at change. Teachers and faculty lack the experience, training, or motivation, furthermore, to make the leap to radically different teaching methodologies. The greater skill required in implementing these new approaches creates an additional barrier. Facilities for training teachers in the new ways do not exist, furthermore, quite apart from the global tradition of avoiding any sort of training for teachers at the university level. Governments lack the resources or institutional abilities to bring about a ready transformation. The scale of change required is daunting in countries of massive populations and lack of central government control. It is perhaps understandable when, under these circumstances, a greater emphasis is put on providing a widely available traditional education, than on promoting reform.

As encouragement to the possibility of change, however, evidence shows that, where experiments have been instituted, Asian students have preferred modern approaches that give them greater opportunities to take more responsibility for their own education as well as to think in broader and more critical ways. Given an inability to institute rapidly comprehensive reforms, such experiments, especially those conducted by Asian nationals returning from education in the West, but also by visitors from the West, promise to open eyes to the potential for change as well as to benefit the students who directly participate in the education they offer.

INTRODUCING CRITICAL URBAN TRANSPORTATION PLANNING TO ASIAN STUDENTS

Planning transportation facilities and services for developing country applications demands critical thinking. It is an area where there is no single so-called ‘right’ answer to be computed by technical means. With increasing wealth precipitating growing motor vehicle ownership, Asia’s cities suffer from congestion and pollution, which inhibit their ability to function commercially just when it is most important for their economies to grow. While the wealthy drive cars, the poor often have inadequate mobility. The public transport upon which they must depend is typically chaotic and mismanaged. Different transport modes are often poorly coordinated and transport is rarely planned in coordination with land-uses.

Transportation solutions often lead to unexpected after-effects. Building more roads encourages more traffic and can lead to more congestion, rather than mitigating it. Recognising such complexity leads to the following sorts of questions in a development setting.

1. Should roads be built, or should efforts be made to manage traffic better, and even restrain it through road and parking pricing, which neither downtown merchants who thrive on road access nor wealthy drivers are going to like?
2. Should public transport be developed, and what form should that development take? Are costly metro rail systems worth the expense, and do they serve actual patterns of needs?

3. Should we develop bus rapid transit, or is the real need to manage more effectively the existing bus system? How can we manage that system better when it is inadequately financed and without the political backing to change things?
4. Should we buy luxurious new buses that the middle classes might like but need to operate them at fares the poor cannot afford? Should we buy buses which cause pollution and are cheap, or a lower number of buses which are environmentally sound but expensive?
5. Is it useful to develop new high-tech road management systems when the police refuse to implement them?
6. What do we do about informal transport systems? Should we ban rickshaws from the streets because they impede the flow of motor traffic, or should we understand that everyone needs to go slower in order to allow affordable and non-polluting transport to survive?
7. What is the role for the private sector? Should it be regulated? Should it be invited to integrate its services with public operations?
8. How do we plan land-use in conjunction with transport? Do we try to plan for high-volume public transport arteries when we know we lack the political ability to shape development to match the new accessibility?
9. How do we deal most effectively with international agencies in order to derive the best advantage for developing countries?
10. What do we do in the face of the institutional malaise and corruption that is endemic in developing countries?

All these questions are messy. In order to be effective professionals, students have to accept that there are no textbook solutions. Instead, they must learn to synthesise a mass of variables at play to come up with paths that are promising under conditions of complexity. This might mean putting aside a costly capital project to make improvements to the basics. It could require abandoning a dream approach to traffic woes and to bring instead changes which the police would accept. It might mean reaching out to politicians to get them to change their understandings; to the public to get them to consider paying more directly for road use; and to public operators to have them learn to live with the private sector.

While students in transportation need to learn a repertoire of technical approaches, they also need to understand concepts in urban planning, economics, finance, management, politics, and, indeed, ethics, to gain the sophistication to go beyond the production of calculable solutions which may look good on paper but that leave the bigger problems untouched. Students need to have the ability to review alternative goals and outcomes broadly, to make trade-offs, and to think critically and strategically in terms of real-world opportunities and constraints.

It was to give this potential to the future Asian professionals studying at Asian International, that teaching for a two-semester sequence of courses was conceived. The experiment provided an opportunity to test whether students schooled in mostly passive learning approaches could rapidly engage student-centred learning, and do so in ways that are productive for stimulating the professionalism needed to evaluate and act on the complex transportation infrastructure problems faced in the developing world.

Cultural issues of traditional learning techniques and teacher-student relationships, and of barriers to change and means to overcoming them cited in the literature above were addressed in designing the pedagogical approach. Relationships between faculty and students at Asian International University are generally formal and based on respect for the authority of the teacher, with students regarded as 'inferiors'. A basic principle employed in this experiment was that students had valuable contributions to offer. The idea was to move away from the role of the

course instructor as the giver of knowledge by making the students directly responsible for the learning process.

Students were given regular assignment sheets, rather than lecture notes. The assignments mostly required preparing interpretations of a series of demanding readings from academic journals and other sources and applying them critically to Asian transportation issues. Especially given the tendency of Asian students to relate well to group identities, students were assigned to work in groups to formulate and deliver presentations. While an assigned group was responsible for each particular presentation, all students in the classes were, however, expected to be ready to discuss the issues raised on each assignment sheet.

When available, a conference room was used, which permitted the group to sit round a table in sight of each other and removed the spotlight from the instructor. When a regular classroom was used, my practice was to sit among the other students while those assigned stood up to make presentations. The effect was to reverse the traditional power relationship: the students giving presentations were put in the role of teachers and leaders.

While very little instructor-based lecturing took place, a detailed class plan was prepared instead for instructor use at each class meeting, outlining points and discussions which should emerge, indicating questions to use as prompts, and ensuring that learning goals were accomplished in a structured setting.

Following the recommendations of several of the authors cited above, a practice of continual positive reinforcement was employed, with the goal of never missing an opportunity to thank and praise a student for making a good point, and using good points from one student to coax ideas from others. At the same time, notes on student performance were continually typed on a laptop as students spoke, making students aware that their performance was being monitored for evaluation purposes and that they had an incentive to participate.

The detailed notes, taken during classes and at other course-related activities, supplied the data for analysis in preparation of this paper. They provided important documentation for measuring the progress and success of the teaching process in giving students the skills and self-confidence needed to move beyond memorisation to employ instead the reflective thinking skills needed to address complex development problems in transportation infrastructure. Note was particularly taken of whether students merely repeated memorised information, or questioned assumptions, tried different approaches, and marshalled concepts creatively to focus with relevance on solutions to address local needs. The progress and changes in responses of each student were tracked over time.

Students were left in no doubt of the need to complete assignments and to perform at a high level, and were engaged actively and energetically at all times, but were treated in a friendly way. I started eating in the student cafeteria, stopping to watch sports when I spotted students I knew playing, and taking a general interest in the students and their welfare in the hope of setting an egalitarian and comfortable ambience. Developing such relationships outside class was particularly appreciated, and was important in winning trust.

Public Transportation Systems

The first of two course offered by the author in the Transportation Engineering program at Asian International was an introduction to public transportation, taught during the fall 2003 term. The objective was to introduce students to basic concepts important to planning and managing public transport, while opening them up to a critical ability to identify and evaluate alternative choices and reach judgments based on a synthesis of a series of variables at play. Instead of a 'toolbox' approach, which introduces students to a series of engineering techniques and which often dominates courses of this kind, students would be asked to recognise the complexity of the

environment in which management and planning takes place, to realise that there are alternative paths to follow and that each must be evaluated from critical and multidisciplinary perspectives.

Once the class settled down, there were 11 masters' degree candidates registered for the course and one doctoral student who audited. The students came from Bangladesh, India, Nepal, Pakistan, and Thailand. They were used to traditional Asian education, based on lecture techniques, one-way teacher-student communication, and student passivity in class. Other courses in their program at Asian International followed the traditional pattern of lecture presentations, with examinations to test memorisation of formulae and facts and their use in engineering applications, with little reference to larger contextual issues. The basis of this course in critical thinking, where nothing was to be taken for granted, and in egalitarian participation, where the students were to be seen as teachers, therefore promised a quite different experience for the students.

An initial handout told the students what the course was going to be about:

In addition to learning some practical aspects of implementing public transport systems and services, I want us to think through some of the larger issues over making choices. Too often, questions are asked in too narrow a way, and within an untested system of assumptions. I would like us to continually strive to uncover, criticise, and improve the assumptions under which so many decisions are made...

We will try, in this course, to question conventional approaches to public transport design and operation, and we will do so from perspectives of serving users — both commuters who have choices and people of low income who have no choice — of enhancing the environment, and of providing effective management and good value for money...

Assignments... focus on developing an ability to critically engage core issues, and to communicate effectively by both written and oral means. Please note that participation in class is essential and your grade will be affected by your performance in this regard. You should please read the materials I point you to, and be prepared to answer questions and join in a lively discussion in class. While this will not be required during the first few weeks, I would appreciate if those of you not familiar with Powerpoint would kindly learn to use this software over the next month.

Students were told that their contribution was important, and that we could all learn from each other. For the remainder of the first class meeting, however, a lecture was given, introducing students to the dynamic relationship between transport and other attributes of cities using Hall's *Transport – Maker and Breaker of Cities* (Hall, 1992), and by providing a historical account of development patterns in cities, along with an introduction to the main issues in planning public transport for Asian cities.

The students were also given a written assignment, due a week later. They were asked to respond to an open-ended question:

What do you see as the role of public transport in Asian cities? Why? Do you think the government should be involved? If so, how?... Please write no more than four typed double-spaced pages (please check grammar and spelling carefully before submitting), and come to class on Wednesday prepared to discuss your ideas. Please note that your grade for this assignment and for the class as a whole will include an evaluation of your professionalism in presenting ideas orally. It is an important part of preparation for leadership in the professional world to gain confidence in speaking in public, and would like to help you all do this well.

Apart from problems of plagiarism in submissions from two students, who discontinued the class, the remaining papers were mixed in their quality, providing useful diagnostic information on how

to motivate and help each student. The best paper was well-organised and articulate. I noted on one of the less satisfactory papers “listing, rather than analysis.” Many of the students had insightful contributions to make during the in-class discussion of the paper, during which a wide range of issues were put on the floor.

From this point on, assignments, of which there were a total of 11, some at a rate of twice a week, shifted to emphasise oral presentation and critical analysis. The second assignment introduced three articles to help students think about thinking. A classic article by Rittel and Webber (1973) talks about social problems as “wicked problems” as against the “tame” problems engineering or social science was designed to address (the questions about transportation near the beginning of this section reflected an attempt to confront wicked problems). The students were asked if they agreed that social problems could be characterised this way and asked to discuss the implications for planning public transportation effectively. Laski’s (1974) *Limitations of the Expert* introduced students to the shortcomings of narrow one-track thinking in planning, while *Abstract Values and Concrete Highways* by Wachs and Schofer (1969) alerted students to the perils of conducting engineering without reference to values.

These were articles which Western students would find difficult to fathom, but student presentations showed that a strong effort had been made; understanding was good; and many comments insightful. I noted on two of the students with the poorest English-language abilities “Nice Powerpoint. Explains well. Makes real effort” and “Speaks very well, takes risks, wins”.

The course now moved to applied areas, with a discussion of the basis on which people chose to travel and what this could teach us about how consumer behaviour could be changed: getting people out of cars and into public transport, for example.

A general challenge the class faced was the lack of connection with developing country issues in a literature on basic subjects coming almost entirely from the West. Students were asked whether they felt the same relationships reported in the literature held in Asian and American contexts. Did people decide how to travel on the same basis (e.g. of travel time, cost, comfort and convenience) in the different contexts, for example? Issues of relevance and context were brought up in this way throughout the term. In traditional Asian teaching, the students would have been given the answers in lectures and accompanying notes, often with little connection to Asian circumstances. In this course, students were made to understand that there was a variety of empirical evidence available which required critical analysis and interpretation, and that they had to translate Western-derived findings to a local context.

The performance of students in discussion when not assigned to give a presentation varied. Some students acclimatised quickly to the uncommon environment of free speech and had active roles. Other students, particularly those with poorer English language skills, were more reticent in volunteering remarks, with a couple of students inhibited from participating when not specifically called upon. At this stage of the course, despite students’ cooperation in presentations, there was a discomfort level among some students at the heavy interaction, an approach which meant taking risks in an unfamiliar form of communication in a second language. The structured nature of the teaching, with cues and encouragement continually provided during discussion, worked, however, increasingly to draw students to participation in the course format.

The course continued with a session that looked at the relationship between perceived costs of driving as against taking public transport and that asked students to consider if effective subsidies on car parking should be stopped, as suggested in the recommendations of Shoup (1995). A debate was set up, in which one team advocated such a policy for Bangkok, and the other opposed it. The class then got together to move from thesis and antithesis to synthesis, discussing in particular whether the cultural and political climate of Bangkok made it possible to force employers to do things such as charge employees for parking or give money to those who chose to use public transport instead.

The students worked well as teams, marshalling examples that included experience in a number of countries (one student pointed out, and then questioned, the tradition in his country of including 18 litres of gasoline in monthly management salaries) and showing evidence of interdisciplinary understanding. In addition to discussing the economic mechanisms at work, political issues were raised. One student talked of the need for public education, and of how wealthy opponents of pricing parking might be turned into supporters if told the result would be less crowded parking lots and roads. I was particularly pleased that a connection was made with the Rittel and Webber paper we had studied earlier. The article was cited to show that the problem we were facing was “wicked,” having no readily determinate answer, and that we had to talk through a range of possible actions to come up with a viable approach.

One of the students with weak English skills made a strong effort, integrating well into his team. Two other students with similar language problems caught stage fright and were off-target in their presentations. Some students without a specific assignment for this class remained passive in general discussions.

The next subject to be explored was the operational and service characteristics of alternative modes of urban transport. Strategies for improving bus operations, ranging from supervisor-controlled real-time management of existing buses to implementation of new bus rapid transit networks, were next considered, with a particular focus on how to make difficult choices under circumstances of limited resource availability.

One group of students was next asked to review Sanyal’s (1987) article on *The Make-Believe World of the Calcutta Metro-Rail*, and reflect on whether the Calcutta rail system symbolised more than transportation; on who it was built to serve, and on what the existence of the system said about the priorities of planning. Another group was asked how a system could be built that offered little to the poor, who remain in overcrowded buses, and what they felt they would do to ensure their own work was guided by ethical considerations and a desire to serve all sections of society. This discussion attracted a good deal of interest from the students.

Back to technical work, the course now moved to consider attributes of transit networks and their component parts, and approaches for surveying current market behaviour and planning for the future. An assignment was given on transit scheduling, on determining costs and economic principles for pricing, and on approaches to bus route evaluation.

By the end of term, the biggest change was apparent among the students who had started the weakest in terms of both language skills and ability to participate in course activities. These students had worked conscientiously and gained radically in self-confidence, and were giving impressive Powerpoint presentations. Some of this group remained reticent in volunteering comments during general discussions, but contributed when coaxed, and frequently showed insight in applying broader perspectives than they had encountered before.

The students with stronger English language skills not only gave strong presentations, but became increasingly active and creative contributors to discussions. They took on a ready interdisciplinarity in using ideas from one perspective to shed light on another. The change in outlook and performance over the course of the term was clear and dramatic.

Setting a final examination, required by university regulations, was problematic because some of the students lacked the English writing ability to express themselves adequately to respond to challenging questions relevant to the course (see sample questions in the appendix). The solution was to announce that oral examinations would be held for any student whose written examination was questionable. While the stronger students did well in the written examination, the level of conceptual complexity required proved beyond the English language ability of some of the others, even though all students made conscientious efforts. From detailed grades, and comments on performance in presentations for assignments and in other forms of participation collected throughout the term, it was clear that these students had greater capabilities than their writing

suggested. They were invited to explain orally what they meant in their written answers, and their grades were adjusted accordingly.

Developing Transport for Developing Countries

While the first course was underway, a second offering was prepared. Its objective was to focus critically on urban transport system development in the developing world. (Some students registered under the title “Developing Transport for Developing Countries” others under “Urban Transportation Policy and Planning,” and there were some differences in the participation, assignments and examination of the two groups). Six transportation engineering masters students continued from the first course attended, one as an auditor. A seventh, a doctoral student, participated in field-trip activities. In addition, seven masters students from the university’s management school attended, one auditing. Countries represented included Bangladesh, Cambodia, India, Nepal, Pakistan, the Philippines, Thailand, and also France and Canada.

Funds were sought for an international field trip, and these were generously granted by the Government of Singapore through the Singapore International Foundation. While a field-trip to Singapore made the centrepiece of the course, a variety of subjects were covered, with the objective of focusing on how students could develop the broad analytical and synthetic abilities needed to become effective professionals in their home countries.

The teaching principles of the first course were continued, with little lecturing by the instructor; a great deal of teaching by students who were assigned heavy reading and presentation assignments, and an atmosphere of constant structured interaction. As during the first term, some of the students who were new to the form of teaching proved shy at first, but adapted to the needs of their roles as teachers and quite clearly developed in professionalism and self-confidence as the term progressed. Most of the students returning from the course of the first term were off to a flying start, able to express themselves in critical and creative ways without inhibition.

A number of texts provided useful material on developing country transport issues, although they did not cover the nuts and bolts content required as part of the initial Public Transportation Systems course. The book on *Urban Transport, Environment and Equity* by Vasconcellos (2001) is the only one to date from a developing country native and resident, and offers a valuable critical discussion of a range of key issues. In addition, a book from Dimitriou and Banjo (1990) contains a series of pertinent readings, and was also used as a resource.

The course began with student reviews of a report commissioned by the World Business Council for Sustainable Development (2004) for an introductory discussion. Students were asked to characterise the growth of motor vehicle ownership and operation in the developing world, and its impacts on congestion, pollution, the viability of public transport, equity, employment, and land-use patterns. Next, the class read the chapter on *Urban Transport and Poverty Reduction* from a recent World Bank (2002) report, together with chapters related to the subject from Vasconcellos (2001) and White (1990). Students were asked to address a range of issues, including the impacts of motor vehicle growth on the poor; whether it was desirable to avoid subsidies for public transport and encourage a competitive marketplace, as recommended by the World Bank; and problems of mobility for women, children and the disabled.

This discussion sparked disagreement among the students as they learned painfully that there were no simple solutions. One student raised the issue that in Asia disabled people were usually “kept at home,” and was then asked, “Should that be the case?” This led students to both uncertainty and introspection.

Students were next asked to compare and contrast the perceptions of issues in transport planning by engineers, economists, other social scientists, physical planners and politicians as presented by Dimitriou (1990a), and to consider whether there were ways to bring these together. Dimitriou did

not include perceptions of public groups in his discussion, and students were asked whether and how public views should enter into the planning processes.

Considerable time was devoted to a critical evaluation of traditional engineering approaches to urban transportation planning. Stopher and Meyburg (1975) describe the “transportation planning process” as a succession of seven technical steps, at the core of which are a series of forecasts to estimate the future demand for transportation and determine the relative attractiveness of alternative means of travel. The premise of this analysis is that “the demand for travel is repetitive and predictable, and that future transportation systems should be designed to meet a specific, predicted travel demand” (p. 60). The benefits, seen in terms of passengers likely to use alternative systems, can be compared to estimated costs, and the most effective plan supposedly identified.

The engineering students in the group had learned the basic mechanical skills for doing such analysis, but would not normally have acquired a detailed knowledge of the assumptions underlying the tools in use, much less the policy and ethical issues surrounding their application. The students learned that the engineering approach to planning is flawed because there is no such thing as an “accurate” forecast. Forecasts depend upon a series of assumptions, which must be chosen subjectively: about how the population will grow; where people will choose to travel; and about how they will make travel choices. Optimistic assumption choices have led to overestimating ridership and to underestimating their costs, as has been demonstrated by the failure of major transportation projects around the world to meet promised potential (see Richmond, 1998, 2001b; Kain, 1990; Flyvbjerg et. al, 2003; Flyvbjerg et. al, 2006). In one of the few lectures of the course, students were given a presentation of Richmond (2005), Chapter 4, which provides a comprehensive account of engineering modeling in use, illustrating the build-up in error as each new stage of computation is reached.

Students were assigned chapters by Vasconcellos (2001, Ch. 9) and Dimitriou (1990b). Dimitriou also presents a comprehensive treatment of the subject in Dimitriou (1992). These authors discuss issues which make the use of the traditional engineering approach to transportation planning inapplicable to developing country contexts. Students were asked to consider whether it was appropriate to forecast demand for transport based on a decision on whether or not to drive a car when a large share of the population had no such choice. They were invited to consider the equity issues of evaluating transport projects according to ability to save travel time based on wage rates, when the value of time saved by the poor counted for very little (because their earnings were low), with the approach focusing planning on the needs of wealthier car owners.

The class read two articles by Wachs (1985, 1986) on the ethics of forecasting, and discussion branched out into ethics in general, with students showing an ability to see the ethical dilemmas in issues they would not have identified or thought of as ethical beforehand. After the discussion had been underway some time, one student looked at me and asked: “And what is my obligation to be ethical after I have had to pay to purchase my job,” which he said was the normal practice in his country. For once, I was silenced. After a pause, I could only bounce the question back: could the student feel justified in paying a bribe to get a job on the basis that he would be ethical once in the position? Perhaps, more than anything else in this course, this issue showed the need to bring to the surface issues rarely discussed, and subject them to a difficult and messy critical discussion.

The final general topic was on the role of the informal sector, using a variety of readings such as Hilling (1996, pp.205-228), Hook and Replogle (1996), and Simon (1996, pp.115-125) to prepare students to discuss who used informal transport (which included cycle and motor rickshaws and tuk-tuks and vans and minibuses operated by private entrepreneurs) and the importance of such services in the developing world; Gallagher (1992) to consider whether rickshaws should be controlled or promoted in urban environments; and Richmond (2001a) and de Soto (1989, Ch. 4) to compare and contrast the roles of private van and minibus operations in New York and Miami

and in Lima, Peru, and ask whether transport planning should be left in the hands of the government or given to local community operators and cooperatives.

Students with experience from the previous term's participatory teaching were active in discussion, with the exception of one of the quieter students, who took part, but remained a bit apprehensive. The new students became increasingly active, with the exception of one of the Western students who failed to cooperate in expected preparation and participation and who ultimately failed the course. The other Western students were more used to a participatory format, and did well. They did not, however, eclipse Asian students who became increasingly self-confident and active; who frequently applied materials from readings to contexts in their home countries; and who also presented illustrations from their own countries to extend arguments presented in readings and to draw new insights upon which other students could build, and from which their teacher could also learn.

THE SINGAPORE FIELD TRIP

A field trip to Singapore proved the most important element in cementing the students' ability to analyse complex planning and policy issues, interact professionally, and express themselves with self-confidence.

Singapore was an ideal choice for a field trip in the area of transport planning for developing countries. The Singapore government has brought about a transformation in the transport systems it inherited from its colonial past. Not only were road and public transport systems planned together, with pricing controls on car ownership and use accompanying improvements in public transport, but Singapore planned for those systems in coordination with the needs of land-use, housing, and economic development.

Unlike most developing countries, Singapore has been able to act with a powerful as well as integrated government, whose parts have been able to work together to achieve a striking degree of change in the urban environment. Another characteristic of Singapore that sets it apart from most of developing Asia is the degree of integrity in government: corruption is effectively outlawed in Singapore, and clean as well as authoritarian government had removed many of the obstacles that get in the way of progress in many of the nations represented by the students on the field trip. Despite its oft-perceived authoritarianism and central control, Singapore government is also built on principles of meritocracy, in which contributions to discussion were assessed more on their theoretical and practical value than on the rank of the person advocating a position. This is in marked contrast to the status-driven civil services of most other Asian countries. Input from junior levels will not always be followed; however, ideas will be heard and considered.

The visit included four days in Singapore: two days of intensive meetings, followed by a day of visits to housing developments and the conduct of a questionnaire survey on transport issues. The final day was free for the students to spend at leisure until the group met at the airport to return to Bangkok.

Students were required to complete extensive preparation in order to participate in the visit and one student was excluded from the group for failure to comply. All students, whether registered or auditing, were required to complete all assignments, including oral presentations and written papers to be prepared upon return.

Students were assigned a variety of documents to read, including *A World Class Land Transport System*, (Land Transport Authority, 1996), a white paper that set forth the policy principles of change; Cervero's (1998) chapter on *The Master Planned Transit Metropolis: Singapore*; a case-study on *Singapore's Public Transport* (Phang and Walder, 1999); and a series of articles on car restraint, including Goh (2002), Foo (2000), Phang, Wong and Chia (1996), Toh (1994) and Willoughby (2001). A substantial collection of documents and articles on Singapore was also put on reserve in the library.

Students were asked to review the readings in a series of initial assignments and to respond to a further four-page assignment sheet that laid out questions and issues for students to review and address critically while in Singapore. Topics included the relationship of the Singapore Government with the public; the nature of planning processes; the roles of private and public sectors; public management systems; public transport operation, regulation, and performance; evaluation of the new Northeast MRT rail transit line; public transport information systems; the impacts of Singapore's policies that made vehicle purchase expensive and directly priced road use; the relationship of public to individual costs and benefits; and the connections between land use, housing and transport systems in planning and management.

As part of preparation, the Singapore Ambassador to Bangkok visited Asian International, gave a talk and participated in discussions in class and at a dinner buffet reception hosted by the Asian International University president afterwards. At another session, students practised coming up with on-target questions to ask in Singapore.

This intensive preparation paid off in the maturity and professionalism shown by the 14 students during discussions with Singapore officials during the March 17-21, 2004 visit. Presentation and discussion events took place at the Land Transport Authority, the Public Transport Council, the SBS Transit rail and bus operating company, the Urban Redevelopment Authority, and the Housing Development Board. In this way, students could observe how different elements of planning and management were integrated. Our hosts, the Singapore International Foundation, also kindly entertained the group at a lunch.

We met managers and planners at a range of levels. Moving from one organisation to another, the students came to understand how the different parts of the Singapore Government came to work together. A presentation by a human resources official additionally demonstrated how employees could be more open and productive and governance more effective when freed from the tyranny of corruption. One young planner was clearly nervous making a presentation under the watchful eye of his boss, but ultimately did an excellent job, from which the students learned that risks had to be taken, and that Singapore presented a safe environment in which to take professional risks likely to contribute to learning.

The two days of meetings were marked by openness and freedom of discussion. The wide range of officials and planners we met were mostly highly receptive to questions. Some of the students were more active than others, but every one of the students was involved in discussions, and quite a few intensely so and without the traditional Asian inhibitions based on deference to authority. It was thrilling to see the students ask pertinent questions and get responses as professionals and equals. Except for a degree of evasiveness encountered at one meeting where officials were unusually reserved, criticism was answered with honesty, and the students were asked to put forward changes to existing policies they thought appropriate. In perhaps the most telling moment, one student asked the several Land Transport Authority officials present to state whether they set an example by coming to work by public transport. It turned out that most of the officials drove to work, and there was a slight pause after going round the table to collect this series of admissions.

Some of the Singaporeans looked quite exhausted after the barrage they received and, in feedback, expressed their surprise at the activity level of the students.

On the morning of the third day, the group toured a number of public housing projects by public transport, studying links between land-use and transportation on the ground. In the afternoon, the students conducted a survey about transportation use and attitudes at a neighbourhood shopping centre.

Back in Thailand, students wrote papers and gave oral presentations. While, in a few cases, there was still a tendency to list facts rather than to provide analysis, many students showed freedom of expression and insight. Critical questions were raised about a number of Singaporean practices,

including public transport development, regulation and management, and vehicle and road use taxation. We also discussed the extent to which Singaporean approaches would be appropriate in the students' home countries. The quality of oral expression was notably high and, as in the first term, showed a marked improvement in self-confidence compared to performance at the start of term. The sole disappointment came with two instances of plagiarisation in written work.

The students were asked to complete evaluations of the Singapore exercise, the results to be compiled anonymously and kept confidential until after final course grading. All 14 students expressed enthusiasm (see Appendix B for sample remarks).

As the final field-related event, the Singapore Ambassador to Bangkok invited the group, together with the Asian International University president, to dinner at the embassy residence. The Ambassador and his wife were extraordinary hosts, and laid on a lavish banquet providing for every dietary requirement of the ethnically and religiously-diverse group. It was a therapeutic conclusion to the course for the students to be treated as high-status guests, and they responded with grace. The ambassador, his wife, and his staff, made the group feel at ease, and the atmosphere was relaxed, with easy communication.

At the conclusion of the dinner, the ambassador had everyone gather around a large table and asked the students to give him advice on transportation policy for Singapore. The students shared many perceptive observations. This was a fitting conclusion to an experiment in giving a voice to students steeped in passive education. The students were treated as professionals. They recognised that they had value to contribute with their analysis, and they had the self-confidence to consider critically the facts and make recommendations.

As I watched the students exercise their newfound confidence at the Singapore Embassy dinner, I realised that it was a nonsense to think that they had in some way been "Westernised." They had been liberated from inhibitions and found a path to expressing themselves intellectually and socially, an ability that is fundamental to all humanity, which is a key to leadership and to the functioning of nations and societies.

DISCUSSION AND CONCLUSION

An experiment in bringing participation and critical analysis to professional education in Asia brought about a transformation in the behaviour of a group of graduate students from a diverse set of countries. The literature pointed to a long tradition of rote learning and passivity in Asian education, and demonstrated that it was rooted in social customs, which put the teacher in a position of authority as the 'giver of knowledge', and the student as the obedient recipient of this 'gift'.

Evidence of experience in settings such as Hong Kong and Singapore suggests, however, that Asian students do not wish to be spoon fed, and this finding is supported by the results of the teaching reported here. The students on the two-course sequence were transformed into 'teachers,' required to read and interpret materials and present them to the class for critical debate.

Whereas voluntary participation took longer to get going, with the weight of tradition keeping some of the students reticent during general discussions, those responsible for making assigned presentations were put in a position of authority by the nature of their assignment, as well as by their place at the front of the class and in control of the Powerpoint. They rose to the challenge surprisingly quickly. Most notably, the weaker students were the ones who made most visible improvements in the conduct of their presentations and in their self-confidence. The best students acquired strong critical skills and an ability to interpret complex information with multidisciplinary approaches. Some students developed critical abilities to a rather lesser extent, but all became participatory and aware of the range of questions which had to be asked to be effective professionals working in a complex environment where there was no 'right' engineering

approach to apply in the face of limited resources, conflicting goals, and managerial and political dissonance.

While the intensive, structured and disciplined nature of the educational experience, with frequent demanding assignments and continual assessment of performance, did impose stress on the students, the use of positive feedback constantly to praise good points made by students was important in maintaining enthusiasm and morale. During fast-paced class activity, ideas from one student would be put to another student, with responses coaxed with smiles, encouragement, and enthusiasm. The approach to facilitating discussions was more structured than would be typical in a Western setting, and this played a significant role in keeping students on track. Taking a personal interest in the students outside of class was important in replacing a metaphor of master and servant with one of family.

With time, public speaking became more natural to the students, and they gained a sense of the power of their own intellects and enjoyment from making contributions that they knew were of value. The field trip to Singapore and dinner at the ambassador's residence in Bangkok cemented the students' understanding that knowledge was not passive and that they had an active role to play in interpretation and recommendation, and that with such behaviour they had the power to bring about creative change. In this way, the makings of professionalism and leadership were formed. The experiment was therefore successful beyond expectations.

While Asian International has a number of excellent programs and faculty, some of whom use interactive teaching to at least some extent, the predominant educational mode at the university reflects the traditional Asian norm of passivity. Widespread discussions with students around campus indicated a high level of dissatisfaction with this approach, and a will to embrace change. The highest levels of university administration were also supportive of innovative change and of the approaches taken in the experiment described here. Hostility emerged, however, at the level of department leadership, where the success of an alternative approach and its popularity with students was seen as a threat. The flow of negativity sent a message to other faculty to stay in step.

There are limits to the inferences to be drawn from this study for a number of reasons. Education was given at the graduate level to students who generally had high abilities. Student-centred education for those of lower aptitude could be substantially harder to pursue successfully. There were no fixed syllabus or examination requirements to follow, furthermore, allowing student assessment to be designed to evaluate reflective, creative, and synthetic skills. Where such flexibility is not possible, change will be harder to introduce. Finally, the instructor had a broad interdisciplinary background, specific interests in educational theories, and a willingness to devote substantially more time and effort to both preparation and intricate stage management than typical teachers.

The barriers to change cited in the literature review are likely to be hard to circumvent in the absence of central and substantial intervention. Asian university teachers are generally not trained or experienced in interactive teaching, which requires a higher level of confidence in the program area being taught as well as greater people skills than lecturing. Culturally, they are used to being cast in the role of 'superior', with the student as 'inferior', and that is hard to change. Change can therefore often seem threatening.

While the leadership in many Asian countries has recognised the need for educational reform, this is most likely to be achieved in controlled environments such as Singapore and Hong Kong. Change is much harder to realise in other Asian settings, given their larger-scale educational apparatus, the inertia of tradition, and the lack of resources for reform, or mechanisms to bring it about. In this climate, experiments along the lines of the one conducted here are likely to be especially important, when they can be instituted by Asian nationals returning from education in the West; by those few graduates who have experienced such approaches in Asia; or by Western

visitors. It would be valuable for such further efforts to be documented in the research literature given the paucity of detailed accounts of attempts at change. The recent World Bank (2005) study represents an important call to more relevant education at the school level, but the international community needs to focus more resources on bringing change to developing country universities to help them initiate programs capable of producing mature professionals.

In the end, it is questionable whether existing differences between educational traditions in the East and West can be most usefully characterised as 'cultural'. The West has had many long dark ages where dogma has been enforced upon a populace. While advances have been made in educational techniques, especially at the graduate school level, passive and narrow learning still remains common in the West, even if it is in the process of being displaced by more modern approaches (see Richmond 1990 reprinted as Richmond 1995 for a discussion of reforming transportation teaching in the West).

It may, instead, be more helpful to look for universal themes on a human level. When students can be woken to their intellectual potential and allowed to take pleasure in their own creativity, they can choose a path of thoughtful learning whether in the East or the West. When teachers can be taught to let go of the need for authority and control, and participate in the educational enterprise as colleagues and friends of the students, change can happen in either context. It is essential for this to happen if Asia is to produce professionals capable of leading their nations to advances in development and prosperity.

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APPENDIX A: SAMPLE FINAL EXAMINATION QUESTIONS**1. Public Transportation Systems**

- A. Define price elasticity of demand, fixed costs, and marginal costs. Discuss alternative cost-based approaches to pricing transit, including the use of price discrimination (e.g. off-peak fares, travelcards, family fares) to attract additional ridership. Should we base pricing primarily on costs, or also consider environmental and equity policy issues? Would you keep the different aircon and non-aircon bus services/fares in Bangkok? Explain. Would you change the way Skytrain is priced? Why? Consider both ridership and revenue/subsidy implications for both examples.
- B. Discuss the results achieved with bus rapid transit in Curitiba. Compare the potential for improving service by the use of bus rapid transit and rail rapid transit in major developing Asian cities, including a discussion of the differing attributes of rail and bus services. What are the differences in likely costs and benefits, and which groups are most likely to benefit from each type of improvement? Describe how choices might be made under circumstances of limited resource availability. Include a discussion of equity considerations.

2. Developing Transport for Developing Countries/Urban Transportation Planning and Policy

- A. Assess the reliability of UTP 4-step model analysis in a developing country context, focusing on issues of the adequacy of UTP in accounting for actual travel patterns, representing demand relationships, and having available appropriate data. Does modelling as practiced consider the full range of travel opportunities and alternatives for the future? Are the travel priorities and patterns of the poor represented and what is the equity impact on the resource allocations that follows from such modelling? What has been the role of Western ideas and consultants in promoting the use of UTP? When would you justify or oppose the use of UTP in developing country situations, and what alternative approaches to decision-making might you suggest?
- B. Evaluate the performance of road pricing as against vehicle quota system approaches in Singapore from the perspectives of congestion control, economic efficiency (hint: describe the reasons for marginal cost pricing), and social equity. Would you keep both systems in place as at present or develop and/or discontinue either or both of them? How and why? What have you learned from the experience of Singapore about the potential for applying pricing and/or quota restrictions in other countries of the region?

APPENDIX B: SAMPLE COMMENTS FROM SINGAPORE FIELD TRIP EVALUATIONS

On Singapore government and planning I learned that a country with good governance could bring all the people together to attain a cause and can very well succeed even at times of crisis... Transportation planning integrated with housing and development is innovative... It's necessary to have an integrated approach... Singapore transportation planning system is comprehensive and complete in all respects. But there should be more public participation and hearings before carrying out any major transportation project...

On management approaches They are key, even more important than building or planning new facilities... Good coordination among different agencies leads to good outputs and can make things real... in most developing countries, there is no lack of

expertise or “brains,” but what lacks is good management to execute the plans and techniques devised by them.

On meetings with officials It gave us a valuable lesson in professionalism and we were taken into account... They have answered all our queries without hesitation and made us thoroughly understand how they work and make all things possible... We were there to get answers, not just to say “yes” to everything or just memorize... Gave us insights and ideas that can be useful in our countries... The Singaporean professionals inspired me to become more professional and tactful wherever I plan to work... They were a mix of very honest and open to a bit uptight and insecure-natured.

Summing up The assignments given after the visits required our ability to observe and give comments on Singapore and how we can achieve such systems back in our developing countries... This was the highlight of our course... [Asian International] course are usually too much theoretical. This course gives us the opportunity to apply our knowledge in practice. Very valuable... Real course with practical knowledge that brings discussion and deep reflection.

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Elementary school curriculum reform in Turkey

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This paper aims to examine the nature of the new elementary school curriculum in Turkey. In particular, the authors provide a coherent picture of the fundamentals, basic elements and the classroom implications of the new curriculum development initiative in five content areas: mathematics, science, social science, life science, and Turkish. This paper discusses the fundamental principles underlying the curriculum reform, including social, individual, economical, and historical and cultural aspects. In addition, the paper addresses the main motivators: Turkey's integration with the European Union, major issues with Turkish students' academic performance in national and international arenas which led the curriculum change. It is believed that the implementation of the new curriculum will give new insights to the policy makers, classroom teachers, students, parents and other related parties. The results of the implementation of the curriculum will open new opportunities for researchers to identify the strengths and drawbacks for further improvements.

Curriculum reform, fundamentals of curriculum, Turkey, education system, elementary school

INTRODUCTION

To become the member of the European Union (EU) constitutes one of the main long lasting political objectives of Turkey since independence (Isiksal, 2005). For instance, the founder of modern Turkey, Mustafa Kemal Ataturk, emphasised upon the significance of Europe for Turkey's future and modernisation. For this purpose, the modern Turkey made fundamental amendments such as abolition of the religious Khalifa institution, foundation of the Western style education system, and replacement of the Arabic alphabet with the Latin alphabet. In consequence, Turkey is able to become the only democratic and secular state within the Muslim world.

In order to maintain further and consolidate this political objective and preference, Turkey became the member of the West European based organisations such as the Council of Europe in 1949, and the North Atlantic Treaty Organisation (NATO) in 1952. As a complementary attempt in this vein, Turkey applied to the European Economic Community (EEC) for membership (following the application of Greece) in 1959. The most prominent and remarkable result of these aforementioned efforts was the initiation of full membership negotiations with the EU on September 4, 2005.

There is little doubt that the EU is the most successful union among the societies of states. EU membership is highly desirable since it promotes fundamental changes in socio-economic and political life. As a result of this transformation, the societies are expected to become more integrated, more prosperous, more autonomous and more democratic in addition to the highest achievements in terms of human rights.

Departing from these statements, Turkey could benefit in many ways from the EU membership. For instance, as a requirement for EU membership Turkey has to fulfil the Copenhagen and Maastricht criteria. These criteria would help Turkey to re-organise its governmental administration, branches, and activities in transparent, less bureaucratic, more accurate and efficient ways with the progressive spread of the rule of law and democracy. In addition to reorganisation in political, institutional, economical and social arenas, education will be considered as a critical component. In 2003, a new curriculum change movement began in Turkey based on the improvements of the information society, teaching episodes and relations with European Union countries. The schools cannot disregard the influence of information and communication technologies on mathematics, science, production, society, politics, education and also lifestyle. Thus, enhancing globalisation encourages the assumption of globalisation.

This paper, in general, focuses on the educational reform movements in Turkey. In particular, it describes and discusses the curriculum reform in elementary (Grades 1 to 8) school curriculum which started in 2003. The elementary school curriculum is being implemented in five school subjects; mathematics, science, social science, life science, Turkish. One of the major motivations for this curriculum improvement is to reach ideal international standards of education implemented in Europe, North America and East Asia. For instance, the new curriculum aims at creating learning environments, where students can share their ideas and actively participate, relating various disciplines to each other, and using different teaching methods within the enriched environment (MNE, 2005a; 2005b; 2005c; 2005d; 2005e).

From the outset, the new curriculum was closely linked with the in-service training, improvement of the infrastructure of school units and it gave particular interest to the basic requirements of children's knowledge and skills, their learning, emotions, attitudes, interests, self-confidence, beliefs, anxiety, self-regulation, psychomotor development and social skills. Next, a brief overview of the Turkish educational system is presented.

TURKISH EDUCATIONAL SYSTEM: A BRIEF OVERVIEW

Curriculum studies in Turkey have an extensive background that goes back to the early mid-nineteenth century when the first general elementary school curriculum was introduced (Varis, 1996). In the twentieth century, there were more systematic innovations in curriculum development studies starting with the establishment of the Republic in 1923. A year later, in 1924, with the Law of Common Education, the Ministry of National Education became the only authority responsible for the operation of all educational institutions (Gozutok, 2003). Considering the needs of the newly established Republic, initial curriculum development studies in elementary education (The Primary School Curriculum) began just after the Law was put into effect. After a two-year implementation of the curriculum, a major revision was accomplished by considering the needs of the country and developmental characteristics of students. The revised Primary School Curriculum was in effect for ten years until a new round of curriculum development studies were conducted in 1936. In the following years, due to climate changes in the economical, political, and social structures of the Turkish society, a need arose to revise the curriculum; as a result, in 1948, the curriculum faced new changes. The principles of the Primary School Curriculum were rearranged and grouped under four elements: social, individual, human relations and economics (Binbasioglu, 1995).

In 1962, there was another curriculum initiative to align the existing content of the curriculum to the necessities of the society and country. In the 1962 model, the 14 different subject fields of the 1948 Curriculum were grouped under five content areas according to their relations. This model also was so flexible that the consumers of the curriculum could alter the program according to the needs of the local community (Karagoz, 1965). The 1962 Curriculum was in use for six years. During this time frame, classroom teachers, academicians from universities and other curriculum experts continuously monitored the implementation process and revised the program. The

revisions were finalised in 1968 and officially approved as the 1968 Curriculum. Later, in 1982, a new program model was presented by the Ministry of National Education. This program was prepared through collaborations with universities. The rapidly changing nature of the society, technology and culture resulted in a new wave of curriculum change in the early 1990s under the guidance of the National Education Development Project supported by the World Bank. With this project, it was planned to develop high quality instructional materials and textbooks for improving the level of schooling in Turkey. As a result of these efforts, in 1993, a new curriculum was adopted by the Department of National Educational Research and Development of Education (EARGED) in cooperation with the National Education Development Project. Between 1993 and 2003, revisions were carried out in individual content area curricula. For instance, the mathematics curriculum in 1998 and the science curriculum in 2000 were considerably revised. Lastly, in 2003, new curriculum studies concerning five content areas, including mathematics, science, social science, life science, and Turkish were initiated by the Ministry of National Education. In this paper, we will describe and discuss the fundamentals of the new curriculum initiative. It is noted that we use the terms curriculum and program interchangeably. Being a continuous process, evaluation and pilot studies of the new curriculum, and development of the instructional materials are still in progress.

THE NEW CURRICULUM

The new curriculum is designed as part of a larger scale curriculum reform initiative in Turkey that includes five subject matter areas: mathematics, science, social science, life science and Turkish. The curriculum is designed for each of the courses under the guidance of a common set of fundamentals with four components, (a) Social, (b) Individual, (c) Economical and (d) Historical and Cultural fundamentals. The Turkish Ministry of National Education (MNE) proposed that the fundamentals would serve as an umbrella guiding the overall initiative (MNE, 2004a). In this paper, our focus is to discuss the common fundamental ideas and classroom practices in all the five subject matter areas. Thus, when we use the term curriculum or program, we refer to these common points. It is not within the goals of this study to examine each content area curriculum separately.

A quick overview of the four components indicates that the MNE targeted a large area of interest. Although each component characterises a unique fundamental aspect of the curriculum, there are considerable overlaps among them. In particular, the social, and the historical and cultural components are drawn from the same roots of the Turkish society. It is also implied that the MNE does not only value the cultural and social roots, but also the individuality of students. The curriculum reform is initiated as an attempt to improve students' personality development as well as their social development. It may even be perceived as a paradigm shift in the Turkish educational system to put a considerable amount of emphasis on individuality considering the fact that the dynamics of the Turkish socio-cultural system do not encourage individual development as much as social development.

The Turkish curriculum development process is no more different than what has been accomplished in other parts of the world. An overview of the recent literature indicates that different nations have implemented curriculum reforms according to their social, cultural and economic needs, but it seems that their main purpose is to increase the quality of schooling (Flouris and Pasiadis, 2003; Huang, 2004). Huang (2004) explains the importance of seven goals to be addressed within China's curriculum reform. These are establishing the new curriculum philosophy, developing educational objectives, renewing educational content, reconstructing a model of curriculum organisation, innovating in curriculum materials, establishing an active mode of teaching and instruction, and establishing a new system of curriculum evaluation. Huang also emphasised six strategies to accomplish these goals. These strategies are improving the system of curriculum management, redeveloping the mechanism of curriculum reform, promoting

school-based curriculum development, integrating information technology with curriculum, emphasising teachers' professional development, and encouraging the whole nation's participation in the reform. In their critical appraisal of the curriculum reform in Greece between 1980 and 2002, Flouris and Pasiadis (2003) reported that the curriculum reform efforts were based on textbook, teaching practices, teachers' scientific and pedagogical preparation, usage of multiple instructional resources and media, and evaluation process. Likewise, the new Turkish school curriculum reform was built on a set of fundamentals, essential elements, and components of the teaching and learning process. We describe and discuss those fundamentals, elements and components in the next sections of this paper.

Prior to presenting the discussion about the fundamentals of the program, it is noted that various official documents published by the Ministry of National Education are used as reference materials to present and discuss the components and developmental process of Turkish elementary school curriculum (MNE, 1996; 2004a; 2004b; 2004c; 2004d; 2005a; 2005b; 2005c; 2005d; 2005e). Thus, we do not cite those documents at anytime, but we use them in the paper. They are our main primary resources.

Fundamentals of the New Curriculum

Following the overall discussion of the fundamentals, the next section provides a separate presentation of the four components. The goal is to inform the reader about the underlying aspects of the fundamentals of the program.

Social Fundamentals

The social fundamentals of the curriculum assume that children are social individuals. Based on this main assumption, it is acknowledged that children are influenced by a diverse group of environmental factors, including family, school, peers, and other people around them. The curriculum provides a collection of means for guiding students to adapt to the environment they live in. Additionally, it is within the goals of the new program to promote students' moral development with an emphasis on certain values, including the social norms, such as modesty, fairness, honesty, patience, faithfulness, tolerance, and respect. In light of these aspects, the new curriculum, in particular, aims at

- improving students' psychological, social, moral, and cultural development within their own sociocultural contexts;
- reminding students of their rights and responsibilities and raising individuals who are in harmony with the society's internal institutions such as family, school and government;
- raising awareness on social, economical and political issues surrounding the society and the outside world such as economic crises, natural disasters, international conflicts and environmental pollution;
- raising awareness on education of gifted and handicapped students;
- raising awareness on democratic values and human rights within the society;
- placing considerable emphasis on character education for individual and social happiness; and
- placing considerable importance on recreational and physical activities as part of students' cognitive, psychomotor and affective development.

Individual Fundamentals

One of the main goals of education is to nurture a society which consists of individuals who can effectively create solutions to academic and real life problems. That is why the new curriculum

places a considerable amount of emphasis on raising individuals who recognise problems and develop appropriate solution strategies. Thus, the program aims to identify instructional objectives that enhance students' problem solving skills. The objectives for the improvement of the individual fundamentals are stated as follows:

- acknowledging each student as a separate human being with his or her own personal characteristics;
- providing opportunities for life-long success in academic, professional and personal development;
- allowing experiences to enhance personal satisfaction and professional achievement through intrinsic motivation reinforcement;
- creating environments that promote life-long skills such as creativity, entrepreneurship, and scientific, analytic and critical thinking;
- raising awareness on psychological and physical health;
- placing considerable emphasis on metacognitive skills; and
- providing learning experiences to support multiple perspectives.

Economical Fundamentals

It is within the goals of the new Turkish school curriculum to acknowledge the importance of economical and financial issues in a national and global world. Based on this acknowledgement, the curriculum aims to provide learning experiences for the students to understand and adapt the rapidly changing world in terms of economic and financial aspects. In particular, the new curriculum aims at:

- allowing experiences to enhance economic development around the nation;
- taking measures to decrease the economic gaps across the geographical regions;
- taking measures to supply the manpower required that are based on economic demands;
- encouraging students' entrepreneurship; and
- encouraging product-oriented activities.

Historical and Cultural Fundamentals

It is essential to include culture in the curriculum to acknowledge cultural diversities of the members of the society. It is critically important and extremely difficult for teachers to include cultural components in the curriculum (Banks, 1995; Chan, 2006). The new Turkish elementary school curriculum places emphasis on the historical and cultural fundamentals of the Turkish society. In particular, the program claims to allow students to reflect on history and take lessons from it for the future. Additionally, it is thought that education is a social activity that needs always to consider cultural and historical characteristics of the society through:

- basing the philosophy of the education system on Ataturk's principles: Republicanism, Nationalism, Populism, Etatism, Reformism, and Secularism;
- raising awareness and supporting cultural, national and social norms;
- considering the national history as a guide for the future; and
- acknowledging cultural and fine arts as the mediums for individual development and socialisation.

Major Elements of the Curriculum Reform

Being inspired by the above fundamentals, the new curriculum is mainly set up on a number of major elements for supporting the individual and social development of the members of the society. The major elements are stated as follows:

- effective usage of the mother language;
- giving importance to cultural and artistic values;
- being enthusiastic on reading and life long-learning;
- expressing ideas and thoughts straightforwardly;
- supporting parent involvement in schooling;
- effective usage of at least one foreign language;
- effective usage of information technologies for educational purposes;
- promoting collaborative work and communication;
- being aware of the changes in the environment and adapting to these changes;
- self-awareness of one's own duties and responsibilities;
- being open to the opportunities and challenges along the way in an increasingly global world;
- generating original and creative ideas on given occasions; and
- being intrinsically motivated to follow rules and regulations.

The Learning and Teaching Process as Envisioned by the New Curriculum

The new program not only sets out the main fundamentals essential for the accomplishment of the philosophy of the curriculum but it also provides suggestions for learning and teaching environments. In particular, it is advocated in the new program that students need to be motivated to discuss, inquire, and be curious about what is going on in their surrounding environment, including family, school and society. It is suggested that student-centred classroom environments need to be designed to increase active participation of students for their own learning. The purpose of student-centred instruction is to replace rote memorisation with learning for understanding (Hiebert et al, 1997). The nature of the instructional tools is proposed as another set of essential elements for learning with understanding. Apart from traditional textbooks, newspapers, journals, magazines, Internet and other resources are introduced as alternative instructional tools. Parents should be part of the teaching and learning process as resource persons.

Furthermore, students should be encouraged to work collaboratively to communicate effectively about and reflect on their learning (Johnson and Johnson, 1990; Hiebert et al, 1997). This can give them a chance to express their ideas and increase self-confidence (Bandura, 1986). Eventually, the new curriculum hopes that students enjoy their own learning. In addition, the curriculum believes and supports extracurricular activities as a critical aspect of student learning.

As a critical aspect of understanding (Polya, 1957), problem solving is introduced as an instructional tool for all subject areas in the new curriculum. Students need to be able to transfer their knowledge to other settings. They need to also acquire the skills to design successfully and implement creative problem solving strategies when they are confronted with new situations. For meaningful student learning, the curriculum suggests teachers consider the outside contextual elements such as life style, economic activities and geographical factors to design classroom tasks. For instance, community projects are highly encouraged by the curriculum. In particular, it

is stated that involvement within the outside community is most likely to enhance students' social, individual and academic development.

The new curriculum acknowledges the contemporary belief that assessment must be integrated into or an essential part of classroom instruction (Romberg, 2004; NCTM, 1995, 2000). According to the curriculum, continuous monitoring needs to be used for program evaluation, and assessing students' knowledge, skill and attitudes. This provides the opportunity to diagnose and remediate malfunctioning elements of schooling at macro and micro levels. At the macro level, the curriculum involves the view that assessment is a valuable tool for the re-organisation and rejuvenation of the school system by examining the relationship among students, teachers and parents. At the micro level, the main focus is on students' cognitive, physical and emotional development. In particular, teachers are responsible for collecting, analysing and interpreting student-level data. The new curriculum suggests that teachers communicate the assessment results to the parents, school administrators and the outer community.

The assessment system as introduced by the curriculum aims at monitoring the process as well as the product (Linn and Miller, 2005). The curriculum also introduces alternative assessment strategies such as portfolios, projects, checklists and other performance-based media of assessment besides standardised and classroom tests for the improvement of the school system. Such assessment techniques are suggested as an invaluable tool to collect information on the process used (for example, problem solving strategies or interpretation of the findings) and product or outcome of the process (for example, completed project work or written report). The traditional assessment techniques such as paper and pencil tests do not necessarily help teachers monitor student progress as much as do performance-based assessment tools (Linn and Miller, 2005; Thorndike, 2005). In essence, the new curriculum takes a radical approach toward improving the assessment system by utilising traditional and alternative assessment strategies. Finally, as indicated by Romberg, reform in the curriculum requires further reform in classroom assessment (2004).

Given the above discussions, the new curriculum was developed to recover the drawbacks and limitations of the old curriculum. The characteristics of the former curriculum are contrasted with the new curriculum in Table 1. As indicated in the table, the new curriculum carries fundamental components of the international reform efforts in education both in Europe and North America (Baki and Gokcek, 2005).

Table 1. A comparison of the old versus the new curriculum

| Old Curriculum | New Curriculum |
|-------------------------------------|--|
| Information does not change. | Information changes |
| Education is for knowing | Education is for understanding |
| Teacher as the information provider | Teacher as the facilitator |
| Teacher as the only decision maker | Teacher and students make decisions |
| One-way communication | Two-way communication |
| Product-based | Process-based |
| School for individual's learning | School for everyone's learning |
| Parents do not know about education | Parent involvement is essential |
| Competency-based learning | Community-based learning |
| Norm-referenced assessment | Criterion-based assessment |
| Teacher knows the answers | There is more than one solution and the teacher may not know all the answers |

The old curriculum perceived the teacher as the centre of the teaching and learning process. In particular, the teacher was identified as the only decision maker, information provider and the authority in the classroom. The overarching goal of the teacher was to transfer knowledge to the students without placing emphasis on understanding. As a result of this perception, students were seen as the passive receiver of the information. This philosophy of the old curriculum did not provide enough opportunities for students to engage in essential thinking processes, including problem solving, multiple representations, communication, and making connections. The

important characteristic of the new curriculum is to provide learning experiences for students with diverse intelligences and abilities. Additionally, the old program placed no emphasis on alternative assessment strategies such as observation checklists, portfolio and other performance-based assessments (Linn and Miller, 2005). In order to address these issues, the Ministry of National Education decided to revamp the old curriculum and replace it with a more reform-based approach that is geared toward students' active involvement in the teaching and learning process.

CONCLUSIONS AND IMPLICATIONS

The purpose of this article is to describe and discuss the recent reform in the Turkish elementary school curriculum. While doing this, we provide a detailed overview of the social, cultural, individual, and economic roots of the curriculum. It is indicated in this brief overview of the new Turkish curriculum that Turkey has caught the momentum of improving its education system. There have been curriculum changes all over the world based on the contemporary approaches toward teaching and learning. Along with this trend, Turkish curriculum developers adapt a reformist philosophy that supports children's active construction of their knowledge through problem solving, exploration, reflection and communication, and other thought-provoking processes that require high level cognitive demand (Stein et al, 1996). Another significant characteristic of the curriculum change is that the content or what to teach is not changed dramatically, but just slightly revised. Thus, a comparison of the old and the new curricula on the surface indicates that both look quite similar in terms of the content they cover; though, opposite to the traditional nature of the old curriculum, the new one brings various characteristics of the reformist movement around the world such as considering interdisciplinary connections, and the use of technology and other instructional tools. As a result, the reformist wave in education has arrived in Turkey and significantly influences the elementary school curriculum. Yet, it is not the only key variable influencing the curriculum change in Turkey. Turkey's long lasting ambitions to be a full member state of the European Union and raise Turkish students' low academic performance have helped the country to reform its political, economic, institutional and educational structures.

The curriculum change initiated other associated movements in the education arena of Turkey. For example, the publication of new textbooks aligned with the curriculum has already been started. For the first time in Turkey, student workbooks and teacher editions are being published to support the student textbooks. In addition to the textbooks, the Ministry of National Education has designed and developed instructional and technological tools and manipulative materials aligned with the needs of the new curriculum. The Ministry of National Education not only places an emphasis on the development of the instructional tools, but also emphasises the effective utilisation of them by teachers and students. In particular, teacher education workshops and seminars are being carried out around the country to inform the teachers about the effective implementation of the curriculum sources. Teacher educators give additional seminars based on teachers' needs and questions about the new curriculum. In addition, experts and program developers give seminars to pre-service teachers as well as parents, and school related communities on the regulation and implementation of the new program.

Pilot studies have been conducted in nine provinces representing the entire country to evaluate the implementation process. Indeed, the curriculum revision is a life-long process. Future research studies, policy documents and teacher input are planned to inform curriculum developers on strengths and weaknesses of the curriculum reform. Thus, it is not enough just to document the goals of the curriculum, but new research needs to be carried out to monitor the implementation of the process. This paper is an initial step to inform the outside education community about the reform of the elementary school curriculum in Turkey.

Effective curriculum implementation and improvement is based on systematic, continued effort at altering learning conditions in the classroom and other internal conditions within the school

(Stewart and Prebble, 1985). Thus, this paper must be supported with additional systematic research studies to document and discuss development of individual content area curricula, including mathematics, science, social science, life science, and Turkish. Furthermore, how these changes in the curriculum directly or indirectly affect the structural, procedural or conceptual development of schooling need to be explored.

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Prospective teachers' misconceptions about the atomic structure in the context of electrification by friction and an activity in order to remedy them

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Science educators have generally agreed that understanding the atom concept is the basis of science education. However, the numerous research studies have shown that many students at all educational levels have difficulties understanding this concept. This study was developed under three headings. The first was to identify misconceptions that prospective teachers (PTs) had about atomic structure in the context of electrification by friction (ASCEF). The second was to study the effectiveness of the branch differences (basic sciences, social sciences, physics, chemistry, biology, mathematics) on the levels of their misconceptions. The third, based on students' misconceptions, was to examine the effectiveness of the activity 'Modelling of the Atomic Structure' (MAS). The study was divided into two stages. First, in order to identify the PTs' misconceptions, an Understanding the Nature of Electrification by Friction Test (UNEFT) which could be summarised by the question 'is electrification by friction due to the electron transfer?' was applied to the PTs who attended the Primary School Teacher Education Pedagogical Formation Certificate Program (PSTEPFCP) at a large public university for a five weeks science teaching course followed by an examination after the static electricity topic had been presented. It was found that the PTs from all branches of science held the misconception that electrification by friction was due to the transfer of protons. At the same time the effects of the branch differences on the levels of the PTs' misconceptions was studied and was not significant in groups other than the basic scientists–social scientists pairing. In the second stage, using the students' misconceptions, the effectiveness of the MAS activity was examined in the experimental and control groups and was found to be significant at all levels. From this result, it was found that the models were quite useful in teaching science and that the construction of knowledge would be possible if students played an active role in the learning environment.

Atomic structure, electrification by friction, misconception, modelling, science education

INTRODUCTION

Many students were unable to succeed in learning some concepts of physical science even though they worked very hard (Nakhleh, 1992; Noh and Scharmann, 1997). According to experts, the reason for this was that they had misunderstood the fundamental science concepts. Hence, they were not able to learn other concepts built upon them (Nakhleh, 1992). Piaget (1963 and 1970) was, in fact, aware of this case in the 1920s and 1930s. However, it was neglected by the mid–1960s. Educators needed to know the students well in order to improve the science teaching from that time (for example, Anderson, 1965; Raven, 1967–68). Therefore, teachers interacted with the students by means of interviews and questionnaires. However, in the 1960s and 1970s, the number of studies in the field of science education was relatively few in number.

In one of the early studies on children's ideas concerning natural phenomena taught in science, Anderson (1965) found that the pupils were capable of building mental models when asked to explain selected phenomena. About the same time, Raven (1967–68) conducted a study on the concept of momentum with students aged five to eight years old. In the study, he found that they could understand the concept of momentum without understanding the sub-components of the concept. Doran (1972) investigated elementary school pupils' understandings of the continuity of matter, the movement and the size of particles. He found that they did not have these concepts. Doran's study examined the reaction of some science educators. Swartz (1973) stated that this case was, in the Piagetian stage theory, a normal result for the children at the concrete operational level and that it should not indeed be exaggerated. As a reply to Swartz's comment, Doran (1973) pointed to the fact that Piaget's findings concerning the general cognitive capabilities of young people seemed to suggest the inability of students in the lower grades to operate with abstract concepts and supported his ideas with the results of research by educators (Anderson, 1965; Raven 1967–68) using alternatives to the Piagetian theory. According to the researcher's opinion, a focus on students' misconceptions in the basic sciences was in the interest of other science educators and this discussion is quite useful for science education.

According to the results of research, students often had a concept of science that was different from the one that experts had and tried to present (Driver, Leach, Scott and Wood–Robinson, 1994). Therefore, they might give these concepts different meanings from those generally accepted by the experts. This manner of students' learning has been characterised by terms such as misconceptions, preconceptions, alternative frameworks, intuitive beliefs, children's science, naive beliefs, students' descriptive and explanatory systems, alternative conceptions, misunderstanding and students' conceptions (Cho, Kahle and Nordland, 1985; Garnett, Garnett and Hackling, 1995; Gilbert and Watts, 1983; Griffiths and Preston, 1992; Nakhleh, 1992; Schmidt, 1997; Stepan, Beiswenger and Dyché, 1986). However, one generally used by researchers was the term 'misconception.' Cho, Kahle and Nordland (1985) defined misconception as any idea whose meaning deviated from one commonly accepted by scientific consensus.

Science educators generally agree on the idea that concepts that assist in the understanding of the atom and molecule are the basis of science education because the learning of other concepts such as chemical bonding, ions, states of matter, amount of matter, electricity, chemical reactions, heat, temperature, dilation, light, diffusion, elements, compounds, mixtures, osmosis, dissolving, chemical kinetics, chemical equilibrium, the effects of pressure and temperature on gases are possible only with the comprehension of atomic and molecular concepts (Griffiths and Preston, 1992; Nakhleh, 1992). From this point of view, science educators have particularly focused their research on the concepts that students in pre-university education have about atoms and molecules, in the context of the particulate nature of matter.

A study conducted by Pella and Carey (1967–68) was one of the early studies of the field. They investigated the relative levels of understanding of 16 concepts on the particulate nature of matter in elementary school pupils in the United States. The results showed that the pupils had some difficulties understanding the particulate nature of matter. In recent years, there has been increased interest in the subject. In two studies on the particulate nature of matter, Novick and Nussbaum (1978, 1981) found that over half of students in high school and university only had a primitive idea, which was consonant with the continuous-matter outlook on the physical world, rather than the accepted particulate model of matter. In a study conducted by Gabel and Samuel (1987), to determine prospective elementary teachers' views of the particulate nature of matter, an examination of the individual drawings that they did showed that their conceptions of matter were frequently distorted. The investigators found that prospective elementary teachers had the misconception that there was an enlargement of atoms of a same element as they changed from liquids to gases. A similar study by Ben-Zwi, Eylon and Silberstein (1986) revealed that atoms

and molecules had a different size in the phases of the same matter was prevalent in 15-year-old students. Again, the same study showed that the students held the concept that features belonging to the matter such as electrical conductivity, colour, and malleability were also the features of a single atom. In her review of studies concerning atomic and molecular concepts, Driver (1993) showed that many students could not apply the law of conservation of mass to chemical and physical changes. She found that nearly half of the students surveyed suggested that the weight of steel wool would decrease after burning and that the mass would change when dissolving sugar in water. In a study by Sarikaya (2000), it was revealed that prospective science teachers also had the same misconceptions. Griffith and Preston (1992) found 42 misconceptions held by the students in Grade 12 about the fundamental characteristics of atoms and molecules. In a study by Abraham, Williamson and Westbrook (1994) on junior high, high school, and college chemistry students' understanding of the concepts of conservation of mass, it was shown that only 18 per cent of the sample had a sound knowledge about the concept. A recent study by Mulford and Robinson (2002) showed that first semester general chemistry students retained many of their initial concepts about atoms and molecules through the first semester of instruction. A very recent study by Sarikaya (2004) showed that chemistry teachers, prospective chemistry teachers, freshman science students and high school students had some misconceptions about the definitions of the mole and Avogadro's number, which were based on the atom and molecule concepts. More than half of them, instead of using the ^{12}C isotope, defined these concepts as Avogadro's number of particles and 6.022×10^{23} , respectively.

For the last 40 or 45 years, the results of studies had shown that students of all ages held misconceptions about basic science concepts, regardless of where they were on the earth. Educators' work is to teach the truth, and to remedy misconceptions, which the students have. Because educators in universities can not reach each school or class or student, teachers have to do it. The remediation of students' misconceptions is only possible by their teachers, who must be well trained and freed from misconceptions. For this reason, it is important to investigate whether prospective teachers hold misconceptions or not. Also, all prospective teachers need to be trained to correct misconceptions. They need to be aware of both their own and students' misconceptions and learn to remedy and overcome them. An unknown illness can not be cured! However, the studies that focus on prospective teachers' misconceptions are rather rare (Haidar, 1997). From this point of view, this study focuses on prospective teachers' understandings of the atom concept in the context of the nature of electrification by friction.

PURPOSES, OBJECTIVES AND HYPOTHESES

The purposes of this study were considered under three headings. The first was to identify misconceptions that prospective teachers (PTs) had about atomic structure in the context of electrification by friction (ASCEF). The second was to study the effectiveness of the basic sciences, social sciences, physics, chemistry, biology, mathematics on the degree of their misconceptions. The third was to examine the effectiveness of the activity 'Modelling of the Atomic Structure' (MAS) and its effect on students' misconceptions.'

The following objectives guided this study.

- (1) The first was to identify the misconceptions that the PTs of the various branches of science had about the ASCEF on an Understanding the Nature of Electrification by Friction Test (UNEFT).
- (2) The second was to explore the relationship between the levels of misconceptions that the PTs of the various branches held about the ASCEF on the UNEFT.
- (3) The third, using an experimental and a control sample, was to examine the effectiveness of the MAS on their misconceptions.

For the purpose of statistical analysis, objectives were set up as the research hypotheses and assessed against the null hypotheses.

For the first objective, the following seven hypotheses in the research hypothesis form were tested:

- (1) H_1 : The PTs had misconceptions about the ASCEF.
- (2) H_2 : The basic scientists (BSs) had misconceptions about the ASCEF.
- (3) H_3 : The social scientists (SSs) had misconceptions about the ASCEF.
- (4) H_4 : The physicists (Ps) had misconceptions about the ASCEF.
- (5) H_5 : The chemists (Cs) had misconceptions about the ASCEF.
- (6) H_6 : The biologists (Bs) had misconceptions about the ASCEF.
- (7) H_7 : The mathematicians (Ms) had misconceptions about the ASCEF.

For the second objective, the following two hypotheses in the null hypothesis form were tested:

- (8) H_0 : There was no a statistically significant difference between the BSs' and SSs' mean misconception scores (μ) on the UNEFT.

$$H_0 : \mu_{BSs(UNEFT)} = \mu_{SSs(UNEFT)}$$

- (9) H_0 : There were no statistically significant differences among the Ps', Cs', Bs', Ms' and SSs' mean misconception scores on the UNEFT.

$$H_0 : \mu_{Ps(UNEFT)} = \mu_{Cs(UNEFT)} = \mu_{Bs(UNEFT)} = \mu_{Ms(UNEFT)} = \mu_{SSs(UNEFT)}$$

For the third objective, the following null hypothesis was tested:

- (10) H_0 : There was no statistically significant difference between the experimental (Exp) and control (Con) groups' mean misconception scores on the UNEFT.

$$H_0 : \mu_{Exp(UNEFT)} = \mu_{Con(UNEFT)}$$

METHOD

The Study Context

The present study is related to the topics of both chemistry and physics in the context of atomic structure and electricity. In the Turkish educational system, the first chemistry and physics teaching begins with a brief introduction to physical and chemical changes, as a part of the science curriculum at the age of 10–11 years in Grade 4. The topics of atomic structure and electricity are first given in Grades 4 and 5, respectively. These topics are again taught to students aged between 12 and 14 years in Grades 6, 7 and 8. The topics are taught again at an advanced level in secondary education at ages 15 to 17 years in Grade 9, 10 and 11 (Calik and Ayas, 2005; MEB Tebligler Dergisi, 2000). Accordingly, the knowledge content of this study is at the pre–university level of education.

Instrumentation

In order to identify the misconceptions that the prospective teachers (PTs) have about the ASCEF, we compare the levels of the groups' mean misconception scores and examine the effectiveness of the MAS on students' probable misconceptions about the ASCEF and the UNEFT that have been developed by the researcher. The UNEFT is a paper and pencil reading test and it has two multiple–choice items with four questions in each part. In addition, each of the four options has

true or false questions. The UNEFT takes a total testing time of 15 minutes. In order to understand the nature of electrification by friction, both of the items have to be correctly answered because they are directly related. If one of the items is true and other is false, the Cronbach alpha reliability coefficient of the instrument cannot be computed. However, a group of science educators checked the test for validity. The test items considered in this study and the structure of questionnaire are shown in Table 1.

Table 1. Test items used in the study and the structure of questionnaire

Name and Surname:

Note: All of eight points in two statements below may be true or false. Please tick (\surd) True or False for each of eight points.

Matter is made up of atoms, the atom consists of protons, electrons and neutrons, the proton and the electron have the positive and negative charge, respectively, and the neutron is uncharged. In electrically neutral matter, the total number of electrons is equal to that of protons.

Item 1:

Statement 1. If an ebonite rod (or plastic comb or plastic balloon) is rubbed against a woollen cloth, the ebonite and the cloth are charged with negative and positive electricity, respectively. Because:

- Both electrons and protons pass from the wool to the ebonite. However, the number of electrons passing to the ebonite is more than that of protons. The ebonite is negatively charged since the negative charge transferred to it is greater than the positive charge. The negative charge, which the wool loses is more than the positive charge, therefore, the wool is positively charged. True:..., False:...
- Both electrons and protons pass from the ebonite to the wool. However, the number of protons passing to the wool is greater than the number of electrons. The ebonite is negatively charged since it loses more the positively charged particles than negatively charged ones. The positive charge that the wool gains is more than the negative one and therefore, it is has a net the positive charge. True:..., False:...
- Only the electrons are transferred from the wool to the ebonite. True:..., False:...
- Only the protons are transferred from the ebonite to the wool. True:..., False:...

Item 2:

Statement 2. If a glass rod (or glass tube or glass bottle) is rubbed against a silken cloth, the glass and the silk are charged positively and negatively charged, respectively. Because:

- Only the protons pass from the silk to the glass. True:..., False:...
- Only the electrons pass from the glass to the silk. True:..., False:...
- Both the protons and the electrons pass from the glass to the silk. However, the number of electrons transferred from the glass to the silk is more than that of the protons. The glass is positively charged since it loses more negative charge than positive. The negative charge that the silk gains is more than the positive charge and therefore, with the silk is negatively charged. True:..., False:...
- Both protons and electrons pass from the silk to the glass. However, the number of protons transferred from the silk to the glass is greater than the number of electrons. The glass is positively charged because it gains more the positive charge than negative. The positive charge that the silk loses is more than the negative one and therefore, it is negatively charged. True:..., False:...

For the test, correct answers have to be similar to the following one: The statement 1: (a) True:..., False: \surd ; (b) True:..., False: \surd ; (c) True: \surd , False:...; (d) True:..., False: \surd ; the statement 2: (a) True:..., False: \surd ; (b) True: \surd , False:...; (c) True:..., False: \surd ; (d) True:..., False: \surd .

The incorrect or correct answers were assigned a score of 1 or 0, respectively and measured a participant's score that was his or her misconception score on the UNEFT.

Pilot Study

In Turkey, although there were enough teachers in secondary and high schools, there were teacher shortages in primary schools until a few years ago. For this reason, in the middle of 1990s, the Ministry of National Education declared that the graduates of faculties of arts and sciences, and education should go on to become primary school teachers after completing a two or three semester pedagogical foundation course. The faculty of education began the Primary School Teacher Education Pedagogical Formation Certificate Programme (PSTEPFCP) for this purpose

and graduates as well as fourth year students of faculties mentioned were admitted to the PSTEPFCP. The midterm examination results of 206 prospective teachers (PTs), who were not included in the study, but in the two academic years of the PSTEPFCP at a large public university, were evaluated in the context of a pilot study. The administration of the pilot study questionnaire took about 15 minutes. The pilot study revealed that the statements on the test on electrification by friction were quite understandable and clear to all the PTs.

The Sample

The sample under investigation was comprised of 345 students in the three academic years of the PSTEPFCP. The students (PTs) in the PSTEPFCP were divided into two groups: Basic scientists, the (BSs) (people in physics, (Ps), chemistry, (Cs), biology, (Bs) and mathematics, (Ms) and social scientists, the (SSs) (people in history, geography, Turkish, English, French, German, sociology, psychology, philosophy, physical education and education sciences). During the university education, the Ms studied basic physics and other BSs learn physics and chemistry and biology courses, but the SSs did not study any courses in the basic sciences. However, all students had taken a five-year science course in elementary and secondary school and studied physics, chemistry and biology for three years during their high school education.

The research included two samples and was administered in two stages. The first stage included 177 PTs (103 BSs: 17 Ps, 21 Cs, 36 Bs and 29 Ms, and 74 SSs). The first group in which misconceptions were identified was called the ‘identification group.’ The second stage included 169 PTs, and in this stage, the misconceptions concerning the effectiveness of the MAS were examined in two groups: experimental and control groups. The experimental and control groups included 85 PTs (48 BSs: 8 Ps, 8 Cs, 16 Bs and 16 Ms, and 37 SSs) and (47 BSs: 10 Ps, 8 Cs, 18 Bs and 11 Ms, and 37 SSs), respectively. The groups were formed by the directors of the PSTEPFCP and each of them was randomly chosen as either the experimental or the control group by the researcher.

Variables

This study had one dependent variable and three independent variables, one independent variable for each of the conditions. The dependent variable was the PTs’ (the total, the BSs, the SSs, Ps, Cs, Bs and Ms) misconception scores on the UNEFT. The independent variables were as follows:

- (a) the PTs (the total, the BSs, the SSs, Ps, Cs, Bs and Ms) in the PSTEPFCP;
- (b) the PTs’ areas of study (basic sciences, social sciences, physics, chemistry, biology and mathematics);
- (c) the group or treatment condition (experimental and control groups, the subgroups and the sub-subgroups).

Data Collection Procedure

The researcher taught the science teaching method course in the PSTEPFCP at a large public university. The course involved three class periods of 50 minutes per week and it was taught in a 14 week semester. Classes consisted of 50 to 90 students. The course had eleven topics selected from science textbooks at the Grade 4 and 5 levels, and in the course, both science content knowledge and methods of science teaching in primary schools were taught.

The course was planned in the first week. In the plan, a class was randomly divided into ten groups of five to nine people and 10 of the 11 topics were given to a group. In the second week, the lecturer (that is, the researcher) presented the remaining topic as a sample lesson. From the third week, the first seven groups presented their topics. At the end of the ninth week, the students took the midterm examination. In the tenth week, the lecturer and the students discussed the

questions on the midterm examination. In the eleventh, and twelfth, and thirteenth weeks, the remaining groups presented the final three topics. In the fourteenth week, the course was evaluated as a whole. At the end of fourteenth week, the PTs took the final examination. The data in this article consisted of the PTs' misconception scores on the midterm examinations in the topic electrification by friction.

Treatment

Treatment 1: Presentation of the topic 'electrification by friction' to the identification and control groups: Static electricity was presented in the fourth week. In order to present the topic, members of the PTs group brought a piece of woollen cloth (a sweater or a sock), an ebonite rod (or a plastic comb or balloon), a glass rod (or a glass bottle or tube) and a piece of silk cloth (a scarf or a tie). Additionally, they used a simple electroscope they had made themselves. In the presentation of the topic, the group first explained that matter is composed of atoms, and that the atom consists of protons and neutrons and electrons, that a proton has positive charge, an electron has equal negative charge, a neutron has no charge, and that a neutral object has an equal amount of positive and negative charge from the protons and the electrons. They drew a model of an atom on the board. On the model, they showed that the atomic nucleus was formed of protons and neutrons, and that the electrons revolve round the nucleus. They emphasised that the nucleus was robust and compact, and that the electrons, especially the outer ones, were weakly bound to the atom. The presenters first rubbed the ebonite rod with the wool and the glass rod with the silk and they showed that the ebonite rod and the glass rod were charged with a simple electroscope they had made. They explained that the charging of the ebonite rod and glass rod was due to the electron transfer between objects, which were rubbed against each other. They emphasised that the friction could not cause any proton transfer. They stated that scientists had shown that electrons moved from the silk to the glass rod and to the ebonite rod from the wool. Further, they explained that when the ebonite rod was rubbed with the wool, it became negative because electrons left the wool and stuck on the surface of the ebonite, and that when the glass rod was rubbed with the silk it became positive because electrons left the glass rod and stuck to the surface of the silk. In order to explain in a visual way the transferring of electrons, they drew the figures of the ebonite–wool and the glass–silk pairs on the board and showed the movement of electrons between the pairs with arrows. Then, they showed the kind of charges on the figures using (+) or (-) signs. In addition, from time to time, there was discussion between the presenters and the listeners (other PTs).

Treatment 2: Presentation of the topic 'electrification by friction' in the experimental group: examining the effectiveness of the modelling atomic structure activity (MAS): The topic of static electricity was also presented to the experimental group in the way it was presented to the identification and the control groups. In addition, the experimental group performed the MAS activity.

In the application of the activity to the experimental group, this procedure was followed: The PTs were divided into ten groups. Each group was given red, yellow and green beads with a hole in the centre, a steel wire and a cotton thread. The radii of the red and yellow beads were about 3.0 mm and that of the green beads was about 1.5 mm. The steel wire had a radius of 0.5 mm and a length of 30 cm. The cotton thread was as thick as sewing thread. Some of the groups were given eight and the other groups were given six beads of each kind. The groups lined the red and yellow beads up on steel wire and tied the end of the wire. The red and yellow beads represented the protons and the neutrons, respectively. The spherical piles, which consisted of red and yellow beads, corresponded to the nuclei of $^{12}_6\text{C}$ (Carbon) and $^{16}_8\text{O}$ (Oxygen) atoms. The nucleus models were placed on a desk. There were two green beads, which represented the electrons that were fixed on the cotton thread. Then the thread was tied at the end and it was put around the nucleus model in a circular form. Because there could be only two electrons in the outer or $n = 1$ shell, the

first circular orbit representing the $n = 1$ shell included two green beads that modelled the electrons for both the atoms. The orbital circles with increasing size were placed around the nucleus models. The second circular orbit represented the inner or $n = 2$ shell and included four and six green beads in the models of and atoms, respectively. The design of the models of $^{12}_6\text{C}$ and $^{16}_8\text{O}$ atoms is shown in Figure 1.

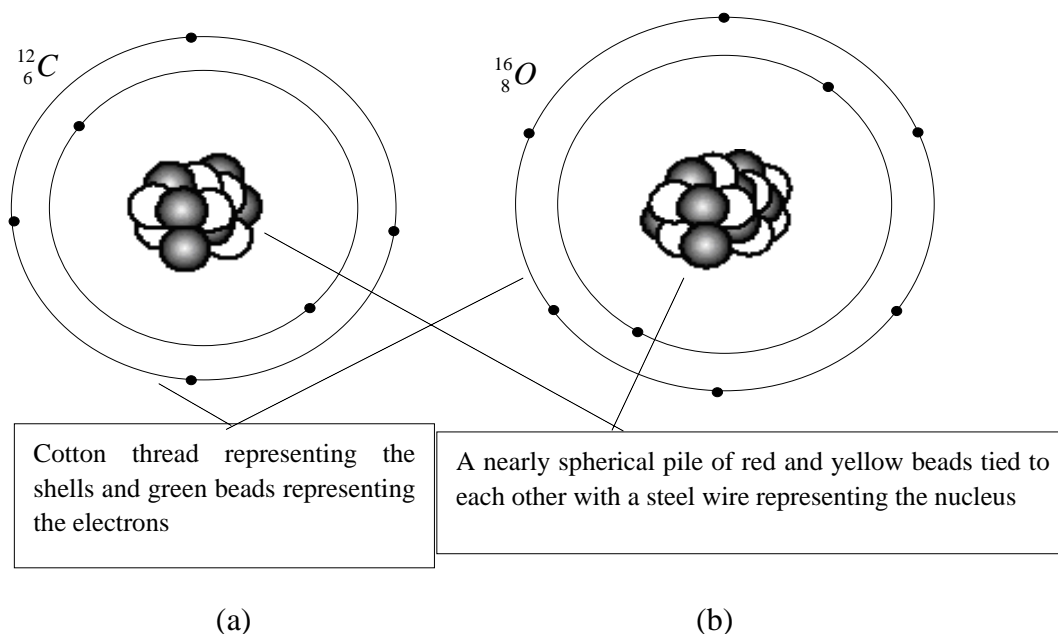


Figure 1. (a): Model of the (Carbon) $^{12}_6\text{C}$ atom, (b): Model of the (Oxygen) $^{16}_8\text{O}$ atom

The students tried to transfer one red bead representing the proton from one atom model to the other. However, this was impossible because red and yellow beads were tied to each other with a steel wire. They then tried to transfer one green bead representing the electron from one atom model to the other. They broke the thread easily and took one green bead from the outermost circular orbit of the model of $^{12}_6\text{C}$ atom and placed it on the outermost circular orbit of the model of $^{16}_8\text{O}$ atom. The procedure carried out is illustrated in Figure 2.

In the second case, the model of $^{12}_6\text{C}$ atom consists of six red beads (representing the protons) and five green beads (representing the electrons). The resulting $^{12}_6\text{C}$ atomic ion is positively charged, (+1) since the proton and the electron are the positive and the negative in the charge, respectively. The $^{16}_8\text{O}$ atomic ion has a negative charge, (−1) because its new model contains eight red (proton) and nine green (electron) beads.

This activity showed the students that there could be no proton transfer from an atom to another. The modelling with the steel wire showed that binding in the nucleus was very strong, and the protons were tightly packed in the atom.

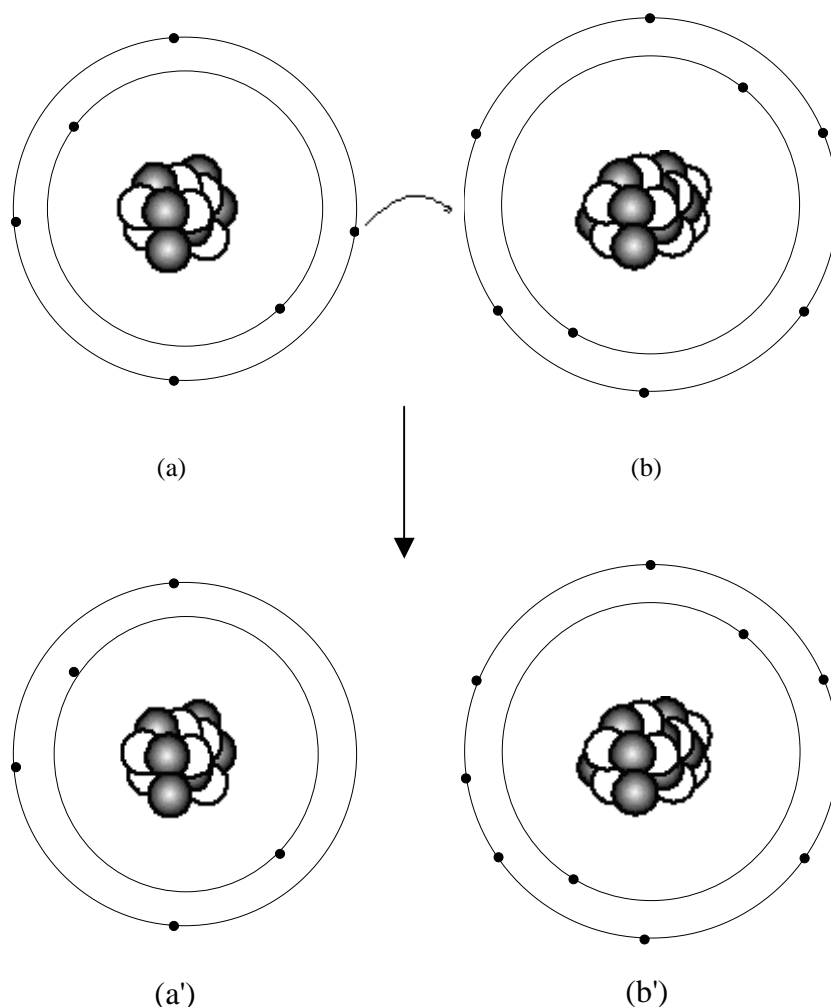


Figure 2. Modelling of electron transfer from the $^{12}_6\text{C}$ atom to the $^{16}_8\text{O}$ atom, (a): Model of the $^{12}_6\text{C}$ atom, (b): Model of the $^{16}_8\text{O}$ atom, (a'): Model of the $^{12}_6\text{C}^+$ ion, (b'): Model of the $^{16}_8\text{O}^-$ ion

Data Analysis

Data were analysed using the SPSS 10.0 for Windows (Statistical Software Package for the Social Sciences). Frequencies, means, and standard deviations were used to summarise and analyse the data. Data from only two groups were compared using a one-way analysis of variance (one-way ANOVA). Comparisons of means from more than two groups were analysed using a one-way ANOVA followed by the Fisher's Least Significant Difference (LSD) multiple-comparison post-hoc test. The significance level was set at 0.05. In other words, the probability of rejecting the true null hypothesis (probability of making Type I error) was set to 0.05 a priori to hypotheses testing. A univariate analysis of variance was used to estimate the effect size in the eta-squared, η^2 and the power. In order to interpret the eta-squared, Green, Salkind and Akey's (2000) eta-squared scale as cited by Brashears, Akers and Smith (2005), which the eta-squared values of 0.01, 0.06, and 0.14 and over represent small, medium and large effect sizes, respectively, was used. In the SPSS program, graphs that depicted the groups' mean misconception scores on the Understanding the Nature of Electrification by Friction Test (UNEFT) were produced.

RESULTS

Hypotheses 1, 2, 3, 4, 5, 6 and 7: The first seven hypotheses, were that the PTs had the misconceptions about Atomic Structure in the Context of Electrification by Friction (ASCEF), in (1) the total group, and (2) the BSs, and (3) the SSs, and (4) the Ps, and (5) the Cs, and (6) the Bs and (7) the Ms. According to Table 2, (1) the PTs in total, (2) the BSs, (3) the SSs, (4) the Ps, (5) the Cs, (6) the Bs and (7) the Ms had mean misconception scores of 0.54, 0.48, 0.64, 0.41, 0.48, 0.53 and 0.45 on the UNEFT, respectively. In a clearer expression, 54.2, 47.8, 63.5, 41.2, 47.6, 52.8 and 44.8 per cent of them said that the UNEFT as electrification by friction occurred as a result of the proton transfer. For knowledge gained at the primary education level, these were high values. Accordingly, none of the first seven hypotheses were rejected: The PTs had misconceptions about the ASCEF, in (1) the total group, and (2) the BSs, and (3) the SSs, and (4) the Ps, and (5) the Cs, and (6) the Bs and (7) the Ms.

Table 2. Descriptive statistics for the PTs' misconception scores

| Groups | N | Misconception Level | | | SD Standard Deviation |
|--------|-----|--------------------------|--------------------------------------|--------------------------------------|--------------------------|
| | | M Misconception Score | f _a Absolute Frequency | f _r Relative Frequency | |
| Ps | 17 | 0.41 | 7 | 41 | 0.51 |
| Cs | 21 | 0.48 | 10 | 48 | 0.51 |
| Bs | 36 | 0.53 | 19 | 53 | 0.51 |
| Ms | 29 | 0.45 | 13 | 45 | 0.51 |
| BSs | 103 | 0.48 | 49 | 48 | 0.50 |
| SSs | 74 | 0.64 | 47 | 64 | 0.48 |
| Total | 177 | 0.54 | 96 | 54 | 0.50 |

Thus after testing hypothesis 1, two types of misconceptions were identified by the UNEFT: The first was directly identified and the second was identified by implication. A list of the misconceptions is presented in Table 3.

Table 3. The PTs' misconceptions as identified from the UNEFT

The first misconception:

Electrification by friction is due to a proton transfer.

The second misconception:

1. The atomic number can be changed by rubbing objects together.
2. Any element can be made from another element by rubbing objects together.
3. The nuclear energy can be generated by rubbing objects together.
4. The nuclear binding energies are sufficiently low to split the nuclei.
5. The atomic nuclei can be split by rubbing objects together.
6. The smallest units of matter are the protons and the electrons rather than the atoms or the molecules.
7. An atom consists of a sphere of positive electricity with negative electrons dotted inside it.

Hypothesis 8: Hypothesis 8 concerned the group differences between the BSs and SSs in the mean misconception scores on the UNEFT. It was tested by a one-way ANOVA and the results were reported in Tables 2 and 4.

Table 4. One-Way ANOVA of the BSs and SSs' mean misconception scores

| Source of Variation | Sum of Squares | df | Mean Square | F | p | η^2 | Power |
|---------------------|----------------|-----|-------------|------|------|----------|-------|
| Between Groups | 1.09 | 1 | 1.09 | 4.47 | 0.04 | 0.02 | 0.56 |
| Within Groups | 42.84 | 175 | 0.24 | | | | |
| Total | 43.93 | 176 | | | | | |

The ANOVA procedures revealed a significant difference between the BSs' and SSs' mean misconception scores [$F_{(1, 175)} = 4.47$, $p = 0.04 < 0.05$, $\eta^2 = 0.03$, power = 0.56]. In addition, the univariate analysis of variance calculated a power of 0.56, with an effect size of 0.03. Since the ANOVA procedures revealed a significant difference between the groups' scores, hypothesis 8 was rejected: There was a statistically significant difference between the BSs' and SSs' mean misconception scores on the UNEFT. According to Table 2, the SSs' mean misconception score

($M = 0.64$) was significantly higher than that of the BSs ($M = 0.48$): $H_r : \mu_{BSs(UNEFT)} < \mu_{SSs(UNEFT)}$. This result demonstrated that a university science education was effective in correcting the PTs' misconceptions.

In addition, the BSs' and SSs' mean misconception scores were also compared visually by the graph in Figure 3.

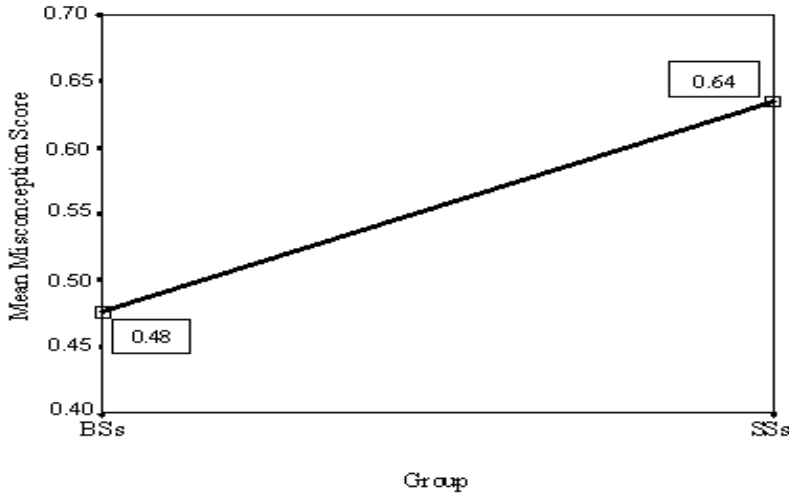


Figure 3. Plot of the misconception scores by the BSs and SSs groups

Hypothesis 9: Hypothesis 9 examined the group differences between the Ps, Cs, Bs, Ms and SSs in the mean misconception scores on the UNEFT, as did hypothesis 8. It was tested by a one-way ANOVA and the results were reported in Tables 2 and 5.

Table 5. One-Way ANOVA of the Ps', Cs', Bs', Ms' and SSs' mean misconception scores

| Source of Variation | Sum of Squares | df | Mean Square | F | p | η^2 | Power |
|---------------------|----------------|-----|-------------|------|------|----------|-------|
| Between Groups | 1.28 | 4 | 0.32 | 1.29 | 0.27 | 0.03 | 0.40 |
| Within Groups | 42.65 | 172 | 0.25 | | | | |
| Total | 43.93 | 176 | | | | | |

The ANOVA procedures revealed that there was no significant difference [$F_{(4, 172)} = 1.29$, $p = 0.27 > 0.05$, $\eta^2 = 0.03$, power = 0.40]. In addition, the univariate analysis of variance calculated the power of 0.40, with an effect size of 0.03. Since the ANOVA procedures revealed that there was no statistically significant difference between the means of the five groups, it was not necessary to compare their means by a one-way ANOVA followed by the Fisher's LSD test. Therefore, the null hypothesis stating that there was no statistically significant difference among the Ps', Cs', Bs', Ms' and SSs' mean misconception scores on the UNEFT was not rejected:

$$H_0 : \mu_{Ps(UNEFT)} = \mu_{Cs(UNEFT)} = \mu_{Bs(UNEFT)} = \mu_{Ms(UNEFT)} = \mu_{SSs(UNEFT)}$$

In addition, the Ps, Cs, Bs, Ms and SSs groups' mean misconception scores on the UNEFT were also compared visually by the graph in Figure 4.

Hypothesis 10: Hypothesis 10 examined the difference between experimental and control groups' mean misconception scores on the UNEFT. It was tested by a one-way ANOVA and the results are reported in Tables 6 and 7.

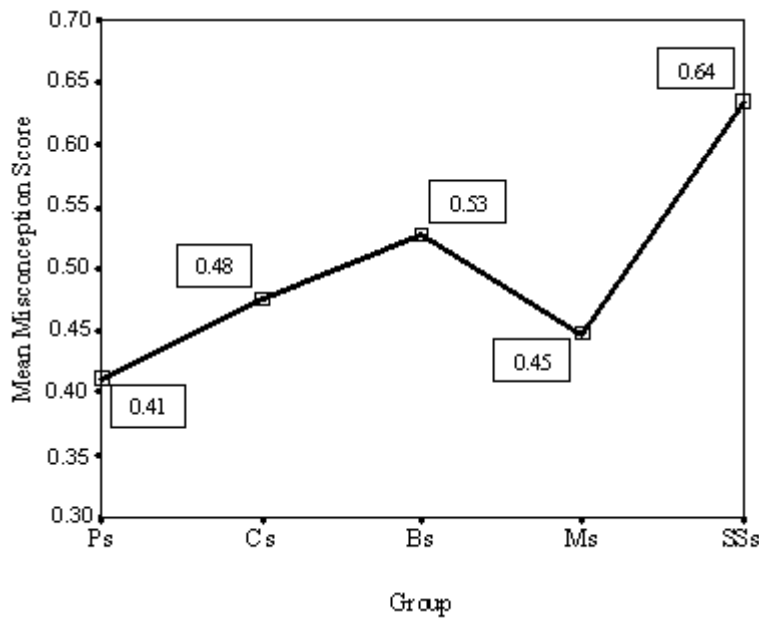


Figure 4. Plot of mean misconception scores by the Ps, Cs, Bs, Ms and SSs groups

Table 6. Descriptive statistics for the experimental and control groups’ misconception scores

| Groups | N | Misconception Level | | | SD Standard Deviation |
|--------------|-----|--------------------------|--------------------------------------|--------------------------------------|--------------------------|
| | | M Misconception Score | f _a Absolute Frequency | f _r Relative Frequency | |
| Experimental | 85 | 0.16 | 14 | 16 | 0.37 |
| Control | 84 | 0.52 | 44 | 52 | 0.50 |
| Total | 169 | 0.34 | 58 | 34 | 0.48 |

As can be seen in Table 7, the ANOVA procedures reveal a statistical significant difference between the experimental and control groups’ mean misconception scores [$F_{(1, 167)} = 27.87, p = 0.00 < 0.05, \eta^2 = 0.14, \text{power} = 1.00$]. In addition, the univariate analysis of variance calculated the power of 1.00, with an effect size of 0.14. Since the ANOVA procedures revealed a significant difference between the groups’ scores, hypothesis 10 was rejected in favour of the research hypothesis: that there is a statistically significant difference between the experimental and control groups’ mean misconception scores on the UNEFT. According to Table 6, the control group’s mean misconception score ($M = 0.52$) is significantly higher than that of the experimental group ($M = 0.16$):

$H_r : \mu_{\text{Exp(UNEFT)}} < \mu_{\text{Con(UNEFT)}}$. These results indicate a Treatment two effect on the experimental–control pair.

Table 7. One–Way ANOVA of the experimental and control groups’ mean misconception scores

| Source of Variation | Sum of Squares | df | Mean Square | F | p | η^2 | Power |
|---------------------|----------------|-----|-------------|-------|------|----------|-------|
| Between Groups | 5.45 | 1 | 5.45 | 27.87 | 0.00 | 0.14 | 1.00 |
| Within Groups | 32.65 | 167 | 0.20 | | | | |
| Total | 38.10 | 168 | | | | | |

In addition, the experimental and control groups’ mean misconception scores on the UNEFT were also once more compared visually by the graph in Figure 5.

As mentioned above, the research population consisted of the BSs (Ps, Cs, Bs and Ms) and SSs. Although they were not listed separately as hypotheses of the study, and in hypothesis 10, in order to compare the BSs and SSs subgroups in the experimental and control groups, a post–hoc comparison test was carried out. The comparison was analysed using a one–way ANOVA followed by the Fisher’s LSD test. The results are reported in Tables 8, 9 and 10. The

abbreviations EBSs, ESSs, CBSs and CSSs for the group names in Table 8 represent the experimental basic scientists (EBSs), and social scientists (ESSs) groups, and the control basic scientists (CBSs) and social scientists (CSSs) groups, respectively.

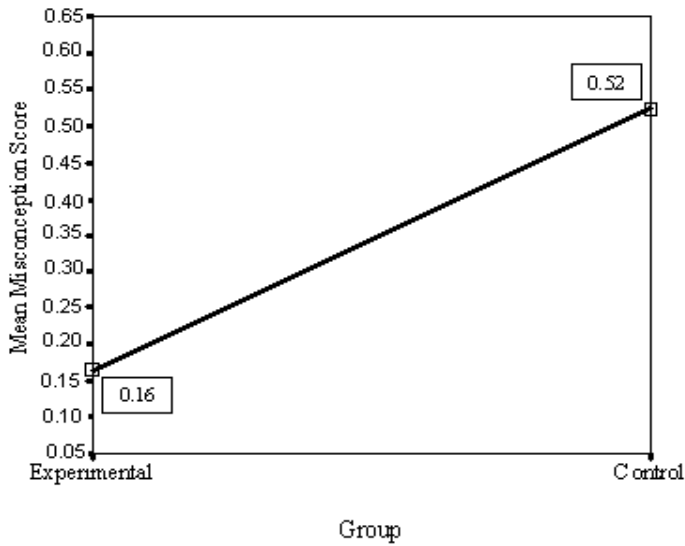


Figure 5. Plot of mean misconception scores by the experimental and control groups

Table 8. A description of the statistics of misconception scores of the subgroups of the experimental and control groups

| Groups | N | Misconception Level | | | SD Standard Deviation |
|--------|-----|--------------------------|-----------------------------|-----------------------------|--------------------------|
| | | M Misconception Score | f_a Absolute Frequency | f_r Relative Frequency | |
| EBSs | 48 | 0.12 | 6 | 12 | 0.33 |
| ESSs | 37 | 0.22 | 8 | 22 | 0.42 |
| CBSs | 47 | 0.45 | 21 | 45 | 0.50 |
| CSSs | 37 | 0.62 | 23 | 62 | 0.49 |
| Total | 169 | 0.34 | 58 | 34 | 0.48 |

As can be seen in Table 9, the ANOVA procedures reveal a statistically significant difference between at least one pair's mean misconception scores [$F_{(3, 165)} = 10.80$, $p = 0.00 < 0.05$, $\eta^2 = 0.16$, power = 1.00]. In addition, the univariate analysis of variance calculated the power of 1.00, with an effect size of 0.16. These results indicate a treatment two effect in at least one pair of the subgroups.

Table 9. One-Way ANOVA of mean misconception scores of the BSs and SSs subgroups in the experimental and control groups

| Source of Variation | Sum of Squares | df | Mean Square | F | p | η^2 | Power |
|---------------------|----------------|-----|-------------|-------|------|----------|-------|
| Between Groups | 6.26 | 3 | 2.08 | 10.80 | 0.00 | 0.16 | 1.00 |
| Within Groups | 31.84 | 165 | 0.19 | | | | |
| Total | 38.10 | 168 | | | | | |

The Fischer's LSD test results in Table 10 indicate that there are significant differences between the mean misconception scores of EBSs–CBSs, EBSs–CSSs, ESSs–CBSs and ESSs–CSSs pairs ($p < 0.05$), and that there are no significant differences between the mean misconception scores of EBSs–ESSs and CBSs–CSSs pairs ($p > 0.05$).

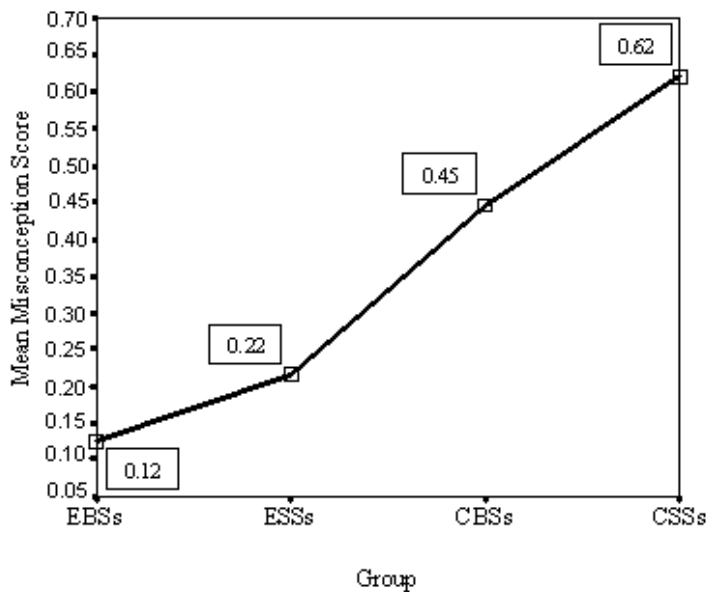
In summary, the pairs that have significant differences among the subgroups' mean misconception scores are noted in Table 10 and marked by the (*) symbol on the p values.

In addition, the subgroups' mean misconception scores in the experimental and control groups are also compared visually by the graph in Figure 6.

Table 10. LSD multiple-comparison of the experimental and control subgroups' mean misconception scores

| Pairs | | Mean Difference (I-J) | Standard Error | p |
|-------|------|-----------------------|----------------|-------|
| I | J | | | |
| EBSs | CBSs | -0.32 | 9.01E-02 | 0.00* |
| EBSs | CSSs | -0.50 | 9.61E-02 | 0.00* |
| ESSs | CBSs | -0.23 | 9.66E-02 | 0.02* |
| ESSs | CSSs | -0.40 | 0.10 | 0.00* |
| EBSs | ESSs | -0.10 | 9.61E-02 | 0.34 |
| CBSs | CSSs | -0.18 | 9.66E-02 | 0.07 |

* = significant

**Figure 6.** Plot of mean misconception scores by the subgroups of the experimental and control groups

Again in hypothesis 10, the particular pairs of the sub-subgroups (Ps, Cs, Bs, Ms and SSs) in the experimental and control groups are compared using a one-way ANOVA followed by the Fisher's LSD test and the results are reported in Table 11, 12 and 13. By way of explanation, the abbreviations EPs, ECs, EBs, EMs, ESSs, CPs, CCs, CBs, CMs and CSSs are used as group names in Table 11. They represent the experimental physicists, chemists, biologists, mathematicians and social scientists groups, and the control physicists, chemists, biologists, mathematicians and social scientists groups, respectively.

Table 11. Descriptive statistics of misconception scores of the sub-subgroups of the experimental and control groups

| Groups | N | Misconception Level | | | SD Standard Deviation |
|--------|-----|--------------------------|-----------------------------|-----------------------------|--------------------------|
| | | M Misconception Score | f_a Absolute Frequency | f_r Relative Frequency | |
| EPs | 8 | 0.12 | 1 | 12 | 0.35 |
| ECs | 8 | 0.12 | 1 | 12 | 0.35 |
| EBs | 16 | 0.12 | 2 | 12 | 0.34 |
| EMs | 16 | 0.12 | 2 | 12 | 0.34 |
| ESSs | 37 | 0.22 | 8 | 22 | 0.42 |
| CPs | 10 | 0.40 | 4 | 40 | 0.52 |
| CCs | 8 | 0.50 | 4 | 50 | 0.54 |
| CBs | 18 | 0.50 | 9 | 50 | 0.51 |
| CMs | 11 | 0.36 | 4 | 36 | 0.50 |
| CSSs | 37 | 0.62 | 23 | 62 | 0.49 |
| Total | 169 | 0.34 | 58 | 34 | 0.46 |

As can be seen in Table 12, the ANOVA procedures reveal a statistically significant difference between at least one pair's mean misconception scores [$F_{(9, 159)} = 3.58$, $p = 0.00 < 0.05$, $\eta^2 = 0.39$, power = 1.00]. In addition, the univariate analysis of variance calculated the power of 1.00, with an effect size of 0.39. These results indicate a treatment 2 effect in at least one pair of the sub-subgroups.

Table 12. One-Way ANOVA of mean misconception scores of the sub-subgroups in the experimental and control groups

| Source of Variation | Sum of Squares | df | Mean Square | F | p | η^2 | Power |
|---------------------|----------------|-----|-------------|------|------|----------|-------|
| Between Groups | 6.43 | 9 | 0.71 | 3.58 | 0.00 | 0.39 | 1.00 |
| Within Groups | 31.67 | 159 | 0.20 | | | | |
| Total | 38.10 | 168 | | | | | |

The Fischer's LSD test results in Table 13 indicate that there are significant differences between the mean misconception scores of ten sub-subgroup pairs marked by the (*) symbol on the p values ($p \leq 0.05$), and that there are no significant differences among the mean misconception scores of the remaining 25 sub-subgroup pairs ($p > 0.05$).

Table 13. LSD multiple-comparison of mean misconception scores of the sub-subgroups in the experimental and control groups

| Pairs | | Mean Difference (I-J) | Standard Error | p |
|-------|------|-----------------------|----------------|-------|
| I | J | | | |
| EPs | ECs | 0.00 | 0.22 | 1.00 |
| EPs | EBs | 0.00 | 0.19 | 1.00 |
| EPs | EMs | 0.00 | 0.19 | 1.00 |
| EPs | ESSs | -0.10 | 0.17 | 0.60 |
| EPs | CPs | -0.28 | 0.21 | 0.20 |
| EPs | CCs | -0.38 | 0.22 | 0.10 |
| EPs | CBs | -0.38 | 0.19 | 0.05* |
| EPs | CMs | -0.24 | 0.21 | 0.25 |
| EPs | CSSs | -0.50 | 0.17 | 0.00* |
| ECs | EBs | 0.00 | 0.19 | 1.00 |
| ECs | EMs | 0.00 | 0.19 | 1.00 |
| ECs | ESSs | 0.10 | 0.17 | 0.60 |
| ECs | CPs | -0.28 | 0.21 | 0.20 |
| ECs | CCs | -0.38 | 0.22 | 0.10 |
| ECs | CBs | -0.38 | 0.19 | 0.05* |
| ECs | CMs | -0.24 | 0.21 | 0.25 |
| ECs | CSSs | -0.50 | 0.17 | 0.00* |
| EBs | EMs | 0.00 | 0.16 | 1.00 |
| EBs | ESSs | -0.10 | 0.13 | 0.50 |
| EBs | CPs | -0.28 | 0.18 | 0.13 |
| EBs | CCs | -0.38 | 0.19 | 0.05 |
| EBs | CBs | -0.38 | 0.15 | 0.02* |
| EBs | CMs | -0.24 | 0.18 | 0.17 |
| EBs | CSSs | -0.50 | 0.13 | 0.00* |
| EMs | ESSs | -0.10 | 0.13 | 0.50 |
| EMs | CPs | -0.28 | 0.18 | 0.13 |
| EMs | CCs | -0.38 | 0.19 | 0.05 |
| EMs | CBs | -0.38 | 0.15 | 0.02* |
| EMs | CMs | -0.24 | 0.18 | 0.17 |
| EMs | CSSs | -0.50 | 0.13 | 0.00* |
| ESSs | CPs | -0.18 | 0.16 | 0.25 |
| ESSs | CCs | -0.28 | 0.17 | 0.10 |
| ESSs | CBs | -0.28 | 0.13 | 0.03* |
| ESSs | CMs | -0.15 | 0.15 | 0.34 |
| ESSs | CSSs | -0.40 | 0.10 | 0.00* |

* = significant

The sub-subgroups' mean misconception scores in the experimental and control groups are also compared visually by the graph in Figure 7.

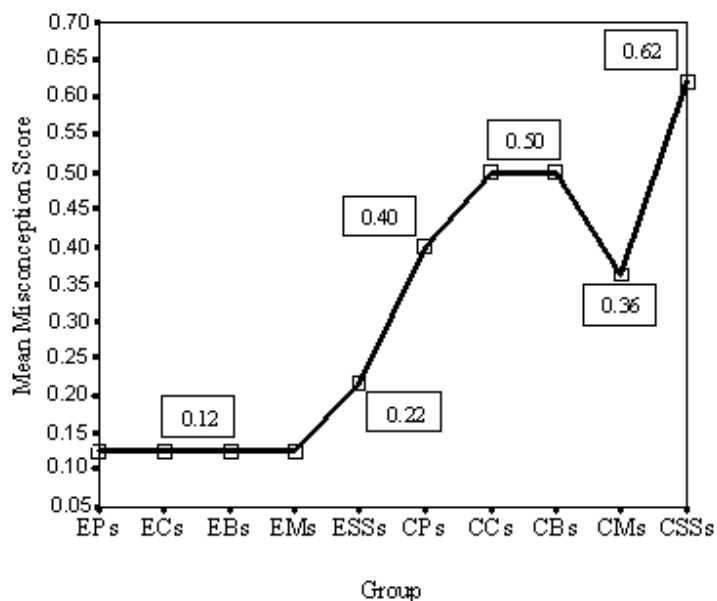


Figure 7. Plot of mean misconception scores by the sub-subgroups of the experimental and control groups

DISCUSSION

According to the results of testing the first seven hypotheses, it was found that the PTs from all the levels in the sample held the misconceptions on the UNEFT presented in the Table 3. Table 2 shows that 54.2 per cent of 177 PTs thought that there was proton transfer between objects rubbed together. The proportions in the BSs, SSs, Ps, Cs, Bs and Ms were 47.6, 63.5, 41.2, 47.6, 52.8 and 44.8 per cent, respectively.

The results of the testing the first nine hypotheses show that the PTs' concepts of atoms, elements and atomic number, which are basic concepts in science, are not at a high enough level. If a proton transfer had occurred between the rubbed objects together, then there would have been a transfer from one nucleus to another because a proton could not exist as an independent particle in matter. This misconception implies a change in atomic number. Proton number also has the same meaning for any atom just as DNA and fingerprints are determinants for living things and people, respectively. If the atomic number of any atom changes, it means that its identity also changes. That is, this thought was as wrong as the alchemists' idea that gold could be made from copper. In fact, the PTs know that a new atom is not produced by rubbing. They can see the fact that the glass and the ebonite in their hands do not change. However, the prospective teachers seem unable to transfer their knowledge of atoms to explain the nature of electrification by rubbing. The students are not able to link up their knowledge on other topics; it is as though their knowledge of science is packaged separately. The results indicate that even the BSs do not completely understand nuclear reactions, nuclear energy and nuclear binding energy concepts. The fact that any atom loses or gains proton(s) means that a nuclear reaction is occurring. If a proton is transferred between the objects rubbed together, nuclear energy must be generated. Such uncontrollable nuclear energy can be the end of life. However, when we comb our hair, take our sweater off, static electricity is usually produced and life does not end. Therefore, it is clear that there is no proton transfer. When the PTs are asked about the origin of nuclear energy, all of the BSs and more than half of the SSs know that it is related to the nucleus. However, they cannot use their knowledge to explain the nature of static electricity. The SSs do not know the meaning of the nuclear binding energy; which is normal because they have not learned this knowledge. Only

a few of the Bs and Ms are aware of it. All of the Ps and Cs have some information on the subject. At least, the Ps and Cs have an understanding that the nuclear binding energy is a measure of the nucleus strength. However, they do not see any objection to splitting the atom. An answer to the question do all atoms split is 'no'. When they are asked the question, does the transfer of the proton mean that the atom split, they are perplexed. Again, these results show that the PTs can not synthesise knowledge from different units.

In addition, these results highlight the fact that the PTs imagined that the smallest units of matter were the protons and the electrons rather than the atoms or the molecules, as if these particles had been independent of each other in matter. It seemed as though this was a similar idea to that of Lord Kelvin's atom model in their minds. Kelvin's idea as taken up by Sir J.J. Thomson, an atom might consist of a sphere of positive electricity with negative electrons dotted inside it (Abbott, 1987). His model was known as 'the cake with raisins model of the atom' in the literature. This result supported the view there was a contribution of ideas of past leaders in the field to students' misconceptions known in the science education literature (Griffiths and Preston, 1992). In fact, the PTs drew figures for a single atom: a nucleus in the centre and the electrons around the nucleus. However, they showed the positive and negative charges (protons and electrons) as small spheres signed with (+) and (-) and scattered together. The positive and negative charges in the matter were shown in the same way in their textbooks (for example, Serway, 1990; Wellner, 1991). This result supported the idea that textbooks were responsible for students' misconceptions, a perception identified by Cho, Kahle and Nordland (1985). Textbook writers were aware of the fact that the proton could not be isolated from an atom. However, students misunderstood the spheres signed with (+) and (-) (the models), which experts used in order to teach static electricity. In fact, their textbooks noted that the fact was not correct, but, like all people, students were interested in the figures that they saw first; they chose one that was easiest to understand, rather than read about written ones. For this reason, these kinds of figures, which led students to incorrect ideas, should be avoided. Or, when the topic of electrification by friction was presented using these figures, the fact that they did not actually occur in this way should have been emphasised by the textbooks writers and in classrooms by teachers, lecturers, and instructors.

The misconception that there was the proton transfer between objects rubbed together was also pointed out in the literature (Hanuscin, 2006; Hapkiewicz, 1992). In addition, a study by Hummer (1997) showed that the students had difficulty understanding the electrification by friction in a science class. These results indicated that the misconceptions related to the subject were generally widespread among the students of different countries.

As seen in Table 4, in the context of the hypothesis 8, the ANOVA found a significant difference between the BSs' and SSs's mean misconception scores that indicated a weak university science education effect on the PTs' misconceptions. However, this effect was at a level of an eta-squared of 0.03 and it was a value with a very small effect according to Green, Salkind and Akey's (2000) eta-squared scale. In a clearer expression, the group independent variable in the BSs and SSs explained only 2.5 per cent of the variance in the mean scores in the dependent variable on the UNEFT. Moreover, the power for the hypothesis 8 was 0.56. In other words, the probability of failing to reject the false hypothesis 8 in the null form (the probability of making Type II error) was 0.44 (that is, $1.00 - 0.56$) that was also a high probability. As a result of the testing of hypothesis 8, although there was a statistical significant difference between the BSs' and SSs's mean misconception scores, the university science education had little effect on their misconceptions.

As can be seen in Table 2, in the context of the hypothesis 9, in the Ps, Cs, Bs and Ms groups, the ratios were in the range of about 40–50 per cent and were generally close to each other. This result showed that the PTs in the various disciplines of the basic sciences had nearly the same level of knowledge on the subject. Essentially, as seen in Table 5, the ANOVA also revealed that

there were no significant differences among the Ps, Cs, Bs, Ms and SSs groups' mean misconception scores. The most important concept was that there was not a significant difference between the SSs' mean and the mean of each of the Ps, Cs, Bs and Ms. This result demonstrated that a university science education generally did not have an effect in eliminating the Ps, Cs, Bs and Ms groups' misconceptions since their mean misconception scores were nearly at the same level as that of the SSs. The magnitude of the eta-squared had already indicated this result. The group effect on the misconception score was an eta-squared of 0.03 and it was a value very near a small effect. In a clearer expression, the group independent variable in the Ps, Cs, Bs, Ms and SSs explained only 2.9 per cent of the variance in the dependent variable of the misconception scores on the UNEFT. Moreover, the power for the hypothesis 9 was 0.40. In other words, the probability of failing to reject the false hypothesis 9 (probability of making Type II error) was 0.60 (that is, $1.00 - 0.40$) and was also highly probable.

In spite of the fact that there were no statistically significant differences between the mean misconception scores of the five groups of students, it was also clear that their mean misconception scores increased in the following order: Ps, Ms, Cs, Bs and SSs. The electrification by friction was a physics topic and it was expected that the Ps would know the most about it. Since the SSs students only studied it during their pre-university education, it would be expected that their mean misconception scores would be the highest. In addition, for students beginning a branch of the basic sciences at university after a high school education in Turkey, scores, on an average, would increase in the following order: biology, chemistry, physics and mathematics. When all these explanations were considered together, this distribution of the misconception scores was, in fact, an expected result. In fact, chemistry was nearer to physics as a basic science discipline than to the other two. However, the Ms' misconception scores were lower than those of the Cs. This contradiction might be explained by the fact that the Ms' points were higher than those of the Cs on entrance to university.

In the hypothesis 8 the BSs' and SSs' mean misconception scores were compared and the ANOVA statistics found a significant difference between them. The BSs' misconception scores in the hypothesis 8 were consistent with those of the Ps, Cs, Bs and Ms in hypothesis 9. In fact, it was expected that the ANOVA would find a significant difference between the SSs' mean misconception score and that of at least one of the Ps, Cs, Bs and Ms groups. The fact that there was not a significant difference between the mean misconception scores in each of the pairs SSs–Ps, SSs–Cs, SSs–Bs and SSs–Ms might again appear to be a contradiction. In fact, it was not. Although in the hypothesis 8 the compared groups (BSs, $N = 103$, and SSs, $N = 74$) were sufficiently large to yield statistically significant differences between the groups' means, in the hypothesis 9 all the groups (Ps, $N = 17$, Cs, $N = 21$, Bs, $N = 36$, Ms, $N = 29$) except the SSs ($N = 74$) were not statistically different. However, in order to compare the means, the groups should have an optimal size (McMaster, Fuchs, Fuchs and Compton, 2005).

When viewed from another perspective, the BSs' mean misconception score was 25 per cent lower than that of the SSs. This meant that the advanced science education undertaken at a university contributed only 25 per cent to the PTs' knowledge in the pre-university science education topic. It was rather a low ratio. It was interesting that nearly half the students who studied physics or chemistry in their undergraduate years could not even comprehend a basic science topic in the elementary curriculum for children aged 10 years. In fact, it was expected that all of them, the BSs and SSs, would answer questions on the UNEFT in a basic science topic correctly. It was clear that the instruction that they received was not sufficiently effective and that their teachers also could not recognise this fact. In spite of studying advanced science, the problem was not solved for the BSs either.

In the context of the hypothesis 10, in order to see the treatment effect, data were examined to see if there was a significant difference between the experimental and control groups' mean

misconception scores. In addition, in the experimental and control groups, the subgroups' mean misconception scores, and the sub-subgroups' mean misconception scores were also compared.

As seen in Table 6, 16.5 per cent of the experimental group and 52.4 per cent of the control group said that there was a proton transfer between the objects rubbed together. This result showed that the modelling atomic structure activity (MAS) provided a misconception remediation in a proportion of about 36 per cent of the students. In other words, the experimental and control groups' mean misconception scores were 0.17 and 0.52, respectively, and according to Table 7, the ANOVA procedures found that there was a significant difference between them. If there was a need to discuss the problem in greater detail, the eta-squared for the interaction between the experimental and control groups was 0.14, which according to Green, Salkind and Akey's (2000) scale was a large effect and therefore, provided confirmatory evidence of the effects noted. In a clearer expression, the group independent variable in the experimental and control explained 14.3 per cent of the variance in the mean scores in the dependent variable on the UNEFT. Moreover, the power for the hypothesis 10 was 1.00. In other words, the probability of failing to reject the false hypothesis 10 in the null form (probability of making Type II error) was 0.00 (that is, 1.00 - 1.00) which was a low probability. As a result of testing hypothesis 10, the findings indicated that the MAS activity could be an effective learning tool for understanding the nature of electrification by friction.

In the context of hypothesis 10, Table 8 demonstrates that the EBSs' and ESSs' ratios of misconception were 12.5 and 21.6 per cent, and that those of the CBSs and CSSs were 44.7 and 62.2 per cent, respectively. These results showed that the MAS activity provided a misconception remediation in proportions of about 32 and 40 per cent in the BSs and SSs groups, respectively. As can be seen in Table 9, the ANOVA procedures reveal a statistically significant difference between at least one pair's mean misconception scores. Additionally, the eta-squared was 0.16, which was a large effect. In a clearer expression, the subgroup independent variable explained 16.4 per cent of the variance in the mean scores in the dependent variable on the UNEFT. Moreover, the power was 1.00. In other words, in order to reveal significant differences between the subgroups' mean misconception scores, the probability of making Type II error was 0.00 (that is, 1.00 - 1.00). It was also a very low value for the probability. These results showed that this procedure was a successful model to remedy misconceptions.

In addition, as seen in Table 10, although the ANOVA followed by the Fisher's LSD test found a significant difference between the mean misconception scores in each of the pairs EBSs-CBSs, EBSs-CSSs, ESSs-CBSs and ESSs-CSSs, it did not show a difference in each of the pairs EBSs-ESSs and CBSs-CSSs. The fact that there was no significant difference between the EBSs-ESSs pair's mean misconception scores showed that the treatment two effect was about the same level in both the subgroups of the experimental group. Following the same thinking, the treatment one effect was about the same level in both the CBSs and CSSs subgroups. Therefore, it could be said that teaching of the topic electrification by friction supported by the MAS activity had a decidedly affirmative effect on the BSs and SSs subgroups' misconceptions.

As is seen in Table 11, the EPs', ECs', EBs' and EMs' proportions of misconception were 12.5 per cent for all students and those of the CPs, CCs, CBs and CMs were 40, 40, 50 and 36.4 per cent, respectively. These results showed that the MAS activity provided a misconception remediation in the range of 28-38 per cent in the sub-subgroups EPs, ECs, EBs and EMs. As may be seen in Table 12, the ANOVA procedures reveal a statistically significant difference between at least one pair's mean misconception scores. Additionally, the eta-squared for the interaction between the sub-subgroups was 0.39, which was a large effect. In a clearer expression, the group independent variable explained 39.2 per cent of the variance in the mean scores in the dependent variable on the UNEFT. Additionally, the power was 1.00. In other words, in order to reveal significant differences between the sub-subgroups' mean misconception scores, the probability of making Type II error was 0.00 (that is, 1.00 - 1.00). It was also good to rely on the model. As the

result, teaching of the topic electrification by friction supported by the MAS activity had a positive effect on the misconceptions that the sub-subgroups had about the Atomic Structure in the Context of Electrification by Friction (ASCEF).

According to Table 13, the fact that there is not a significant difference between the mean misconception scores in each of the pairs EPs-CPs, EPs-CCs, EPs-CMs, ECs-CPs, ECs-CCs, ECs-CMs, EBs-CPs, EBs-CCs, EBs-CMs, EMs-CPs, EMs-CCs, EMs-CMs, ESS-CPs, ESSs-CCs and ESS-CMs was interesting. The reason for this, as in the hypothesis 8, might be that compared to the other groups, except for the ESSs and CSSs groups, EPs, $N = 8$, ECs, $N = 8$, EBs, $N = 16$, EMs, $N = 16$, ESSs, $N = 37$, CPs, $N = 10$, CCs, $N = 8$, CBs, $N = 18$, CMs, $N = 11$ and CSSs, $N = 37$, the numbers were not sufficiently large to yield statistically significant between-group differences that might have existed. This limitation might not permit the detailed analyses needed to produce significant differences. However, for some, poor data or results might sometimes be better than no data or results. Additionally, the fact that there was not a significant difference between the mean misconception scores in each of the pairs EPs-ECs, EPs-EBs, EPs-EMs, EPs-ESSs, ECs-EBs, ECs-EMs, ECs-ESSs, EBs-EMs, EBs-ESSs, EMs-ESSs was an indication that the treatment two effect was at about the same level in each of the experimental sub-subgroups. As the result, these findings indicated the treatment two had an effect in at least ten sub-subgroups pairs' mean misconception scores.

When the PTs from the experimental group who correctly answered the UNEFT were interviewed, it was found that they remembered the MAS activity, in which colourful beads had been used, in the examination period. Both the explanations of the PTs and the examination results of the control and experimental groups showed that the activity had positive effects on the students' misconceptions.

In the experimental and control groups, and the subgroups, and the sub-subgroups, the effect sizes had the eta-squared values of 0.14, 0.16 and 0.39, and all of the power values were 1.00. Although the powers were the same values, the eta-squared value in the sub-subgroups was two times greater than of the other two values. That is, when the number of compared groups increased, the effect size also increased. This result indicated that the best of the three models in an experimental versus a control comparison was the third model in which the Ps, Cs, Bs, Ms and SSs groups were included. The reason for this might be that while in the first and second models, one and two small numbers (mean misconception scores) were compared to one and two large numbers, respectively, in the third model, five small numbers were compared to five large numbers. Accordingly, significant differences were more evident.

The message of this statistical finding was quite interesting. As expressed above, in treatment two, the PTs in the experimental group were divided into ten working groups and there was at least one or two person(s) from each of the sub-subgroups EPs, ECs, EBs, EMs and ESSs. When the mean misconception scores of the sub-subgroups Ps, Cs, Bs, Ms and SSs in the identification group were considered, each working group in the experimental group had a heterogeneous structure in academic achievement. In spite of this heterogeneous structure, all of the EPs, ECs, EBs and EMs groups had the same level of a low mean misconception score ($M = 0.13$). In addition, the ESSs' mean misconception score ($M = 0.22$) was also quite low. It was understood that the group members contributed to each others' understanding. These findings indicated the importance of group work, for example, cooperative and constructivist learning in classes in addition to the prior research results (for example, Brooks and Brooks, 1993; Humphreys, Johnson and Johnson, 1982). Additionally, this result warned school managements to form heterogeneous or mixed ability classes instead of homogeneous classes.

As a result of testing hypothesis 10, the importance of modelling activities in science teaching was indicated in the present study to be an addition to the prior research (Battino, 1983; Bent, 1984; Cherif, Adams and Cannon, 1997; Erduran, 2001; Harrison and Treagust, 1996 and 1998;

Streitberger, 1994) in the literature. Also, as emphasised by the constructivist learning theories (Bodner, 1986; Driver, 1989; Osborne and Wittrock, 1983; White, 1993; Yager, 1991), this study showed that deep learning was possible only by actually experiencing learning. In other words, the results of this study indicated the fact that the learning had to be an active process.

One of the most important aspects of science education research is the measurement tool chosen because all data are collected by means of it and all results are produced from these data. The UNEFT in this study is an original measurement tool and it is unusual in its presentation style. For a person who does not have sound knowledge about the nature of static electricity, the probability of finding the correct answer by an arbitrary ticking is $1/2^4$ for the ebonite–wool combination. The same one goes for the glass–silk combination. The probability for both together is $1/2^8$. In other words, the chance of finding the correct answer is only one in 4000. Therefore, for an individual who does not know the topic in detail, it is almost impossible to give the correct answer in an arbitrary way. Because the PTs have to pass an examination to get their certificate, they are naturally anxious to answer the questions correctly and use their knowledge on the topic. Each student responds to the UNEFT questions from in his or her own knowledge during the examination; they do not receive any help or information from other examinees. As seen in the data presented in Tables 2, 6, 8 and 11, there is a consistency between the examination results in the identification and control groups. Therefore, the results are considered to be reliable. One limitation of the measurement tool is the fact that it consists of only one question. This feature produces the result that a participant may receive one or zero points. It means that the points in any sample are distributed in a narrow range (a range of 0–1) and that they will be all close to the mean. The small values (closer to zero) of standard deviations in Tables 2, 6, 8 and 11 demonstrate these facts.

When considered from the point of view of the traditional rules of an experimental–control groups design, the weakest point in this study was the fact that the UNEFT was not employed as a pre–test to see if the control and experimental groups were equivalent in previous learning about static electricity. However, there might also have been some disadvantages in using a pre–test. For example, as stated above, some of students in the groups might have disagreed with the test and started to study after the pre–test. Furthermore, because the measurement tool used in the present study consisted of only one question, the PTs were able to remember the question easily and might have studied the material related to the UNEFT after the pre–test. This artificial increase in their success on the post–test might seem to be a successful outcome of the MAS activity. Additionally, the PTs' scores were important when deciding whether they could pass or fail the course. Thus, in order to eliminate the undesirable effects of a pre–test, the previous learning of the control and experimental groups was assumed to be at about the same level as that of the identification group. In addition, the classes in the control and experimental groups were formed from the students with the same qualifications by the manipulation of the program and each of the groups was randomly chosen. Moreover, in the educational research literature, it is possible to read studies which are based on a treatment versus control, rather than a pre–test versus post–test design (for example, Ivanov and Geake, 2003). Further, some studies with a treatment group had no control group (for example, Hessert, Gugliucci and Pierce, 2005). Other possible limitations were that the identification group ($N = 177$) and the identification subgroups ($N = 103$ and 74) and the identification sub–subgroups ($N = 17$ – 36) were small groups. Finally, the experimental and control groups were relatively large groups ($N = 85$ and 84) compared with the experimental and control sub–subgroups ($N = 8$ – 18) that were much smaller groups. In cases of an experimental versus a control, very large and very small sample sizes might negatively affect the reliability of the results. The controlling of large groups might be difficult; and small groups might not yield statistically significant differences. Nevertheless, in the research literature, it can be seen that even treatment groups with the sample size of 17 may be found to produce significant results (for example, Hessert, Gugliucci and Pierce, 2005).

As a result, in the teaching of science, the modelling technique is very useful and the misconceptions may be corrected in a learning environment in which the learner plays an active role.

CONCLUSIONS

This study led to the identification of the prospective teachers (PTs') (or students) misconceptions concerning the ASCEF, the development of the UNEFT to clarify the PTs' understanding of this topic and the development of the MAS activity to remedy the PTs' misconceptions related to the topic.

The results of this study provided further evidence to support the findings and indicated that students held misconceptions on a variety of science concepts. This study also highlighted the value that modelling was quite useful in the teaching of science, and that students' misconceptions could be remedied through the use of models. Science teaching supported by practical activities could therefore provide alternatives to traditional and other complementary methods to remedy misconceptions. This study called teachers and instructors' attention to the fact that students who studied physics and chemistry at the undergraduate level generally could not comprehend even basic science topics in the elementary curriculum. Other important results of this research were that classes in schools should be formed from a mixture of students with different academic ability, and that group work in classes could increase student achievement. The most important outcome was that the teaching was possible in an academic environment in which learners played an active role.

The remediation of students' misconceptions is only possible with teachers, who are well trained and free from misconceptions. All prospective teachers need to be trained as experts who are aware of possible misconceptions. Prospective teachers, their teachers and instructors or lecturers need to be aware of students' prior knowledge and misconceptions, and they need to understand why these misconceptions occur. A successful teacher is a person who is aware of his or her students' misconceptions and knows how to overcome them. Additionally, teachers need also to be informed about the importance of the modelling, and they need to be able to produce instructional models in science topics.

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The development of ethnobotany curriculum for students in rural schools: An approach that incorporates the needs and insights of local communities

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In this paper, an ethnobotany curriculum is used as a case example of one approach to incorporating the insights and needs of the local community into the curriculum development process. This curriculum development was carried out in the “Kiriwong Community” in Nakornsrihammarat Province, Southern Thailand. The ethnobotany curriculum was developed after conducting ethnographic research to better understand how villagers might learn to gain the benefits from plants and what knowledge and skills were required to prepare their student to live well in their community. Data were collected through participant observation and in-depth interview. Developing the ethnobotany curriculum, I incorporated the basic information gained from studying the Kiriwong villagers’ needs and (a) their usage of plants into the study of ethnobotany, (b) sustainable natural resource management principles, (c) rural philosophy for education, and (d) constructivist theory to obtain an ethnobotany curriculum. It is my belief that by creating science curricula that take advantage of these local resources it will be possible to assist students to both develop understandings about content and about the nature of science that are in the government’s science standards and to learn sciences in their own context. They can apply such knowledge and skills in their current and future situations and lifestyles.

Ethnobotany curriculum, rural schools, the needs of the local community,
science curriculum development, Thailand

INTRODUCTION

Changes in society, brought about by scientific and technological progress, have heightened the interest of governments worldwide in science and in science education—this interest has been central to governmental reforms in Thailand. National policies adopted in many countries recognize the vital importance of science and technology to socio-economic development, the maintenance of national competitiveness and to the well-being of their citizens (Gallagher, 2000). In many countries that have undergone the transformation from an agricultural to an industrial society, scientific and technological progress has directly influenced the lifestyles of citizens in both urban and rural areas.

The principal differences between rural and urban areas, such as population density and the presence or absence of natural-resource-based industries, may result in underestimating of the

problems of uneven development of rural communities. This problem has raised issues of economic and political equity that directly affect education (Collins, & Flaxman, 2001). In some countries with large rural populations, in which the livelihood of rural communities depends on the sustainable use of natural resources, it may be desirable to obtain input from local community members as a part of the process of planning science curricula. The reasons for this are that many rural students may continue to live in their birth communities once graduated from school and therefore are likely to continue to be a part of the local natural-resource based economy. Science education reform needs to build on the strengths and knowledge of local people and provide students with the scientific skill to make decisions that have an effect at the local level.

It may seem that taking the knowledge and needs of local communities into account when designing science curricula would create tensions with reform efforts designed to provide students with understanding of the most current science as well as with the diverse methods by which scientists produce that knowledge. Yet, it has been noted (Shymansky & Kyle, 1992) that developing countries were now revisiting their science curricula so that they both emphasized the “nature of science” and the relevancy of science to the daily lives of students. I agree that it is important and possible to incorporate the “nature of science” with local knowledge of natural resources, and natural history, particularly in rural areas where science laboratories are just beyond the schools’ fences and where local wisdom reflecting the long established civilization abounds (Brian, 1999; Snively & Corsiglia, 2000).

In considering what science content should be featured in reform science curricula to be used with students in rural Thailand there are obvious tensions between what is in the government endorsed curricular guidelines and the science-relevant experiences of rural students. This tension is evident in what I perceive as a mismatch between the competencies required to work, learn, and live well in the students’ own communities and as citizens of the global community. Historically, rural education reform has been difficult due to rural-urban antagonisms, the concentration of wealth and political power in urban areas, conflicting values, and social inequality. Generally, rural citizens have not liked the results of consolidation and urban education models, which many see as “one size fits all.” Reformers seeking consolidation as an answer to perceived problems with rural education have, for many years, been telling rural residents that reforms would increase academic achievement and therefore the success of their children (Collins, 2001). Curriculum reform that purports to provide the impetus for the rural schools of Thailand to develop science curricula which will be both tailored to the needs of rural students while meeting the expectations of the national curriculum is clearly needed.

In this study, an ethnobotany curriculum for use in the rural south of Thailand, is used as a case example of one approach to incorporating the insights and needs of the local community into the curriculum development process. The study was carried out in the “Kiriwong Community” in Nakornsrihammarat Province in the southern part of Thailand. The Ethnobotany curriculum was developed after conducting qualitative research to better understand how villagers learn to gain the benefits from plants and what knowledge and skills are required to prepare their student to live well in Kiriwong community in the rural south of Thailand. The curriculum was designed incorporating the community-related information, the sustainable natural resources management with the intent on creating a curriculum for Grades 7 to 9 students in the Kiriwong community, Nakornsrihammarat, Thailand. I think that this case example may be of use to others who are interested in developing curricula that take the needs and knowledge of community members in rural areas into account.

RESEARCH OBJECTIVES

The research objectives of this study were stated as follows:

1. to study the ethnobotany knowledge and local needs at Ban Kiriwong Community, Lan Saka District, Nakornsrihammarat Province.
2. to develop an ethnobotany curriculum through collaboration of villagers, researcher and teachers.

RESEARCH PROCEDURES

Participant observation and in-depth interview techniques as the main tools in studying Kiriwong villagers' knowledge of the plants. I gained access to the setting by asking the school's director to introduce me to a member of the community council. I also identified my objectives of study to the council, the gatekeeper, so they allow me to conduct research study and cooperate with me in supplying information as well as refer me to 24 key informants, who were considered by the villagers to be experts in utilizing benefits from plants and divide such utilization into four groups by the core professions of the residents, as identified by my preliminary study in the setting, as follows:

- a) six farmers drawn from the mixed orchard group;
- b) six villagers drawn from the natural tie-dyed materials group;
- c) six villagers drawn from the herbal product group; and
- d) six villagers drawn from the weaver group.

The criteria for informants were: (a) residing for over 10 years in Kiriwong; (b) earning their living as mixed orchard farmers, natural tie-dyed materials, herbal products and woven products on a long term basis; (c) being capable and willing to supply information regarding mixed orchard farming, natural tie-dyed materials, herbal products and woven products; and (d) knowing the names of people residing in the community who could supply additional information regarding the varieties of plants in the community.

The referral from the community authority allowed (a) unlimited access to the residents in the Kiriwong community; (b) the creation of a rapport with them and (c) participation in their activities in order to better understand how villagers learnt to gain the benefits from plants and (d) obtaining information on what knowledge and skills are required to prepare students to live well in their community.

RESULTS

During the six months of gathering the necessary information, the core data were divided into two issues to answer the research objectives. Therefore, the aim of this section is to present and discuss the results.

The Ethnobotany Knowledge and Local Needs

The Kiriwong community is in a fertile tropical rain forest valley where the villagers largely depend on the natural resources, particularly plants, for their livelihood, including food, housing and herbal medicines. The mixed orchards, called *Suan Som Rom*, by the villagers are the main sources of their income. These orchards grow a variety of plant species: the main fruit trees include durian (*Durio zibethinus*), stink beans (*Parkia speciosa*), mangosteen (*Garcinia mangostana*), domestic jackfruits (*Arthocarpus integer*), longon (*Lasium domesticum*). In addition, many rare wild plants grow among their fruit trees. These include, wild vines (*Caryota mitis Lour.*), tree fern (*Cyathea Comtaminas*) and wild orchids only found here, "Singto Ajarn Tem" (*Bulbophyllum smitinandii Seidenf & Thorut*), "Euang sai Sert" (*Coelogyne rochussenii*) and "Euang Kiriwong" (*Didymoplexxiopsis krhiriwongensis Seidenf*).

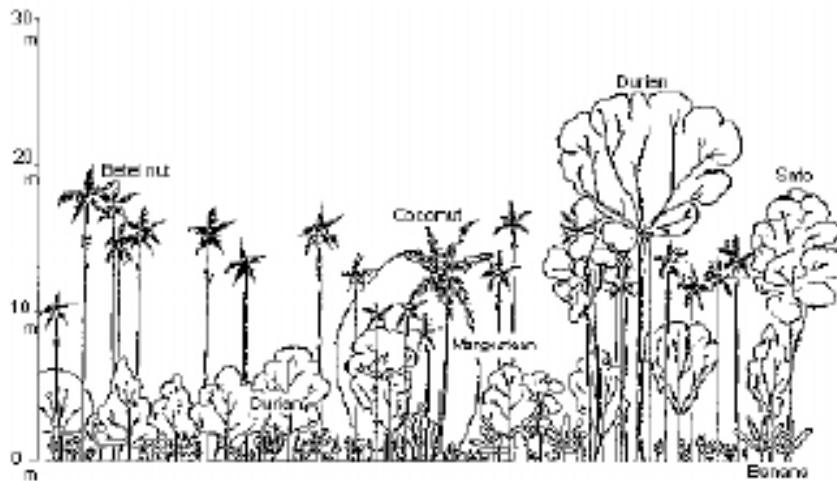


Figure 1. The example of Traditional Agro-forests “Suan Som Rom” in the Kiriwong Community (Source: Kitsada Tungchawal, 2001)

The villagers used the natural resources, mainly the plants grown in the community. They learn to benefit from the plants, with some adjustment for more benefits, from trying to survive in the natural environment. Gathering the information regarding the benefits obtained from the local plants and collecting the plants’ samples from the *Suan Som Rom* to categorize them based on the plant taxonomy, we found there were 26 species, 43 families and 50 types of plants regular used by the villagers. When, however, categorized based on the ethnobotanic principles and the benefits obtained from them, there were 4 main types; namely plants used as natural dyes, herbs, woven-wares and food and merchandise.

The villagers obtain their knowledge in three different methods: (a) inheriting the knowledge from their ancestors, (b) learning by doing, and (c) learning by seeking knowledge on their own. The latter was the one that the villagers consider important because they learnt from trying to solve their professional related problems. Such learning is an adult learning method claimed by Knowles (1989) to be one in which adults tend to concentrate on the problems in order to learn and apply such knowledge promptly, not store it for future reference.

With regard to seeking knowledge on their own to solve professional related problems, the villagers look through related books, documents distributed at agricultural product stores, bookstores’ botanical books, i.e. books on herbs, common plants, orchids, encyclopedia, sold at bookstores, college students’ thesis on Kiriwong community and textbooks handed down by their ancestors. In addition, they also obtain knowledge from their own tests by trial and errors and accumulate their experiences all the time. Such methods are similar to those carried out in academia. The only difference is the academic’s knowledge of statistics and the sciences helps to make sense of their findings. The activities occurring while the villagers conduct their research to obtain knowledge are identify the problem, concepts, reasons and act on those things to test the hypothesis and results obtained from the processes. Although the results are unexpected, the villagers obtain the skills in posing questions, solving problems, testing, making computations and drawing conclusions, all of which reflect their curiosity regarding their natural environment. A key informant told me about her own experience of performing her own tests as parts of a quest for knowledge:

I majored in science so it helps. Whenever we noticed anything, we set a hypothesis and look for ways to work on it. When I get results, I summarize and seek solutions. We cannot assume that plants do not provide any colors ... if we can say all plants provide colors, we cannot say which colors they provide. There are ways to get the answer to

that. I test almost all of them, depending on when I work on which plant. All plants can provide colors. (the tie-dyed natural materials producing expert)

The Ethnobotany Curriculum Development

The ethnobotany curriculum was developed after conducting qualitative research to better understand how villagers learn to gain the benefits from plants and what knowledge and skills are required to prepare their student to live well in their community. These are globally valuable biological resources and can be found in close proximity to the students' villages. It is our belief that by creating science curricula the take advantage of these local resources it should be possible to assist students both to develop understanding about content and about the nature of science that are in the government's science standards, as well as to learn science in their own environment. They can apply such knowledge and skills in their current and future situations and lifestyles. They also become aware of how to sustain benefits from the local botanical resources without depleting or destroying those resources.

In developing this curriculum, a meeting was arranged with the school's administrator to inform him of the details and methodology of the curriculum preparation and to ask for his cooperation in informing the school teachers. In addition it was necessary to ask for their cooperation and permission from the administrator to allow these teachers to participate in the curriculum development. The director had the authority to permit the investigator to conduct this research in his school and cooperate with me in the curriculum's development

Designing the ethnobotanic curriculum, I and science teachers incorporated the basic information gained from studying the Kiriwong villagers' needs and their usage of plants into the study of ethnobotany, the sustainable natural resources management principles, the rural philosophy for education and the constructivist theory to obtain an ethnobotany curriculum. This particular curriculum was directed towards the development of scientific minds, centering on the students' self-study and their awareness of maintaining the community's botanic representatives for sustainable usage. Such frame of creating scientific mind concept by incorporating universal knowledge with the local wisdom is shown in Figure 2.

The Development of the Ethnobotany Curriculum Includes 9 Core Steps:

Step 1: Identify the vision

The researcher and school personnel, namely the education institute council, the school director, science teachers and head of academic department for the secondary school who meet to identify the vision for the ethnobotany curriculum.

Step 2: Identify the mission

The researcher and school personnel, namely the education institute council, the school director, science teachers and head of academic department for the secondary school who meet to identify commitment for the ethnobotany curriculum.

Step 3: Identify qualifications of the students

The researcher and school personnel, namely the education institute council, the school director, science teachers and head of academic department for the first section secondary school who meet to identify the prerequisite qualification of students learning for the ethnobotany curriculum.

Step 4: Identify the contents

The researcher and the teachers meet to identify the contents for the purpose of developing the ethnobotany curriculum. The researcher present the contents obtained from the preliminary study of the plants during stage 1 to the school's personnel, namely the school director, science teachers and head of academic department to identify the contents in the ethnobotany curriculum.

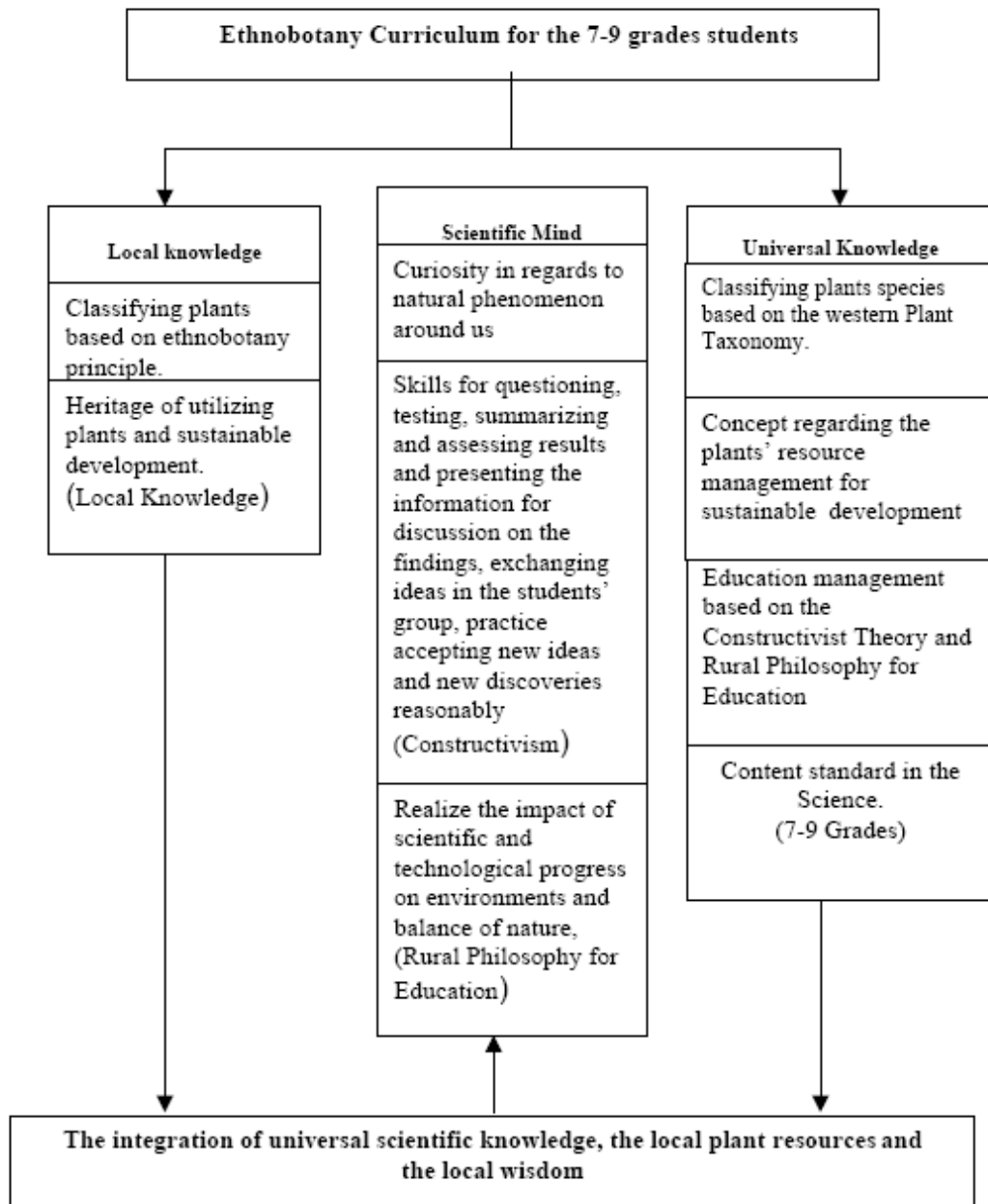


Figure 2. The frame of reference for creating a scientific mind set by incorporating universal knowledge with the local knowledge in the ethnobotany curriculum

Step 5: Identify the directions for learning management and for assessment and evaluation

The researcher and the teachers collaborate in identifying such directions with the researcher presenting the constructivist theory concept, the local education theory and the quality of the tertiary sector students of the Science Subject pursuant to the Ministry of Education’s stipulations regarding the guideline of directions for learning management and assessment and evaluation.

Step 6: Identify the learning schedule and learning period structure

The teachers and the researcher collaborate in stipulating the learning time table and its structure for studying pursuant to the ethnobotany curriculum.

Step 7: Preparing the curriculum documents

The teachers and the researcher collaborate in creating such documents to serve as the model curriculum for education management for the students in the first section of secondary school.

Such documents include major documents, namely, visions, commitments, prerequisite students' qualification, contexts, learning management direction, structure, schedule, learning resources and students' learning assessment and evaluation directions.

Step 8: Curriculum criticism

The researcher submits the ethnobotany curriculum to a Botanist and scientist and science educator to check and assess it for accuracy and relevancy of its elements.

Step 9: Curriculum improvement

The researcher modifies and improves the curriculum based on the expert evidence to derive at the curriculum with accurate content and relevant elements.

CONCLUSIONS

This case example is one beneficial outcome of meaningfully linking ethnography research with local community educational need. The curriculum development that incorporates local knowledge and meets the needs can be an inherent responsibility of small rural schools. This ethnobotany curriculum can be of use to others who are interested in developing curricula that take the needs and knowledge of community members in rural areas into account. It is our belief that by creating science curricula that take advantage of these local resources it is possible to assist students to both develop understanding about content and about the nature of science that are in the government's science standards as well as to learn the sciences in their own context. They can apply such knowledge and skills in their current and future situations and lifestyles.

Acknowledgment

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The transitory phase to the attainment of self-regulatory skill in mathematical problem solving

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Three phases of development of self-regulatory skill in the domain of mathematical problem solving were designed to examine students' behaviour and the effects on their problem solving ability. Forty-eight Grade 4 students (10 year olds) participated in this pilot study. The students were randomly assigned to one of three groups, each representing a different developmental level of self-regulatory skill: (a) the observation level, (b) the emulation level and (c) the self-control level. The first findings advocate that novices and medium solvers performed better in cooperative than in traditional environments in contrast with experts. Moreover, the first findings advocate that learning environments which provide peer modelling may contribute to the development of self-regulatory skills in medium problem solvers.

Self-regulation, mathematics, problem solving, medium state solvers

INTRODUCTION

A productive and independent learner tends to be one of the first priorities of a contemporary educational system almost all over the world. It is recognised that the capability of self-regulation exists in all human beings and this enables us to survive, evolve and improve ourselves. Researchers have indicated that self-regulation can be taught, but the period of the attainment is often long. However, a start must be made and the earlier the better. While problem solving is placed in the heart of mathematics (NCTM, 2000), it is considered to contribute to the whole thinking processes. Nevertheless, differences in mathematical problem solving ability begin to appear in Grade 1 and increase gradually throughout the formal years of schooling. These differences have already been recorded and are known as 'novice' compared to 'expert' differences. However, there is a period of unknown duration which raises some questions in which novices are transformed into experts. Students who pass through this period in mathematics are called 'medium' solvers by their teacher. The present pilot study examines this period in three different environments in an effort to describe under what conditions the transformation is achieved more effectively. Additionally, the study explores the main characteristics of this category of students.

THEORETICAL BACKGROUND

The main feature of human behavior is that it is goal-oriented thereby eliminating constraints and hindrances that may hinder individuals attaining their goals (Anderson, 1995; Glover et al. 1990). Thus, it can be said that all cognitive activities are problem solving examples by their nature, as they are based on the individual's attained, codified, well-organised and registered experience (Koliadis, 2002). In order to attain their goals, individuals regulate their behavior and functioning.

Problem solving is characterised as an essential and complex activity in mathematics (Hembree, 1992). It takes time to develop the problem solving ability (Lester, 1994). Becoming an expert in problem solving means that you have been engaged in this for at least 10 years, in order to perform well (Ericsson and Lehmann, 1996).

During our daily contact with students, as teachers, we are faced with three categories of students in mathematics problem solving: (a) the novice solvers, (b) the expert solvers and another group of students that includes the majority of students. This category is called 'medium' solvers as they can be classified neither in the first nor in the second category. Actually, they are in a transitory phase between novices and experts. It seems impossible for such students to be classified in a category. Nevertheless, from time to time they may display either a positive or a negative mathematical performance. But what do we know about them? How can we help them, as teachers, to go beyond this phase?

Expert Compared with Novice Solvers

According to the expert-novice literature there are striking differences between the declarative, the procedural and the conditional aspects of knowledge. Specifically, in the domain of problem solving, the novice solvers have little memory for relevant problem components. They classify the problem types according to their surface structure, display no automation in their procedural function, prefer the means-end-analysis strategy for the manipulation of the problems, need more time than the experts, rarely reach the solution of a problem, face difficulties with the 'innovative' problems, can not drive and monitor the process they follow in order to attain the desired goal (Matlin, 1998; Sternberg, 1999) and show no self-discipline (Ericsson and Lehman, 1996). Apart from the cognitive, there is also the affective aspect. It seems that during the problem solving activity a core of attitudes and emotions is present, which contributes to the successful engagement of problem solving as well. Beliefs, values, emotions and attitudes play an important role in the problem solving activity. For instance, if someone believes that he is not capable of solving a certain type of problem then he is likely not to solve it. Beliefs are important determinants of students' learning, thinking and performance (Boekaerts, 1997; Pintrich, Marx and Boyle, 1993).

Self-Regulation

Another important issue is related to effective self-regulation. Self-regulation lies at the core of successful and lifelong learning. Self-regulated learners tend to be active, reflective and productive in their own thinking and learning (Zimmerman and Kitsantas, 1996). They think critically, use problem solving strategies and memory techniques when appropriate. Self-regulatory processes and accompanying beliefs are said to fall into three cyclical phases: (a) forethought, (b) performance or volitional control and (c) self-reflection processes (Schunk and Zimmerman, 1998). The first phase precedes the effort that contributes to the attainment of a goal. The second phase involves processes that occur during motor efforts and affects attention and action (Zimmerman, 2000, p.16). Nevertheless, there is a last phase which impacts on a person's response to that experience.

The forethought phase consists of task analysis (goal setting and strategic planning) and self-motivational beliefs (self-efficacy, outcome expectations, intrinsic interest/value and goal-orientation) subclasses. The performance or volitional control phase consists of self-control (self-instruction, imagery, attention focusing and task strategies) and self-observation subclasses. Finally, the self-reflection phase consists of self-judgment (self-evaluation and causal attribution) and self-reaction (self-satisfaction, affect and adaptive or defensive inferences) (Zimmerman, 2000).

Even if the self-regulation components seem to be clarified, it has not been proven yet how the self-regulatory competence is grown deliberately for instance in a scholarly context. From a social cognitive perspective there is an answer, but it is still important to pinpoint the differentiating outcomes among the different levels of the development of self-regulatory skills.

The Developmental Levels of Self-Regulation

In order to incorporate the effective self-regulatory skills into one's behavioural repertoire, a social cognitive perspective implied that this skill passes through four developmental levels (Ericsson and Lehman, 1996; Kitsantas, Zimmerman and Cleary, 1999; Schunk and Zimmerman, 1997): The observational level of the skill refers to the induction of the skill from a proficient model. Further development of the observed skill depends on the perceived similarity to the model and the positive outcomes of the model's use of this skill (Zimmerman and Rosenthal, 1974). The emulation level goes beyond the simple copying of the vicarious learning. After observing the proficient model, a learner generates a similar behavior in a social context. The similarity to the model's behavior is improved as the observer receives feedback, guidance and social reinforcement during practice (Kitsantas, Zimmerman and Cleary, 1999). The first two levels overcome the need for social guidance. Their practice tends to be more self-directed. The third level, self-control, refers to the independent display of the model's skill under structured conditions. During this phase, learning strategies that focus on fundamental processes rather than outcomes are most beneficial in producing mastery (Zimmerman, 2000, p.30).

The last phase refers to the student's systematically adaptive use of the skill across changing personal and environmental conditions in order to attain the goal. During this phase the behavior is outcome-oriented and self-efficacy plays an important role as it defines the sustainability of this level of skill. These levels are introduced for easy and effective learning. However, it has not escaped our observation that there is a degree of resemblance between this theory of development of self-regulatory skill and the cognitive apprenticeship scheme in which learning scaffolds from extensive social guidance to self-relied efforts.

Self-Regulation and Metacognition

The term 'self-regulated' is mostly associated with metacognitive guided learning forms that are at least partly motivated and strategic in nature (Winne, 1995, 1997). Metacognition involves the learners' awareness about their strengths and weaknesses as well as their knowledge about how to regulate engagement in tasks to optimise learning processes and outcomes. Motivation refers to self-regulated learners' beliefs in proximal learning, the efficacy of learning and attributions that link outcomes to factors under their control. The term 'strategic' describes the way in which these learners approach challenging tasks and problems by choosing from a repertoire of tactics those they believe are best suited to the situation and applying them appropriately (Winne and Perry, 2000, p.533).

THE STUDY

The experimental groups were formulated according to the developmental levels of self-regulatory skill as shown in Figure 1. This pilot study does not include any control group due to the fact that we intended to track down the first reactions to the following design of the study. However, a control group was used for the experimental phase in which a larger number of students participated. In the first experimental group of the pilot study the students were taught the self-regulatory skill using only the teacher's model. Then they were asked to repeat what they had observed while solving a mathematical problem individually. In the second experimental group the students, after observing the teacher's model, were asked to cooperate in a four member group in order to solve a mathematical problem emulating the teacher's model enriched by their own tactics. This meant that the students were free to reinforce the model's general pattern with

their inspired and positive experience and strategies. In the last experimental group the students received exactly the same treatment as in the second group with the addition of some cognitive and metacognitive tools they were equipped with. These included their own metacognitive cards on which they wrote the main steps of problem solving while observing the teacher's model and their peers' attitudes. In addition, they were equipped with a portfolio in which they recorded their own individual information in the mathematics course such as goals divided into sub-goals, the estimated time they needed, their progress and the difficulties they had faced.

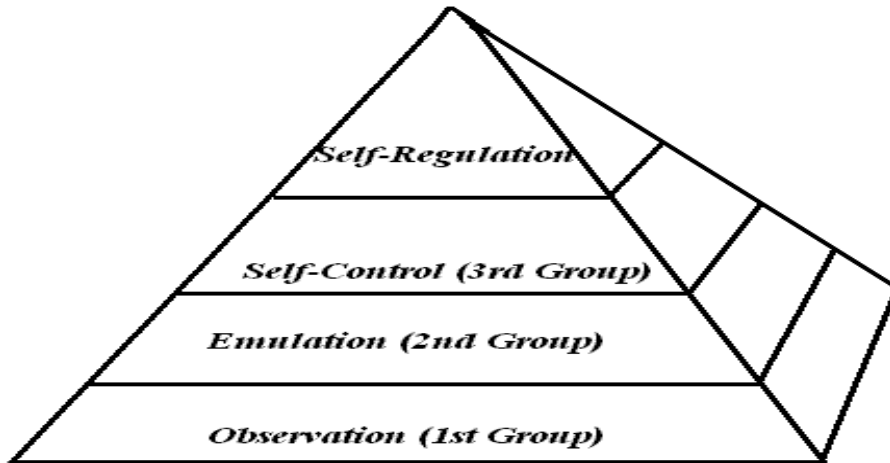


Figure 1. The design of the Pilot Study with reference to the formulation of experimental groups

In the students' case, a set of steps are required to approach the solution of a problem. Thus, a variety of models had been developed in order to support students' efforts when facing a problematic situation. Some of these were based on Polya's model (1957), the GSP model (1972) and Sternberg's model (2003). For example, Polya's model (1957) described the steps to be taken in tackling a problem as follows:

- Understand the problem,
- Devise a plan,
- Carry out the plan, and
- Look back.

The writings of Polya (1988), while not specifically aligned with problem-based learning emphasised the need for metacognitive reflection on learned heuristics as a problem solving tool. GSP is due to a momentary lapse, the right acronym is General Problem Solver (or **GPS**) and it comes from Newell and Simon's (1972) work. It refers to a general problem solver's model. According to this model the problem solving process is defined as an interaction process between the task and the solver who functions as an Information Processing model. GPS model is based on Gestaltists' psychologists emphasising the problem solving space and frame (both represent the possible 'extensions' of a problem) such as:

- The initial situation of a problem,
- The final goal,
- The potential and permissible handlings, and
- The constraints.

Each of these models has its own value depending on its theoretical background. Sternberg's model (1999) is a general model that can be applied in almost all problematic conditions and it is appropriate for well-structured as well as ill-structured problems. It consists of seven steps: (a) problem identification, (b) definition of problem, (c) constructing a strategy of problem solving, (d) organising information about a problem, (e) allocation of resources, (f) monitoring of problem solving, and (g) evaluating of problem solving. In the mathematics domain the first step is not

required as it is obvious to the students that they are faced with a problem. This step concerns poorly structured problems, such as the problems we face in daily life or problems in which the issues are not clearly defined. In mathematics, students generally have to solve well-structured problems. Thus, in our intervention students were taught only Sternberg's last six steps. However, it is questionable if a series of steps make students capable of solving problems. According to some researchers, students are not able to solve problems due to their deficiency as metacognitive thinkers (Artzt and Armour-Thomas, 1992; Carr and Biddlecomb, 1998; Schoenfeld, 1983). Consequently, there was a need to enrich the six steps with some metacognitive questions such as those found in Table 1.

Table 1. The steps of problem – solving cycle according to Sternberg's theory and their corresponding metacognitive questions

| Sternberg's Six Steps for Well-Structured Problems | Examples of Metacognitive Questions |
|--|--|
| 1. Definition of Problem | Have I solved a similar problem before? Are there any key points that help me? How is the specific problem connected to what we have been taught? |
| 2. Constructing a Strategy | What would happen if I chose another way of solving the problem? Is there any? How could I use the related theory I've been taught? How would I secure the correctness of my procedure? What would be that thing that would make me choose x way instead of z way? |
| 3. Organising Information | Should I draw the problem or tables in order to avoid any misunderstanding? How would the related formulas be useful in my problem? |
| 4. Allocation of Resources | How would I manage the available time? At which point should I intensify my concentration and my efforts to make up for my weaknesses? |
| 5. Monitoring the Process | To what extent does my followed process differ from my initial planning? How would I improve the allocated solving phases? Why did I make this mistake? |
| 6. Evaluating the Process | Why did I choose x way instead of z way? When would I choose z way? How useful would this problem be in my daily life? In what way could I use this problem in solving other problems? |

THE METHOD

Aims of the Study

This study was designed to examine the procedural characteristics of the medium problem solvers in comparison with their classmates who are characterised either as novices or as experts. A two month study was planned to research their capacities in three different and successive levels of self-regulation: (a) observation, (b) emulation and (c) the self-control level in mathematics problem solving.

Student Sample

The sample of the pilot study included 48 students, all of whom were in Grade 4 of primary school. The study encompassed three classrooms of three different schools in the centre of Athens. Each group (called the 'experimental group') represented different levels of self-regulation. The choice of these particular schools was made in the light of the students' earlier familiarisation with co-operative projects. Thus, it was expected that the usual functional problems in initiating cooperation would be avoidable.

Procedure

The treatment lasted for two months. The entire gathering of data took place during one academic year. All the groups were exposed to instruction of metacognitive strategies. The students were unaware of the different treatments and so were their teachers. The study supervisor traced the implementation of the pilot experiment through the observers' daily reports. The observers had been properly trained for over two months before participating in the pilot project.

In order to check the effect of the treatment on problem solving, the students were asked to solve four mathematical problems constructed to have parallel mathematical structure but different problem contexts. After that students completed a questionnaire. This procedure was repeated twice: before and after the pilot study. Yet, students were asked to use thinking aloud protocol during one problem solving activity, and this procedure was also repeated twice. Students were classified into three categories 'novice', 'medium' and 'expert' problem solvers, according to their teacher's judgment. The analysis of thinking aloud protocol was based on Sternberg's six steps of well-structured problem solving described in Table 1.

Measurements

During the pilot study, we used a set of measurements recorded here as the self-regulation components that were complex and multidimensional. First of all, the thinking aloud technique was used in order to decode the thinking process of the solvers, especially of the medium solvers. The note-taking was done by four fourth graders students of the University of Piraeus. They were familiarised with the technique beforehand, and the reason for that choice was made on the grounds of the objectivity they were able to provide.

Secondly, a manual recording of the co-operation in the second and third experimental groups was used, done by the experts of the groups. However, as we did not have unusual data to analyse no further reference to it is intended. The students found it awkward to have to register all the peers' contributions. They avoided it and we had to use a more automatic way of recording all the peer group interactions in order to analyse them in future investigations. Through this analysis, we hoped to derive useful information about the quantitative and, mainly, the qualitative parts of the cooperation. The scaffolding of the cooperation and the outcome of group work could be collected through the decoding of the interrelationships among the participants. Having data about the development of individual methods of problem solving might then be extracted concerning the time or the conditions needed to develop a self-regulatory skill.

Thirdly, important conclusions were drawn through the qualitative analysis of the students' portfolios of the third experimental group. The conclusions were related to the students' progress as well as to the excising of some parts of the questionnaire they completed such as self-efficacy and goal setting.

Lastly, the questionnaire that measured goal setting and strategic planning, awareness, self-efficacy, self-monitoring and self-reflection was used at the beginning and the end of this study. The questionnaire was developed from O'Neil and Abedi's (1996) study on metacognition, specifically, the items which measured the awareness and the monitoring. The parts which measured the planning and the self-efficacy were abstracted from O'Neil and Schacter's (1997) work on problem solving assessment. The items of self-regulation were formulated according to the social cognitive theory of self-regulation mentioned above. The entire inventory consisted of 30 items with an alpha reliability of 0.91. The reliability coefficients were compared too. The split-half reliability gave us encouraging results (Guttman Split-half=0.92).

Teacher's Role

Three teachers worked with the different groups in the pilot study. These teachers were considered qualified by the researcher as they were very experienced and had participated in other research in the past. The latter was very important because the teacher's style was not included in the study and consequently, there was a great need for formal application of the main principles of the pilot study. A factor that was not measured but it is worth mentioning was that these three teachers showed an increased interest in the development of self-regulatory skills and asked for references to improve their understanding. After the 'intervention' the teachers described the positive impressions their students gained while participating in this program.

RESULTS

The quantitative analysis of the sample showed that half of the participants were called ‘medium’ problem solvers according to their teacher’s judgment. The results showed that 39.6 percent of the participants were classified in the ‘expert’ category, and only 10.4 percent were classified in the ‘novice’ category of problem solver.

Table 2 analyses the mean scores of problem solving ability. A significant increase was observed in the first and second groups and a slight increase in the third group of novice problem solvers after the pilot study. Before the pilot study, it appeared that the students of the third group far exceeded those of the first or second group. After the study, all the students had increased their problem solving ability skills. This was confirmed by a one-way analysis of variance (ANOVA) on the scores of the pre-test and post-test. Before the treatment there were significant differences among the groups ($p=0.019$, $F=4.32$). A Scheffe test showed that the third group had high achievement on problem solving in comparison with the first group before the treatment. After the treatment no significant differences were found among the groups ($p=0.243$, $F=1.46$).

Table 2. Means scores and standard deviations of the three problem solving groups of students by different developmental levels of self-regulation

| Groups | Pre | Post |
|-----------------|-------------|-------------|
| 1 st | 4.94 (3.39) | 8.17 (3.07) |
| 2 nd | 5.94 (3.86) | 8.69 (2.89) |
| 3 rd | 8.50 (3.01) | 9.71 (0.83) |

Specifically, the medium solvers increased their problem solving ability in all groups with most significant results in the second group. The latter showed that mere cooperation contributed to the increase of encouraging outcomes for the medium solvers. However, when new cognitive tools were introduced, even in cooperative activities, medium solvers had to struggle in order to incorporate them directly into their behavioural repertoire. Nevertheless, Figure 2 showed that when the means of the metacognitive strategies used in three groups were compared, it was found that they increased in the second and third group but decreased in the first group.

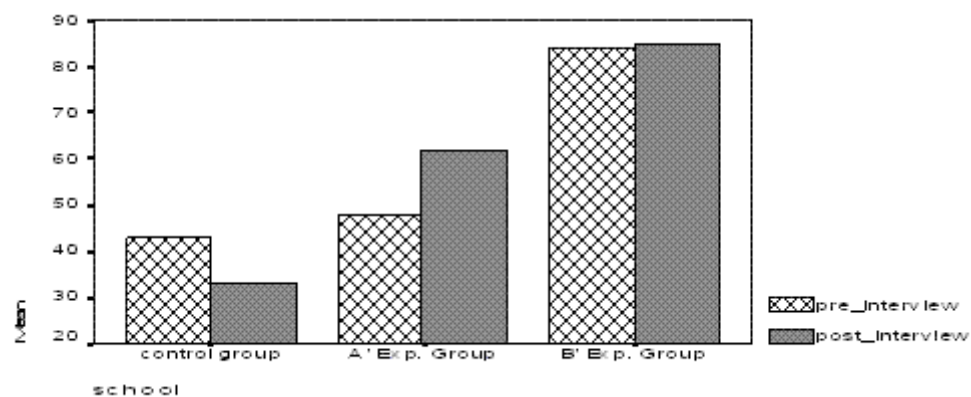


Figure 2. The trends of using metacognitive techniques by “medium” solvers in the different treatment groups

It seemed paradoxical that medium problem solvers decreased in the use of metacognitive strategies but increased their problem solving ability while observing the teacher’s model that is the control group in the Greek version of the study. However, the sample was too small to draw definite conclusions. It was only an intimation which needed more specific data. A very important issue in this point was the contribution of the participants and their interactions in group problem solving and the teacher’s role which was not included in our study. This might have given us an answer to this paradox. Analysing the other participants’ results, it is noticed that novices did not have any benefit from the observation of the model. Instead, they benefited by cooperation and

from peer group modelling. Their increased achievement was accompanied by an augmented use of metacognitive strategies. The experts decreased their achievement and the use of metacognitive strategies while cooperating; unlike them, the expert problem solvers noticed a significant increase in their achievement and the metacognitive use of strategies either by observing the teacher's display of the problem solving strategies or developing their level of self-control.

Through the thinking aloud protocol, it was observed that medium solvers slightly decreased the monitoring and strategic planning of the problem solving process and increased metacognitive techniques which referred to problem definition, organisation of the information, resources management and evaluation. The differences are shown in Figure 3.

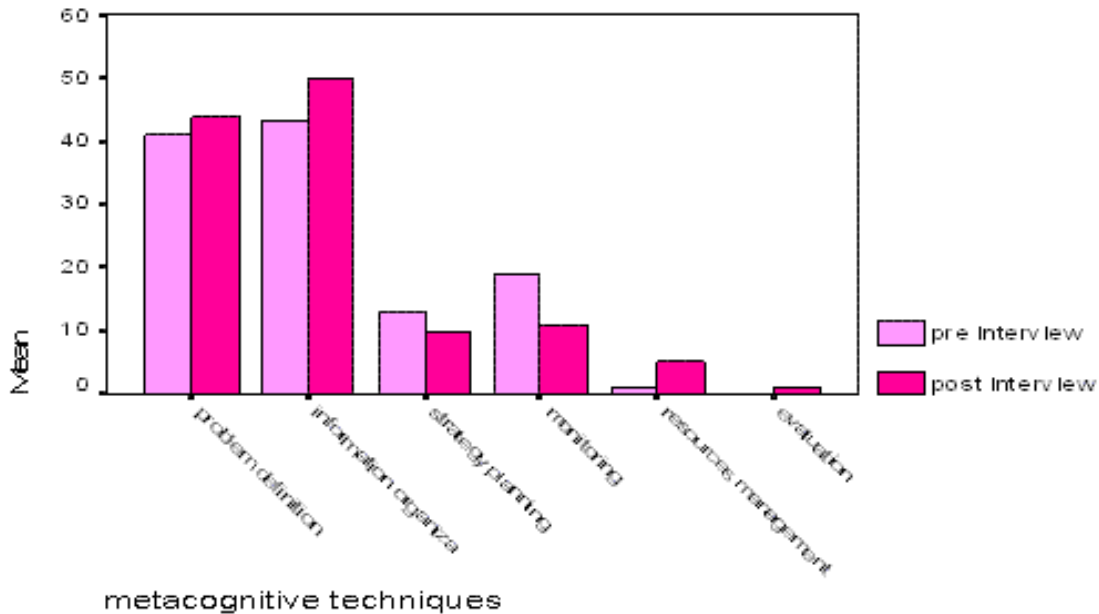


Figure 3. The drawn results through the thinking aloud protocol technique about the meta-cognitive techniques that are used by the students before and after the pilot study

Examining the students' self-efficacy beliefs, it was found that their self-efficacy increased in all groups, especially in the second group of learners. Overconfidence might have been one reason for the decrease in monitoring and strategic planning noted above. A decrease in strategic planning was recorded in the novice group, while a decrease in monitoring was recorded in the expert group. It seemed that strategic planning remains an important issue for the experts, but the same does not apply for the monitoring phase because as the students' self-efficacy is increased, the need for monitoring appeared to decrease.

The analysis of self-efficacy beliefs in the third group, according to the students' portfolio records, indicated that as long as the students monitored their daily achievement, their self-efficacy beliefs were more restrained than those of the students of the first or second groups, in which there was no daily monitoring.

Also, it was found that there was a strong correlation ($\rho=1.00$, $df=2$, $p<0.001$, Spearman) between the mathematics problem solving ability and goal-setting. The scatter plot analysis showed no signs of curvilinear relation between the two variables. This meant that when students searched for the answer to a problem, they solved it correctly. This could have been a factor that was predictive of their success.

CONCLUSIONS

This pilot study is a companion to a further study on the development of students' self-regulatory skills in the domain of mathematics in a computer supported collaborative learning environment.

Specifically, this article presents the initial phase of recording the behaviours in the transitory phase from novice to expert problem solvers while passing through the three developmental levels of self-regulation. In this article we argue that the use of models provided by both the teachers and student peers during mathematics instruction is an important contextual factor that can promote elementary children's mathematical self-regulation, metacognitive ability, self-efficacy and ultimately achievement. It is shown that self-regulation could be taught through modeling for the novices and medium problem solvers and through self-control level for the expert solvers. In addition to cognitive strategies, models may have an impact on students' beliefs so as to help them overcome the emerging difficulties and remain goal-oriented. Of course, this does not imply that we must return to traditional teaching methods; we can enrich them with new cognitive tools promoting their benefits in higher order thinking results. In order to help self-regulatory solvers improve in the domain of mathematics we have to take into account their prior state of knowledge and ability and finally offer them the appropriate instruction. It seems that there is no one formal method which can be applied to all mathematical problem solving categories.

Focusing on the process rather than the outcome may have implications beyond the domain examined in this paper. The attainment of self-regulatory skill requires an altered focus on the process of thinking, which is an integral part of problem solving and can be transferred to other kinds of problems (Kappa, 1999). The instruction of the metacognitive thinking process through the different phases of problem solving (pre-during-post phases) seems to contribute to the emergence and the integration of new techniques in all solvers' behavioral repertoire. Concerning the medium solvers, it seems that as far as they are taught the integration of metacognitive strategies into their repertoire, they advance the points of representation and evaluation by a decline in their planning and monitoring efforts. However, an extension in the size of the sample seems to be necessary in order to draw reliable conclusions and more specialised research on these points is needed in order to find out the reason why it happens. The latter can be the reason for keeping these students in this category and not let them slip into the next category.

The important increase of medium solvers' problem solving ability and use of metacognitive techniques in the second group reveals that this category of solvers benefits most when they cooperate with their classmates. Taking this finding into account, teachers could help students to progress by giving them more opportunities for cooperation and interaction. They seem to enjoy participating in these activities rather than sitting on a chair and observing their teacher. This is confirmed by their teachers' informal statement in a related conference.

A significant finding of this pilot study is related to the effectiveness of the intervention program with regard to novice and medium problem solvers. By the end of the intervention these solvers had improved their ability to solve word problems correctly. Despite the fact that expert solvers only slightly increased their ability, their tendency was not as spectacular as it was expected. This is in accordance with a phenomenon called a 'ceiling effect'. That is the expert solvers are *a priori* at a higher level than other groups and the remaining margins for improvement are more constrained.

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Instructional activities of staff personnel in the effective domain in selected secondary schools in Southern Nigeria

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The tendency of restive secondary school graduates to be used in carrying out vices such as violence, examination malpractice, thuggery and cultism has necessitated this study. In total, 250 secondary school teachers undertaking part-time bachelor of education program in the University of Benin, formed the sample of this study. Simple percentage, summation and qualitative methods were the statistical tools adopted to analyse the data. A very startling and frightening revelation is that no teacher in the sample taught national consciousness and values through exercises in the affective and psychomotor domains. It is also shown that the greatest problem teachers encounter in the teaching of citizenship education is students' nonchalant attitudes to the subject. It is therefore recommended that government and multinational companies need to sponsor workshops, conferences and seminars on the use of exercises in the affective and psychomotor domains to teach citizenship education.

Affective domain, Nigeria, secondary schools, citizenship education, instructional activities

INTRODUCTION

Education is investment in human capital. It contributes greatly to national advancement; hence Harbison (1973) opined that education is the key that unlocks the door to modernisation, national growth and development. Hernes (2002) on his own part referred to education as the nexus between all items on the developmental agenda whether it is a question of reducing poverty, improving health, advancing gender equality, applying new technologies, protecting the environment, or extending democratic participation and good government.

Education is useful when the objectives and content of the enterprise are geared toward the needs, circumstances and aspirations of the people to be served and directed toward the attainment of national goals. In Nigeria, some objectives of education as stated in the *National Policy on Education* were to build (Federal Republic of Nigeria, 2004):

- (a) a just and egalitarian society; and
- (b) a free and democratic society.

In order to attain the stated objectives, the Federal Government required that new and wholesome attitude should be taught through instruction by the role models (teachers) to pupils as it is stated in the *National Policy on Education*.

Secondary education is the education children receive after primary education and before the tertiary stage. It is the hope of the nation that secondary education shall among other things raise

a generation of people who can think for themselves, respect the views and feelings of others, respect the dignity of labour, appreciate those values specified under the broad national goals and live as good citizens. If these ideals are achieved then the vices in our society today will be reduced. Staff personnel in the school have the onerous responsibility of performing functions to:

- (a) provide pupils with the education with the right type of values and attitudes for the survival of the individual and the Nigerian society;
- (b) aid pupils to acquire appropriate skills, abilities and competencies required to equip the individual both materially and physically to live in this society.

These stated functions are achieved by providing instruction in the affective domain. This according to Brophy and Allemen (1991) consisted of learning activities that were designed to facilitate student attainment of curriculum goals, component objectives and encourage pupils to learn, practice, apply, evaluate or in any other way respond to curricular content which might include knowledge, skills, values, and dispositions to action.

The need to produce pupils with the stated type of education cannot be overemphasised today in the Nigerian civil society and the education system in particular as it is currently plagued by vices such as bribery, corruption, nepotism, violence, examination malpractice, thuggery and cultism. The impact of these vices on the quality of the education system is manifested in the production of uncultured secondary school graduates who tend to be used in many cases to carry out the stated vices in the society. The stated scenario is the basis for urgent attention to the civic and political needs of the nations by the education industry.

As observed by Caillods (2001) secondary school education enables students to develop reasoning and thinking skills that are inaccessible to younger children including how to work in teams and live together, which is crucial for the survival of the civil society.

The teacher is the processing agent who ensures that resources such as time, instructional materials, physical facilities, and learning experiences are provided and utilised in the right mix to get the desired output. The teacher needs to utilise, his experience and resources at his disposal to ensure that pupils acquire desirable traits of good citizenship. Students learning occur in the cognitive, affective and psychomotor domains. Citizenship education involves learning mostly in the affective domain. Citizenship education is aimed at shaping the life of students through deliberate focus on pupils' attitudes, feelings, emotions, opinions, loyalties and aesthetics. Therefore, pupils ought to be exposed to activities intended to change negative values, beliefs, attitudes, interests, social relations, emotional adjustments, habits and life style in the positive direction.

This present study hinges on production theory. The crux of the theory is that in the school, if the change agents adequately process the inputs into the system the desired output can be attained. In the school the teaching personnel and pupils are both inputs. The former are also the main agents in the processing stage. The ability of the teachers to carry out the processing stage efficiently and effectively produces the desired output, which in this study is the good citizen. Citizenship Education can best be taught to pupils by employing teaching methods in the affective domain. Since this is the right approach to the acquisition of learning which borders on values, beliefs, attitudes, interests social relations, emotional adjustments, habits and life style (Ndubisi 1984, and Hugh (1974). Unfortunately, it appears that among the staff personnel the emphasis has been on instruction in the cognitive domain to the neglect of teaching in the affective domain (Ezeoke, 1983) and consequently they are thereby unable to produce the desired result in pupils' learning outcome particularly those that border on the acquisition of desirable social attitudes. Vinson (2004) pointed out that the affective domain is critical for learning but is often not specifically addressed. According to her, this is the domain that deals with attitudes, motivation, willingness

to participate, valuing what is being learned and ultimately incorporating the values of the discipline into a way of life.

Stages in the affective domain can be described as follows:

- Receiving (willing to listen),
- Responding (willing to participate),
- Valuing (willing to be involved),
- Organising (willing to be an advocate), and
- Characterisation (willing to change one's behaviour, lifestyle, or way of life).

Vinson (2004) warned that the affective domain required at least some cognitive component. This might be the source of problems for the teachers. They needed to know the limit of the cognitive component. Bloom et al (1956) indicated that school staff personnel were confronted with the problems involved in instruction and assessment of content in the affective domain. School staff personnel who taught citizenship education were by the *National Policy on Education* required to assess students continuously and in the three domains of learning (the cognitive, affective and psychomotor domains) hence there was an emphasis on continuous assessment. The focus of which should be the attainment of desirable traits of punctuality and regularity among others. The society continued to look up to the educational sector and teachers in particular to wave the magic wand, which would transform the citizens to cultured citizens who would be cultured and would contribute positively to national development. How the education industry met this expectation through the activities of teachers in the affective domain was central to this study.

The purpose of the study was to determine how staff personnel contributed to students' learning outcomes in the affective domain as well as the problems that they encountered in the process.

RESEARCH QUESTIONS

In order to address the goals of the study the following research questions were raised:

- (1) How do teachers inculcate the concepts of the discipline through instructional activities?
- (2) How are students learning the outcomes of the discipline taught in the affective domain?
- (3) Are there significant differences in students' learning outcomes with respect to teachers' experience?
- (4) What problems do teachers encounter in the teaching of the concepts of value orientation?

METHOD OF STUDY

The design of the study was a survey. The population was secondary school teachers in Southern Nigeria. The sample comprised 250 teachers who taught in various secondary schools in Southern Nigeria.

A purposive sampling technique was adopted to survey the teachers who were undertaking a part-time Bachelor of Education program in the University of Benin. The sample was considered adequate because the teachers already had the Nigerian Certificate of Education (NCE) qualification, which was required to teach any subject at the junior secondary school level.

Two sets of instruments were designed to elicit information from the respondents.

The first set of instruments was in two sections. Both sections were open-ended and the respondents were required to express freely how they taught students in the affective domain and to state the problems that they encountered in the process. The second instrument was constructed and based on suggestions for the construction of assessment tools of students' learning outcomes in the affective domain by Clark (1973). The instrument comprised 19 items and it was a Likert-type questionnaire. Items 1 to 3 elicited information on the use of the project technique to assess learning outcomes, while Items 4 to 6; 7 to 10, 11 to 13, 14 to 17 and 18 to 19 focused on the use of observation, an interview, a rating scale, a questionnaire and a socio-metric technique respectively to assess learning outcomes in the affective domain.

The instruments were personally administered to the respondents by the researchers and three research assistants. The return rate was 100 per cent as there was face-to-face interaction between the two parties. However, out of the 250 questionnaires, only 215 were found to be useable. And, the data generated from the study were analysed using both qualitative and quantitative methods.

DATA ANALYSIS

Research Question 1: How do teachers inculcate the concepts of the discipline through instructional activities?

Table 1 indicates that all 215 respondents indicated that they taught the discipline to the pupils by giving instruction on moral training, hard-work, national consciousness, values and attitudes promoting citizenship and respect for authority in the cognitive domain. Only about 60 to 70 per cent taught the same concepts to the students in the affective domain.

Table 1. Instructional activities adopted to inculcate discipline concepts in secondary schools

| No of Respondent | Instructional Activities | Exercises in Cognitive Domain | Exercises in Affective Domain | Exercises in the Psycho motor Domain |
|------------------|--|-------------------------------|-------------------------------|--------------------------------------|
| 215 | Character and moral teaching | 100% | 120 (56%) | 150(70%) |
| 215 | Hard-work | 100% | 150 (70%) | 180 (84%) |
| 215 | National consciousness | 100% | - | - |
| 215 | Values and attitudes promoting citizenship | 100% | - | - |
| 215 | Respect for authority | 100% | 150 (70%) | 200 (93%) |

Research Question 2: How are the students' learning outcomes of the discipline taught in the affective domain?

In order to answer the stated research question, the responses of the teachers were analysed and presented in Table 2.

Table 2. Assessment of students' learning outcomes in the affective domain

| No of Respondents | Technique adopted | Use the technique | | Do not use the technique | |
|-------------------|------------------------|-------------------|------|--------------------------|------|
| | | n | % | n | % |
| 215 | Project | 177 | (82) | 38 | (18) |
| 215 | Observation | 167 | (77) | 46 | (23) |
| 215 | Interview | 161 | (75) | 54 | (26) |
| 215 | Questionnaire | 117 | (54) | 98 | (56) |
| 215 | Socio-metric technique | 110 | (51) | 105 | (49) |

Table 2 indicates that teachers assessed learning outcomes in the affective domain mostly by adopting methods of interview (75%), observation (77%) and project (82%). Only 51 and 54 per cent of the teachers adopted socio-metric and questionnaire techniques respectively.

Research Question 3: *There is no significant difference in the measurement of pupils' learning outcomes in the affective domain with respect to teachers' experience.*

A mean of 87.0 was recorded for teachers with more experience as compared with a lower mean of 57.1 for teachers with less experience. The results are shown in Table 3.

The t-test of the significance of the difference between the mean scores of experienced and less experienced teachers in the use of techniques in the affective domain to measure learning outcomes in citizenship education, is significant at the 0.05 level.

Table 3. t-test of significant difference in the measurement of pupils' learning outcomes by teachers' experience

| | No of respondents | Mean Score | Calculated t-value | Significance |
|--|-------------------|------------|--------------------|--------------|
| Teachers with above five years teaching experience | 115 | 87.0 | | |
| Below five years teaching experience | 100 | 57.1 | 4.1 | < 0.05 |

P < 0.05

Research Question 4: *What problems do teachers encounter in the teaching of the concepts of value orientation?*

Responses to the stated question were ranked according to the frequency of responses. Table 4 gives a summary of the responses provided by respondents regarding the problems that they experienced in the teaching of citizenship education. The common problems as stated by respondents were: (a) nonchalant attitudes of students to citizenship education, (b) insufficient time allotted to the teaching of the course by school administrators, (c) inadequate learning materials, (d) resistance to change by pupils advocated by the content of citizenship education, (e) inadequate number of professionals to teach the subject, and (f) lack of opportunities for teachers to attend workshops and conferences.

Table 4. Problems teachers encounter in the teaching of concepts of value orientation

| No of Respondents | Nature of Problems | Rank of response |
|-------------------|---|-------------------|
| 215 | Nonchalant attitude of students to the subject. | 1 st . |
| 215 | Insufficient time and attention to the course. | 3 rd . |
| 215 | Inadequate learning materials. | 3 rd . |
| 215 | Resistance to change by pupils. | 2 nd . |
| 215 | Inadequate number of professionals to teach the course. | 5 th . |
| 215 | Lack of sponsorship to workshop and conferences. | 5 th . |

DISCUSSION OF RESULTS

The first concern of the study was how concepts of value orientation were taught in schools. A majority of the teachers stated that they taught the concepts of character and moral training, hard work and fairness, national consciousness as well as values and attitudes and respect for authority mostly by giving exercises in the cognitive domain. This therefore negated Vinson's (2004) view that the affective domain required only a little emphasis on cognitive components. A smaller proportion of the teachers taught these concepts by giving exercises in the affective and psychomotor domains. The implication of the finding is that value orientation concepts are taught to students as for most other subjects, where students are required to regurgitate theoretically what they learnt in class. Citizenship education is intended to produce the ideal citizen who exhibits desirable traits of hard-work, fairness, diligence, national consciousness, and patriotism at all times. Students can be taught these traits if they are often drilled on exercises in the

affective domain, in and out of the classrooms. The findings of the study are an explanation for the prevalent decadence and unpatriotic behaviour among youths. This is because in spite of the nations' dire need to produce patriotic citizens by the teaching of citizenship education in the schools, the teachers have failed to do this effectively in their classrooms. The result is the production of pupils who hear about the concepts in the head but have not been equipped with the will-power to exhibit the desired traits.

Teachers were also required to indicate how they measured pupils learning outcome in the affective domain. Approximately 75 to 80 per cent of the teachers indicated that they measured pupils' learning outcomes in the affective domain by using techniques such as projects, observation and interviews. Other techniques such as questionnaires and socio-metric procedures were used by only about 50 per cent of teachers. The use of the first set of techniques by teachers could be due to the ease of using these techniques. The other two were more difficult and expensive to use. The dearth of facilities in our school system made the use of questionnaire and socio-metric techniques unattainable. A situation existed where the basic needs such as tables, chairs and other learning materials continued to be inadequate. Unfortunately the socio-metric technique was very useful but it was the least used for assessing the social relationship between pupils. The teacher was able to identify why some students were popular or unpopular among their peers. Based on the information the effective teacher could group students in a particular order to promote certain traits.

Differences between less experienced and experienced teachers in the use of techniques in the affective domain to measure learning outcomes were significant. The teachers who were more experienced had a higher mean score in the ability to use the techniques to measure students' learning outcomes. This finding was expected, as the more experienced teachers ought to be models for and supervisors of the less experienced teachers.

The question on the problems encountered by teachers in the teaching of citizenship education generated mixed reaction. Problems listed revolved around the students, the teachers and the school authorities. The reaction of the respondents focused on the students' nonchalant attitude to the study of the subject and their inability to possess the required text. The attitude of the students could be a carryover from the larger society where there was the general feeling that the decadence of the Nigerian society could not be changed by good behaviour by a few persons. This explanation might also account for the nonchalant attitude of the teachers. Unfortunately if the teachers had that attitude then it spelt doom to the whole nation. This was because the teacher was the change agent of the society (Ukeje, 1986). The school authorities were accused of not allotting sufficient time to the study of the subject furthermore; teachers were neither sponsored for workshops nor seminars. These findings had substantial implications for the teaching of citizenship education in schools. If the school authority that was the representative of the government did not promote citizenship education, then the desired change in the society was still a long way from attainment.

IMPLICATION FOR EDUCATIONAL PLANNING AND ADMINISTRATION

In view of the restive behaviour of a majority of Nigerian youths, which is exhibited in such vices as robbery, violence, examination malpractice, thuggery and cultism, it is necessary to investigate the methods involved in their formal training. This modest attempt shows that citizenship education in which is embedded the cultural values of the society is taught mostly through exercises in the cognitive domain. In fact, no teacher in the sample taught national consciousness and values through exercises in the affective and psychomotor domains. It therefore implies that national consciousness and values have continued to be taught theoretically in the secondary school system.

CONCLUSIONS AND RECOMMENDATIONS

Teachers through exercises in the cognitive domain mainly taught the concepts of discipline. However, some techniques such as projects emphasised observations and interviews that were used to measure learning outcomes in the affective domain by teachers. Experienced teachers were more proficient in the measurement of students learning outcomes than less experienced teachers. The problems encountered by teachers of citizenship education in schools ranged from nonchalant attitude of teachers and pupils, inadequate time and learning materials to non-encouragement of teachers to attend seminars and workshops. It was suggested that the Federal Government needed to pay more attention to the provision of resources and encouragement of teaching personnel to ensure the effective teaching of the concepts of the discipline in schools.

The hopes and aspirations of a better tomorrow for the youths are hinged partly on the education system of today. It may therefore be necessary to organise workshops, conferences and seminars for classroom teachers on the use of exercises in the affective and psychomotor domain in the teaching of citizenship education. Multinational companies and others who in recent times have been affected by youth restiveness need also to sponsor such workshops, conferences and seminars. Teacher training and preparation by the Institutes and Faculties of Education need to have this in mind in the preparation of their teacher trainees.

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Teacher turnover in Malawi's Ministry of Education: Realities and challenges

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The teaching profession is no longer a concern of academicians but the public in general who yearn for positive results. Internationally, the profession is continuously beset by several serious problems. One of the most serious problems in the teaching profession is teacher turnover. Governments are finding it difficult to retain teachers in schools. In Malawi, this problem is profound and overwhelming, even by Sub-Saharan standards. The paper heavily relies on secondary data derived from general trends and observations of several research findings as well as government publications, newspapers and several academic papers. The paper argues that main cause of this problem in Malawi can be attributed to general poor working conditions. The paper further argues that retention measures derived by the Malawi government may take time to bear fruits and it is unlikely that they can seriously affect teachers positively because they do not address the basic immediate needs of the teachers.

Teacher turnover, motivation, stress, Malawi, recruitment

INTRODUCTION

Globally, more than any other profession, the teaching profession has recently gone through rigorous deliberation and analysis (VSO, 2000). In most cases, the profession itself as well as the education policy that guides it has been a highly emotive issue in public discussions. In the past, the profession was the concern of bureaucrats and policy makers but now it is under the full glare of the public eye. One of the concerns in the profession is high turnover among the teachers. Fitzenz (1987,p.167-168) defined employee turnover as the movement of employees into and out of organisations while Grobler *et al* (2002,p. 609) simply referred to it as “the movement of employees out of the organisation”. There are numerous reports of high teacher turnover in several developed countries such as United States (Herbert and Ramsay, 2003; Guin, 2004); United Kingdom (*BBC Online* 18 January 2001); Scotland (Finlayson, 2003); and Portugal (Jesus and Conboy 2001). But in developing countries the problem is comparatively serious. Reports in countries such as South Africa (Xaba, 2003), Zambia, Papua New Guinea and Malawi (VSO, 2002) indicated that the problem had almost reached a catastrophic stage.

The problem in Malawi is profound and overwhelming, even by Sub-Saharan standards, and the former Education Minister, Yusufu Mwawa likened the problem in education “to a patient on a resuscitation bed in a hospital” (*Nation Online*, 19th October 2004). For example, the primary school sector needed over 9,000 new teachers every year but the six teacher training colleges produced 4,000 per year (there are 4,000 students in first year and another 4,000 in the second year making a total of 8,000) (Kadzamira, 2003). Out of a total of 43,832 trained primary school teachers in the Ministry of Education, during the period of January to June 2005, 2,189 teachers

left or moved to a non-teaching post for various reasons (GoM 2005, p. 43). Similarly during the same period, out of the Ministry's 2,253 trained secondary school teachers, 1,121 left the Ministry or moved to a non-teaching post (GoM 2005, p.80). The largest number of 360 secondary school teachers who left was attributed to resignation while only 64 were due to retirement (GoM 2005, p.80). Ministry of Education in Malawi is the largest Ministry in the Malawi Government with more than 70 per cent of the total civil servants.

Grappling with an ever-increasing student and pupil enrollment, plummeting examination results, shortage of resources and above all the high teacher turnover, the education system is in serious problems. Despite all these problems in the education sector, hope for the future of education still remains with one essential human resource: the teachers themselves. As the Volunteers Service Organisation [VSO] (2002, p.4) report correctly asserts, "when policy-makers discuss dilemmas of pedagogy, education management and financing, material and school infrastructures, what they are really asking themselves is: **how can we help teachers to do their job effectively?**" (emphasis added). Accordingly, the cause of teacher turnover is the subject of discussion in this paper- with special focus on the case of Malawi's Ministry of Education.

Taking into consideration the complexity of factors that influence turnover, the paper *inter alia* analyses the concept of turnover based on relevant literature; from such an analysis the causes of turnover are identified and discussed. The identified general causes form the premise and guiding principles in the discussion of the causes of turnover in Malawi. In view of this, the first part does not necessarily discuss the Malawian scenario but focuses on the theoretical aspects as well as the international perspective. The second part concentrates on the causes of turnover among teachers in Malawi. Overall, the paper heavily relies on secondary data derived from general trends and observations of several research findings as well as government publications, newspapers and several academic papers.

CONCEPT OF TURNOVER

According to Fitz-enz (1987, p. 167-168) transfers and promotions are not considered part of turnover because they do not involve movement across the membership boundary of an organisation. Fitz-enz (1987, p.167-168) explained that there were voluntary and involuntary turnover whereby resignations were examples of voluntary turnover and dismissals, layoffs, retirements, and deaths were involuntary. Under normal business conditions voluntary turnover was greater than involuntary. Grobler *et al* (2002, p. 609-10) added that there was functional and dysfunctional turnover. They argued that functional turnover was necessary in an organisation because among other things it brought in new employees who might have good ideas on how to improve organisational productivity. On the other hand, "excessive turnover creates an unstable workforce and increases human resources costs and organisational ineffectiveness" and this was referred to as dysfunctional turnover (Grobler *et al* 2002, p. 609-10).

Related to the argument raised by Gobler *et al* (2002) on functional turnover, Fitz-enz (1987, p. 168) further explained that zero turnover was not desirable in an organisation because employees who had stayed in the organisation for many years generally had higher salaries. Assuming the organisation grew at a normal rate and all employees remained, "most employees would soon be at or near the top of their pay ranges and total salary expense would be very high" (Fitz-enz 1987, p. 168). The concept of staff turnover is highly linked to several HRM functions such as motivation, commitment and morale, selection, recruitment, induction and others. If there is high turnover, it is an indication that there may be problems in other HRM related functions in the organisation.

CAUSES OR FACTORS AFFECTING TEACHER TURNOVER IN DEVELOPING AND DEVELOPED COUNTRIES

Within the teaching profession there are several factors that cause turnover. Xaba (2003, p.287) concluded that the causes of teacher turnover can be attributed to organisational factors. He further asserted that these could be categorised into “commitment to the organisation, long-term prospects, and job satisfaction” (Xaba 2003, p. 287). Further analysis was also made by Herbert and Ramsay (2003). Although the findings by Herbert and Ramsay (2003) related to teacher turnover in Texas in United States they accurately tallied with findings in several other countries inside and outside Africa. Herbert and Ramsay (2003, p.2) while acknowledging the fact that “decisions about whether to enter and remain in teaching are ultimately personal ...according to individuals’ needs and circumstances”, they attributed turnover among teachers to several factors such as salaries and incentives, working conditions, induction and professional development, and assignments. Some of the causal factors cited by Shaw (1999) were similar to those also raised by Herbert and Ramsay (2003). Shaw (1999,p.3) added that factors such as recruitment and selection practices, the work itself, compensation, career opportunities and the work environment contributed to turnover. All these factors can be briefly explained.

Salaries, Incentives and General Working Conditions

Poor salary is probably one of the most common causes of high teacher turnover (VSO 2002). Beardwell and Holden (2001, p. 514) explained that the salary of a particular job reflected “beliefs about the worth of jobs... based on scope, level of responsibility, skill requirements, objectionableness of duties, commercial worth and strategic relevance”. Taking into consideration that the status of the teaching profession had been waning as discussed below, the salary, incentives as well as working conditions had followed suit.

By citing a National Survey of Teachers, Herbert and Ramsay (2004, p3) specified that, among those dissatisfied with teaching, 61 per cent cited poor salaries, 32 per cent poor administrative support, and 24 per cent student discipline problems. It was also argued that schools that gave their teachers higher salaries, adequate administrative support, and experienced fewer cases of student discipline the teaching staff were less likely to leave.

Loss of Status of Teachers

Obanya (1995) claimed that the prestige previously bestowed on an African teacher had eroded in society hence insisted that “to restore good quality education, the **prestige of the teacher must be increased**” (emphasis added). The VSO (2002, p. 1) report also indicates that the teaching profession was declining in status. Due to this decline, “the teaching profession in developing countries is characterised by high attrition rates, constant turnover, lack of confidence and varying levels of professional commitment”. Originally (from 1940s to 1970s), “Teachers were seen as bringers of progress, modernity and development and were rewarded and respected accordingly” but it is no longer the case (VSO 2002,p.1).

Indiscreet Reforms and Loss of Motivation

Related to the above-mentioned fact, Day (2002, p.679) argued that contemporary reforms in education had a negative impact on the efficiency and effectiveness of teachers. He explained that internationally, contemporary reform in education tended to ignore the role of the teachers. Day (2002, p.679) further mentioned that *inter alia* reform had the following effects on the teachers: (a) they challenged teachers’ existing practices, resulting in periods of at least temporary destabilisation; (b) they resulted in an increased work load for teachers; and (c) they did not always pay attention to teachers’ identities – arguably central to motivation efficacy, commitment, job satisfaction and effectiveness. More importantly, according to Day, current

reforms had removed the quest for teacher's innovation so that the teacher's job was more of a mechanical exercise with greater emphasis on examinations and the teachers just "teach to the test".

Stress

Williams and Robertson (1990) in their publication titled *Warning - Teaching is Hazardous to your Health* convincingly argued that the teaching profession was losing staff in crisis proportions because of heightened stress and the potential stress factors considered include: meeting deadlines, workload, limited time, continuous change (current), records of achievement and organisational restructuring (potential). These findings were supported by Sutton and Wheatley (2003) in their work titled *Teachers' Emotions and Teaching*. Finlayson (2003) mentioned that in the teaching profession in Scotland, stress was the major cause of ill health, teacher turnover, absenteeism and other related problems which cost the government about 43 million pounds a year (Finlayson 2003). Among other things, the cause of stress among teachers was attributed to the workload, change, conflict at work and pupil discipline. Probably the words by Ruskin (in Finlayson 2003, p.1) are more appropriate to remedy the problem of stress among teachers. Ruskin stated that, "In order that people may be happy in their work, these three things are needed: they must be fit for it; they must not do too much of it; and they must have a sense of success in it."

Jesus and Conboy (2001, p. 131) also argued that, "in spite of the fundamental importance attributed to teacher motivation, it is a common research finding that teachers present lower levels of motivation and higher levels of stress than other professional groups". They continued by giving the example of Portugal where due to stress problem, less than 50 per cent of those in the teaching profession showed interest of remaining in it.

Recruitment and Selection Practices

By comparing the contemporary teachers with those in the past, Obanya (1995) hinted at the importance of recruiting those of the right calibre as well as setting appropriate training programs. He mentioned that:

...it was not just anybody who could be a teacher in the past. There was some selectivity, based on ability and socially desirable personal characteristics. Whether in traditional societies or in the colonial educational system, the education of the teacher was a rigorous affair. Teacher evaluation was not a once-and-for-all affair, as the wider society (or the inspectorate system) monitored teacher on-the-job development (Obanya, 1995, p. 7).

Obanya (1995) attributed the current poor recruitment and selection practices in the education system as contributing to high turnover and other problems because wrong people were employed in the first place.

Herbert and Ramsay (2004, p.4) pointed out that most teachers were given classes or subjects of which they hadn't been trained to handle. This fact was supported by the findings of a VSO (2002) report based on three developing countries. The report stated that due to shortage of teachers, they were compelled to teach subjects of which they were not competent. This could have an impact on the teachers because they might feel incompetent, hence think of changing their careers. Livingston (2003, p. 194) claimed that among other things "underdevelopment and under utilisation of a workforce" were the major causes of turnover.

Unfair Measures of Performance

Another problem is the unique characteristic of the learning process. It is to a large extent an abstract process. Megginson *et al* (1993, p.79) pointed out "it can't be seen or observed to be

taking place. Often, an individual might not even be aware that he or she has learnt". Examinations, as an instrument to measure the extent of learning, do not guarantee accurateness because certain behaviours acquired through the learning process are very elusive hence can't be easily measured. This entails that a teacher's performance is benchmarked against unrealistic and unfair indicators.

CAUSES OF TEACHER TURNOVER AND THEIR CORRESPONDING CHALLENGES IN MALAWI

Most of the causes of teacher turnover in Malawi can be attributed to poor working conditions and their related factors as discussed in detail below:

Poor Housing and School Infrastructure

Davenport (1999, p.198) admitted that although research showed that strategies for retaining employees were related to financial rewards such as salary levels and increases, health care benefits, and retirement savings plans, he argued that the best way to bind employees was to make their jobs more "fulfilling and enriching". It was generally agreed that the immediate working conditions could greatly enhance and enrich an employee's job. The Malawian teachers were subjected to very poor physical working conditions as explained below.

After the introduction of free primary school education in 1994, enrolment increased and there was not appropriate infrastructure to accommodate all the pupils. Candidates for the Malawi School Certificate of Education increased from 7,000 in the early 1990s to 45,416 in 1999. This increase did not match with teacher capability hence "...over-stretched the human resource available" (*News from Africa*, February 2003). In some schools, classrooms were too small to accommodate the large number of pupils and as reported by *Africanews* (July 1996), "packed like sardines in one classroom, as many as 90 pupils faced one teacher, yet the recommended ratio is 1:45".

In the primary school sector, by June 2005, the average learner: educator ratio was 106: 1 and 34 per cent of the infrastructure was temporary or incomplete and only five per cent had electricity (GoM 2005, p.5, 37, 40). One teacher in Malawi was asked by the VSO researchers concerning turnover and their discussion was as follows (VSO, 2002, p. 28):

Question: Why do teachers around you leave the profession?

Answer: Poor accommodation. The toilets are not O.K, they are made of grass and mud. In the rainy season they fall down.

The same VSO report gave a stark view of teachers' housing and school infrastructure by observing that:

Most schools had basic infrastructure only, many were dilapidated and neglected. Typically, classrooms were old, dusty and equipped with at most a chalkboard and a limited number of desks and chairs. Often they did not have glass in the windows, and were vulnerable to prevailing weather conditions: leaky in the rainy season, stifling during hot summer months, freezing in winter. Teachers' housing mirrored this pattern, with teachers frequently inhabiting dwellings that suffered from poor maintenance and infrastructure and lacked electricity, running water, good sanitation and cooking facilities. (VSO, 2002,p. 20)

The negative impact of poor housing cannot be underestimated. Lansley (1979, p.71) rightly argued that "Housing conditions have a majority influence on the health, attitudes, opportunities

and quality of life of individual and communities ...” Though not largely supported by studies, it can be deduced that the teachers’ motivation, quality of work and commitment can also be largely influenced by their housing conditions. The latest records show that 10,884 of primary school teacher’s houses are categorised as permanent while 5,583 are temporary (GoM 2005, p.37).

Salaries

Among other points, Schuler and Jackson (1996, p. 614) stated that in assessing how effectively an organisation administers its compensation program, the following major purposes of total compensation had to be kept in mind: (a) attracting potentially qualified employees, (b) motivating employees, and (c) retaining qualified employees. The compensation program in the education sector of Malawi did not seem to be fulfilling these conditions.

Salaries of teachers in Malawi have been extremely low and irregular even by Sub-Saharan standards (Fozzard and Simwaka, 2002; Chirwa *et al.* 2000, p.47). In March 1994, teachers went on strike for pay increments and only a small per centage increment was implemented (Chirwa *et al.* 2000, p.47). The starting salary for a trained primary school teacher in 2002 was only Malawi Kwacha (MK)1,042¹ per month, a secondary school teacher holding a four year university degree got MK2,280 (Fozzard and Simwaka, 2002, p. 12). In 2005, starting salary for a University trained secondary school teacher was MK21,000.00 per month. A primary school teacher received from MK 6,000 to MK8,000 per month. According to VSO report (2002, p. 26), to live in Malawi, MK14,000 per month was the “minimum required for basic living not including travel or entertainment”. One Malawian teacher commented “...our salaries are so low we can’t even have chairs in our house” (VSO 2002,p. 36).

The unmotivated and uncommitted teacher can have serious negative consequences on the learning process of the pupils. The critical factor is that the future of the children is at stake. The teacher contributes much to the educational advancement or regression of the pupils and the remark by Livingston vividly captured this point:

Most parents are aware that teachers’ expectations about individual children become self-fulfilling prophecies: if a teacher believes a child is slow, the child will come to believe that, too, and will indeed learn slowly. The lucky child who strikes a teacher as bright also picks up on that expectation and will rise to fulfil it. This finding has been confirmed so many times, and in such varied settings, that it’s no longer even debated. (Livingston, 2003, p. 174)

Government secondary schools in Malawi do not have enough teachers as most of them have left to join the private sector or picked up other jobs. The loss of secondary school teachers can be attributed to the lack of incentives in the sector. A very serious development was that the number of unqualified staff had been steadily increasing in Malawian secondary schools from 315 in 1995-96 to 2,956 in 1998-99 (Ministry of Education, 2001). As of 2003, there were 4,968 teachers in secondary schools and of these only 1,628 were qualified, yet the country needed at least 12,000 secondary school teachers (*News from Africa*, February 2003). This entailed that there was a deficit of more than 10,000 qualified secondary school teachers. By June 2005, there were 8,975 secondary school teachers of whom only 2,523 were qualified (GoM 2005, p.55).

High Death Rate due to Illness but no Medical Scheme

Another problem that contributes to high turnover in Malawi is the high prevalence of HIV/AIDS. In a study carried out by Harries *et al.* (2002, p.35) in order to ascertain the extent of AIDS on teachers and health workers it was revealed that among teachers TB was the cause of 27 per cent

¹ 1USD = MK120 as of 15th December 2005.

of deaths, chronic illness 49 per cent and acute illness 25 per cent - all these were linked to HIV/AIDS.

By January 2004, the Teachers Union of Malawi (TUM) indicated that the number of deaths, for secondary and primary school teachers, had arisen to an alarming 1,200 (*Malawi Press Review*, January 2004). The former Principal Secretary in the Ministry of Education, Simeon Hau, stated at a press conference on 18th July 2005 that “most of the teachers are dying due to HIV/AIDS and other related diseases” (*The Daily Times*, 8 November 2005). From 1999 to 2005, “the ministry’s payroll indicated 6,071 teachers deleted due to deaths linked to HIV and AIDS” and it was also reported that “there is six per cent attrition rate in the education sector alone” (*The Daily Times*, 8 November 2005). In the period from January 2005 to June 2005, there were 903 reported deaths among secondary and primary school teachers of whom most were attributed to the HIV/AIDS (GoM 2005). In a study carried out by the Government on 323 teachers in 11 schools to ascertain causative factors for teacher absenteeism, it was found out that in a single term (three-month period), ‘illness of self’ has been the leading cause of absence (GoM, 2001a, p. 8). In this same study, it was revealed that in these 11 schools and in a single term, the economic cost of absenteeism was at MK 72,046 (GoM, 2001a, p. 8). This was great loss of scarce resources, assuming it was the same scenario throughout the country. Above all, the cost did not include what the pupils themselves may have missed in class.

What the study did not focus on was the work-stress and burnout effect on absenteeism and illness. Stress is often overlooked by human resource practitioners and top management hence its effect is rarely measured (Briner, 1999). According to Armstrong (1991, p.136) stress among employees may, among other things, be caused by: (a) the work itself-over pressurised, (b) actual or perceived failure, (c) role in the organisation - ambiguity in what is expected of the individual, (d) poor relationships within the organisation, (e) lack of information as well as (f) little effective consultation and (g) feelings about the job or career. It is very possible that some illnesses mentioned above are reinforced by teachers’ stress, taking into consideration the difficult conditions in which they work. Cloete (1997, p. 205) suggested that in order to curb stress problems, “provision will thus have to be made for supervisors to listen to the difficulties and stresses of their subordinates and to offer advice i.e. counselling”. Unfortunately such provisions are not available in the education sector. By referring to 30 international studies, Vinassa (2003, p. 20) argued that:

...organizations worldwide which provide Employee Assistance Programmes to their staff earn a return of between three and seven times the amount they invest in terms of increased motivation and productivity and reduced absenteeism, accidents and **staff turnover** (emphasis added).

Despite all the problems of HIV/AIDS and other illnesses, there is no special medical care for public servants (including public school teachers) in Malawi (GoM, 2001, p. 19-20). Teachers are forced to seek medical assistance in the substandard public hospitals, clinics and health centres within their locality and when they need special treatment, they have to pay from their wages. It came out during the government study (GoM 2001, p.19-20) that teachers demanded that “the Ministry of Education should create a medical scheme for its officers so that they are assured of assistance upon falling ill”. Taking into consideration that such a scheme has not been established yet, teachers feel that they are not being cared for; as a result several of them have just left the teaching profession or joined the private sector where medical schemes are available.

Frequent Changes in the Syllabus and Education System

Due to lack of adequate resources, the government has often opened up to the donor community to assist in the development of education in the country. About 30 per cent of recurrent budget and between 70-80 per cent of development budget in Malawi was donor funded (Nielsen, 2001,

p.415). This led to a situation where by the Ministry of Education has been prone to excessive external influence and changes. Each donor had in most cases demanded certain changes in the education system or structure before dispensing their aid.

Unfortunately, with the emergence of decentralisation, these changes were not always well coordinated. This has serious negative implications on the teachers who are not adequately briefed and the top management is frequently grappling with highly conflicting changes that defy the principles of management of change. Ultimately the basic human resource functions are neglected by top management and attention is directed towards problems emanating from the established changes. As Plattner (2004, p. 20) rightly put it, "For employees, change can be confusing and distressing". Frequent and uncoordinated changes can even be more confusing to staff as is the case in the Ministry of Education. Armstrong (1992) in McKenna and Beech (1995, p.59) asserted that for successful change to occur "the provision of solid and comprehensive information on the need for change in an excellent beginning...". Taking into consideration that changes in the Ministry of Education were made without adequate information there was no guarantee of success.

Commenting on frequent curriculum changes in Malawi, the Education and Methods Adviser explained that, "As for curriculum changes, it doesn't necessarily motivate the teachers- actually it demotivates the teacher because the changes are forced on them without training or guiding them" (VSO 2002, p. 39).

Lack of Administrative Support System

Due to limited resources, the government has been cutting expenditure in educational administration and management, leading to reduction of the administration department within the Ministry of Education. Expenditure in the administration department of education had been reduced from 14.4 per cent in the 1991/92 budgetary year to 6.3 per cent in 2001/02 (Fozzard and Simwaka, 2002, p. 61). Taking into consideration that the government has been building more schools and employing more teachers, the reduction in the administration entails that there are serious problems in human resources functions within the organisation. Teachers therefore are expected to work hard yet those who can ably handle their welfare are not adequately available.

By reducing the administrative component, the government rationale is to empower the school head teachers so that they can ably handle all the relevant teachers' welfare. Research however has revealed that the relationship between teachers and school heads is not desirable because the school heads have not been given the appropriate training. The VSO (2002, p. 29) research discussion below gives a glimpse of the role of the school heads in teachers' management:

Question: What is the role of the head teacher in motivation?

Answer: He demotivates. He gives no guidance or encouragement... There is no respect for the head.

Poor Recruitment and Training Programs

Owing to increased enrolment in Malawi, the government recruited thousands of teachers who had had no training and these teachers had raised a lot of problems in the system (GoM 2001b). Furthermore, because of the shortage of teachers, there were no interviews conducted for teacher recruitment in Malawi's Ministry of Education. If an individual applied to a teachers' training college and undertook the training program successfully, he or she was sent straight to a teaching post without necessarily being interviewed. This implied that issues that could have been clarified during interviews were neglected and in the long run caused a lot of problems for the new recruits. Mengel (2001) cited the Harvard University study that found that "nearly 80% of turnover is due to hiring mistakes".

English (2001) aptly linked ineffective recruitment with turnover by pointing out how they might affect each other negatively if not appropriately done:

Turnover takes a heavy toll on an organisation: it takes about a year, on average, to get rid of poor hires. The higher in the organisation they are, the more damage they do. Between hiring and firing (if, indeed, the employee is ever let go), that person is on the payroll and in the organisation. But you can bet that a lot of management time is being taken up with problems associated with that person. (English, 2001, p.28)

Armstrong (1998, p.65) asserts that good recruitment and selection procedures “do produce people that are likely to succeed and stay with the company.”

Retention Strategies Established by the Government

In order to curb the problem of teacher turnover, the Government has introduced some measures and such as: (a) decentralised education management so as to monitor teachers effectively; (b) introduced distance learning for unqualified teachers; (c) increased budget allocation to the education sector; (d) encouraged programs that strengthen the link between teachers and communities around them; (e) pressed for more NGO as well as donor community involvement in the provision of teaching facilities and teacher development (GoM, 2001b).

It is not the purpose of this paper to analyse critically these retention strategies but it is quite obvious that these measures may take time to bear fruits and it is unlikely that they can seriously affect teachers positively because they do not address the basic immediate needs of the teachers.

CONCLUSIONS

The paper shows that the problem of teacher turnover is not confined to Malawi but it is a global problem. The case of Malawi, however, is so serious and shrouded by several interrelated factors. The critical factor to high teachers' turnover is poor working conditions hence a successful intervention has to address this problem. Taking into consideration that the problem is deep and severe, only drastic measures are appropriate in some cases.

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Responding to the needs of the community: Examining the educational opportunities for girls in rural Malawi

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This paper reports on the findings of the preliminary research that I conducted in two districts of southern Malawi, Africa. The purpose of the research was to establish the existence of the Sara Communication Initiative (SCI), a girls' intervention program, which had been introduced to selected rural schools. During the preliminary visits, I interviewed head teachers, teachers, pupils and parents. The major issues identified were: that girls were overworked at home compared to boys; that girls were sometimes denied parental care and protection after puberty; that girls in most rural schools lacked female role models; that some girls failed to continue schooling due to poverty; and that some girls failed to enrol in school due to long distances. The situation suggests that more needs to be done for the advancement of the education of rural girls.

Rural schools, female role models, girls' education, UNICEF-ESARO, Malawi, Africa

INTRODUCTION

Malawi is a developing country located in South Eastern Africa, bordered by Tanzania to the north, Zambia to the west, and Mozambique to the east and south. According to UNICEF (1996), Malawi is one of the poorest countries, "has a population of over ten million with a per capita income of US\$200 and a high under-five mortality rate" (as cited in Hemenway, 1996, p.1). Volunteer Service Overseas (2001) reported that 87 per cent of Malawi's population lived in rural areas and that nearly 90 per cent of the rural population were smallholder farmers with few productive assets, were poorly educated, malnourished, and in poor health. Among the disadvantaged groups in the rural areas were the female-headed households that accounted for 30 per cent of the rural population (Hemenway, 1996, pp.1-2). When women were in charge of households, they were responsible to provide for both the emotional and material needs of their families. More challenges were experienced in single parent families when they had to raise young children because they demanded mothers' time more than older children did.

Students in Malawi studied in difficult conditions. It was evident that work and household responsibilities competed with study time. In order to graduate from primary school, students had to complete eight grade levels. Less than half of all primary students reached the fifth level of primary school. As in many developing and low-income countries where resources were scarce, girls were at a greater educational disadvantage.

In this article, I discuss, first, the background to my interest in rural education. Secondly, I analyse the problems that are experienced by students in the rural areas of Malawi in general. Thirdly, I examine the challenges that are experienced by girls in rural schools in particular. Fourthly, I outline the interventions that the Malawi government, non-governmental organisations (NGOs) and donor agencies are making available for girls to enable them attain basic education.

Finally, I explore the alternatives that can be implemented to address the challenges that girls face in rural schools of Malawi.

BACKGROUND TO MY INTEREST IN RURAL EDUCATION

My interest in rural education issues was stimulated when I worked as a teacher and later a teacher supervisor in Malawi. When I made a trip to Malawi to conduct preliminary research for my Thesis and Dissertation requirements, my interest in rural education was rekindled. The research topic focused on the study of the impact of the Sara Communication Initiative (SCI), *The Special Gift*, in the selected schools of two districts in Southern Malawi. *The Special Gift* is the first of a series of SCI comic books produced by United Nations Children's Education Fund-Eastern and Southern Africa Regional Organisation (UNICEF-ESARO).

The episode depicted the adventures of Sara, an adolescent girl who was becoming a role model and a symbol of girls' empowerment in Africa. UNICEF-ESARO (1996) stated, "The story concerns 'push out' from school and heavy workload girls endure at home" (intro. page). During the study, I had the opportunity of visiting nine rural and remote schools in total. I collected data from head teachers, teachers, some pupils, and parents, through informal interviews. The visits revealed that girls faced more difficulties than boys, in their attempt to enrol and stay in school, especially in rural areas.

CHALLENGES OF RURAL EDUCATION IN MALAWI

Among the problems that impeded students' academic progress in general, in Malawi's schools were poverty, poor learning facilities, untrained teachers, discontented teachers, poor infrastructure, inadequate and sometimes unavailability of social services, and negative cultural beliefs and practices. According to the World Bank Project Report 1 (2000), school children in rural Africa were confronted by many challenges in their schooling experiences. Some of the common challenges were cost and location of schools, poverty, attitude about gender, ill health, HIV/ AIDS, and resource inequity (p. 4).

Teachers of rural schools in Malawi in most situations risked their very lives by accepting a teaching position in the particular school communities. When I made preliminary visits to schools that summer, I came across teachers who had poor morale. When I asked them what their experiences were, they indicated that they felt very isolated. Their school was inaccessible during the rainy season. The rural teachers further reported that in order to buy their provisions or to have access to certain social services at the nearest rural town, they had to walk across the river with the water above their waists. Another point that was raised referred to inadequate salaries, which made life hard for the teachers. They felt that their inability to meet some of the basic needs made their life difficult. One teacher commented:

Because of our low status, some parents do not see the value of education. They comment that if teachers cannot afford even to own a bicycle, then education is not worth much. Parents who look down on teachers might, in some cases, own a few heads of cattle, an ox drawn cart, or a bicycle.

At the village level, such materials were considered a sign of wealth. If parents persisted in looking down on teachers, then children did not take school seriously either. Sometimes the result was withdrawal from school so that they could work on the field or look after livestock. Another issue, which was raised, was poor infrastructure at most rural schools. Most rural teachers complained that their houses and classrooms were not in good condition. Since teachers were expected to reside close to the schools, they expected to find a good house, which could be rented at minimal cost within the school vicinity. In some instances, teachers had been posted to schools where there were inadequate houses or none at all. In such situations, teachers were expected to find a house outside the school compound. Most teachers considered that a challenge on their part

because the teacher might be charged much higher rent. If the house was far from the school, a teacher might take longer to walk to the school. If one decided to use public transportation, where it was available, it might be very expensive. The teachers that I interviewed indicated that such expenses resulted in tight budgets, making their lives difficult. As well, when teachers rented outside the school, there was fear that they might be vulnerable to outside influences, especially if the village or township was volatile.

In addition to lack of infrastructure was lack of furniture for the schools. As I visited the schools I noticed that some had good classrooms, while others had inadequate classrooms. When I asked how they managed, one teacher stated, "we conduct classes outside, under trees since we have big trees in the school surrounding." Teachers further explained that when it rained, they combined classes in the available space or if it was too congested they sent children home. Also worth noting was that apart from classrooms being inadequate and in some cases dilapidated, some had no desks. The interviewees indicated that they were waiting for the government to provide them. In situations where pupils sat on the floors, teachers were concerned that some of them might drop out because they could not manage to keep their clothes clean. It was also hard for students to sit on a hard floor for the whole day and do their schoolwork.

As we were passing through one community, I noticed that there was generally poor housing, although in some cases I could see a kraal for cattle in the back yard. It was surprising to me because cattle in most cases symbolised wealth in Malawi. When I asked why we could not see decent housing close to the cattle kraals, I was told that sometimes people did not build decent houses on purpose. Although they might be well to do, they preferred to keep low profile because they were afraid of being bewitched. This mentality seemed to have affected some pupils who might decide to leave school before completion because they were afraid of being bewitched by jealous people. Teachers further reiterated that some community members were even scared to dress better than others, because their neighbours might be jealous. Although the challenges I have discussed above impacted on some rural communities, girls had other issues that they had to contend with. The next section discusses the problems that rural girls experience and the impact on their day to day and academic lives.

CHALLENGES EXPERIENCED BY GIRLS IN RURAL SCHOOLS

How were girls more disadvantaged in a rural setting than boys? Girls were a disadvantaged group in rural Malawi because they were considered a source of domestic labour. One teacher commented that boys were more respected than girls in that community. Boys refused to do household chores because they believed it was the women's and girls' responsibility. The teacher further commented, "Some parents referred to their sons as Dad and commanded respect from their sisters and other relatives. Boys, who were treated as special commodity, developed a superior attitude, which became evident even at school". Such boys would not usually bend to school authority. In most Malawian families, boys were believed to be the future of the family or clan, so they were told that the family inheritance belonged to them and not their sisters. The parents believed that daughters would marry into other families, so that providing them with family wealth would not be feasible since they would be under the authority of their husbands. Because boys were expected to be future clan leaders, girls were expected to serve them by, for example, cooking for them and providing bathing water. With reference to work, Ilon (1992) reported that, "in developing countries rural girls spend an average of 30 hours per week on domestic labour" (as cited in Hemenway, 1996, p.2). Girls did more work compared to boys.

Another teacher commented that some students went to school late because they were busy doing household chores such as cooking, drawing water, and working in the garden (hoeing and harvesting). Most girls were also engaged in household activities after school and had no time to read or do assignments. Orphans were usually at a greater disadvantage because they were responsible for most of the household chores. Another teacher reported that sometimes, adoptive

families or guardians also treated orphans harshly. Some left school because they could not meet the demands at home as well as the demands at school.

The second issue pertains to the politics of gender, which is evident in some rural communities where cultural traditions are strong. Apart from the preferential treatment that parents gave boys when allocating household chores, their partiality was also manifested in the way daughters were treated after puberty. At one of the rural schools that I visited, the head teacher disclosed that in that community, when girls reached puberty, parents told them to sleep outside the main house because they had become adults. The girls were advised to find room at a girls' *gowelo*, a hut that was constructed by parents for their girl children. Girls' Attainment in Basic Literacy Education (GABLE) Social Mobilisation Campaign (SMC, 1998, p.33) reported that

the *gowelo* system is based on the traditional belief that if a girl who has begun to menstruate cooks food for her parents and adds salt to it, her father will sicken and die. It is believed that the father faces the same fate if his daughter is pregnant and aborts and he inadvertently eats salt in the food she has prepared.

The major issues being introduced with the *gowelo* system were adulthood, sexual maturity, and anticipated uncleanness. Girls lived separately so that they could use their own utensils and not endanger their fathers. One of the head teachers reported that besides the system's evident discriminatory foundation, the drawback of the *gowelo* system was that girls had extensive freedom. They sometimes went out at night to meet boys. Parents were traditionally not to interfere in the activities of the *gowelo*, though mothers were allowed to inspect the girls occasionally, during the day. The system was disadvantageous to girls who wanted to maintain chastity because they might end up with unplanned pregnancies or HIV/ AIDS.

When boys reached puberty, they were allowed to stay in their parents' house. In some cases a small hut might be built close to the parents' main house if the family decided to do so. Boys continued to be members of the household. They ate what their mothers prepared and slept in the house. If the son was interested in school, he was, in most cases, allowed to continue his education.

The third area of concern in the education of girls in rural Malawi is the lack of female teachers. During my visits to one of the rural schools, I noticed that there were no female teachers at the school. The male teachers were mostly untrained, except the head teacher. The rest were working on their distance education for primary teacher certification, through the Malawi Integrated In-service Teacher Education Program (MIITEP). When I asked the District Education Office representative why there were mostly male teachers in some schools, he stated:

As a District Education Office, we are mandated to employ teachers from our district in order to fill the quota for untrained teachers. In this case there are more male than female secondary school graduates who can qualify for untrained teaching positions.

The head teacher of the school commented that due to lack of female role models, the ambition of most girls in that school community might be to get married to a teacher. Teachers in most cases might be the only professional people in a particular community. Girls could not see beyond the school environment because the community was very isolated. The head teacher further reiterated that girls within rural communities would benefit more if there were female role models in the schools. The Gender Appropriate Curriculum (GAC, 1997, p.34) suggested that it was appropriate for students to have role models who could demonstrate competence, self-esteem, success, respect, and other successful ways of conducting their lives. Boughton (1980, p.14) also stated that "mentors can be supportive teachers or career models, particularly in such non-traditional fields as mathematics or science, where young women need to know their career options". The presence of female teachers in schools might enable girls to be aware of the options that they had in life. As well, parents would send daughters to school knowing there were female guardians.

A finding at one school revealed the case of a girl who was in Standard 7 (the equivalent of Grade 7). The girl loved school, but was the only female in the class of 22 pupils. In addition, there was no female teacher at the school. She became disappointed and left school for almost two months. While she was still at home, the girls' intervention program, *Sara Communication Initiative* (SCI) was introduced to the school community prior to my visit. Her friends told the girl about the intervention program and she decided to go back to school. When I asked her what had happened, she stated:

I decided to leave school because continuing my education could not help me because I was the only girl in my class and we had no female teacher in the school. Even if I worked hard with the hope of being selected to attend secondary school, I could not go because my parents do not have the money for school fees.

I encouraged her to stay in school because school enlightens us to some extent, even though we might not go as far as some people. I encouraged her to stay in school and achieve what she was able to.

On the issue of role modelling, if there were more female teachers in rural schools, most girls might not be influenced by some of the negative cultural beliefs and practices. Some of the cultural beliefs that one teacher shared were, for example, that girls were encouraged to marry early, because if they could not reproduce before the age of 20 years, they would not be able to reproduce at a later stage in life. Coupled with the issue of reproducing early, some parents preferred to give their daughters in marriage in exchange for the bride price.

The fourth problem that students in most rural schools in Malawi experience is poverty. In most households, when mothers were pressured to provide for their families, it was the girls who assisted. In most female-headed households in rural areas, daughters were expected to deputise for their mothers and to provide for some of the needs of the family. At one of the rural schools that was situated close to the Lake, I was told that parents sent their daughters to the lake to exchange firewood for fresh fish. Parents sent girl children to buy fish at sunset, because fishermen began selling fish at night. The head teacher further explained that for most girls, the frequent trips to the lake resulted in unwanted pregnancies and early marriages with the fishermen.

On the same issue of poverty, most head teachers indicated that girls would in some cases leave school because they did not have decent clothes to wear to school. Especially when girls reached adolescence, they were very self-conscious to be presentable. In addition, adolescent girls might not have proper sanitary materials that would ensure their comfort at school.

The interviewees in most schools also reiterated that the issue of poverty was evident when it was time for primary school leavers to go to secondary school. Usually, parents would not have the money to send their children to school. Money for school fees or other necessities like toiletries and transport could not be available. In the case of one school that I visited, the students could still not benefit from the community day secondary school across the river. Although it might have been cheaper to attend a day school compared to boarding, they had no access to the school because there was no bridge connecting that community to the other side. When the river was swollen during the rainy season, no one could cross. Another alternative would have been for the parents to make arrangements for their children to stay with relatives on the other side of the river. Unfortunately, although 24 out of 25 students had passed the Standard Eight Primary School Leaving Examinations, they could not go because they had no relatives who could keep them.

Finally, long distances discourage parents from sending their daughters to school. In order to encourage more girls to go to school, the Malawi government in collaboration with donor agencies and Non-Governmental Organisations (NGOs), established community junior primary

schools (Standards 1 to 4) that were located close to feeder villages. While that investment encouraged girls to attend school, there was still a problem for girls who wanted to proceed to higher levels of primary because they had to walk long distances to school. One head teacher of a junior primary school stated “parents do not send their daughters to school because they fear that the girls might be enticed by boys and men on the way”. The teacher further commented that, although the girls might resist male advances for some time, parents feared that their daughters might give in to the pressure at some point, ending their schooling experience.

A research study by Wynd (1999) echoed the concerns of rural parents regarding their daughters’ safety. Parents wanted to be sure their daughters were safe from abductions and sexual harassment. In addition, although the parents were supportive of girls’ education, they also expected daughters to help their mothers carry out the never-ending household chores. Mothers also wanted to ensure the chastity of their daughters so that they could marry properly. Girls who got pregnant out of wedlock were a burden to the already impoverished rural households. It was the hope of parents and teachers, that some day, community junior primary schools in rural Malawi, would be upgraded to full primary school status so that girls could complete their primary education safely.

SOLUTIONS TO PROBLEMS RURAL COMMUNITIES IN MALAWI

In order to address the issues of gender inequality at home, school, and the communities at large, the Malawi Government in collaboration with the NGOs came up with programs that were intended to intervene the existing practices and challenges of the education system. Hemenway (1996, p.3) stated that “international aid policymaking bodies such as UNESCO and UNICEF have adopted policies in their development strategies promoting increased basic education for girls and increased attention to women’s education”. The proposed approaches for the girl child initiatives being carried out in Malawi are based on the Global Platform for Action and the Beijing declaration, which stated:

Education is a human right and an essential tool for achieving the goals of equality, development, and peace. Non-discriminatory education benefits both girls and boys and this ultimately contributes to more equal relationships between women and men. Equality of access to and attainment of educational qualifications is necessary if more women are to become agents of change. (Malawi Gender Policy, 2001, p.1)

Among the interventions that the government has put in place are: (a) Free Primary Education (FPE); (b) Girls Attainment in basic Literacy Education (GABLE) program; (c) encouraging girls who left school due to pregnancy to go back; (d) encouraging girls and women to pursue science and technology courses; (e) revising school curricula to make it more gender responsive; (f) incorporating gender discussions during workshops, seminars, and training courses for educators; and (g) bringing to the spotlight careers of exemplary Malawian women (Malawi Gender Policy, 2001, p. 1).

Though the efforts outlined above have been workable in some schools, there is need for more incentives in rural areas. In order to ensure appreciation of role models, the schools need to have female teachers with whom girls can interact. Though there may be female employees from other government departments working close to the schools, such as agriculture, health, and forestry, they may not have the impact on female pupils that teachers can. Robb (1998, p.2) observed that, “due to the unique conditions in Malawi, there needed to be less reliance on media and more reliance on social interaction”. The number of female teachers in the rural areas needed to be equated with adequate representation of female supervisors at the rural District Education Offices, which I found insufficient in the two district education offices that I visited.

One alternative for the rural schools is to provide good facilities for teaching and learning. In most communities, schools were considered centres of village activities. In order to attract parents and children, the schools need to be appealing by providing good and adequate infrastructure, furniture, textbooks, notebooks, writing materials, and qualified teachers. Highly qualified teachers were not easy to recruit for rural areas because they knew their contributions might be undervalued. They went where work conditions were better, given the choice. In order to attract teachers, government should ensure availability of decent teachers' houses, good roads that led to the main highways, and medical facilities, markets, and other social services were available. It was disturbing to see the isolation that some of the teachers experienced. Untrained teachers often tried their best to transfer from the remote areas as soon as they completed their formal training.

Another incentive that may be beneficial to enhancing the education of females in rural areas is providing economic assistance to needy families through scholarships for girls who need to go to school away from home. Organisations that have been mandated with the improvement of education need to increase the participation of parents, students, and communities in school governance and decision-making at local levels. They must also enhance adult education to meet the needs of rural and older students can also benefit rural communities. According to the United States Agency for International Development (USAID) Report in Brief (1998, p.2), in order to encourage girls to enrol in school and to stay up to completion, there is need for a partnership between the Government, the private sector, and the community. In Malawi, the traditional structures are already in place and initiators of change can easily partner with rural communities who have already an agenda for development. An important issue here is that women need to be at the forefront of the program and projects that are taken into the rural areas so that they can impact other women and girls. As well, the issues of development are in their interest.

CONCLUSIONS

Although the Malawi Government, donor agencies, and NGOs have the resources to bring gender issues into the public arena, the success of the implementation of the plans depend on the willingness of the pupils, parents, teachers, and communities at large to change their attitudes. At the local level, parents need to be more supportive of innovations if there is adequate economic investment. Financial aid in the form of employment or subsidies for farming materials can relieve parents of their basic needs, therefore releasing girls to go to school. Girls must not be encouraged to marry at a very young age. As well, the assurance that their daughters are likely to be safe and that their education may be beneficial can encourage parents to be positive about girls' education.

A crucial aspect of rural education advancement is the monitoring and supervision of the intervention programs that are put in place. In Malawi's primary education system, there are zone supervisors who are each responsible for a number of schools. The supervisors have motorcycles for their transportation. One of the drawbacks is that usually, supervisors do not have adequate funding for fuel. This situation limits their movements, thus constraining their efficiency. During my school visits in Malawi, I became convinced that there is need to visit teachers in rural areas more often in order to boost their morale. If they are not supervised often, they become despondent, and therefore, tend to perform poorly.

In Malawi, most people acknowledge that education leads to a better life. Though there have been constraints in the education of girls, especially in the rural areas due to socio-economic and cultural challenges, some parents are responding positively to the sensitisation programs that are in place. In order to ensure the positive influence of most of the programs, educators, policymakers, traditional leaders, NGOs, and donor agencies must continue to discuss ways of addressing the socio-economic and cultural obstacles that are hindering progress. Collaborative approaches are likely to ensure advancement in the education of girls.

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Faculty perspectives regarding graduate international students' isolation from host national students

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Many international students are isolated from their host national peers and suffer loneliness and depression as a result. This study examined faculty explanations for international graduate students' isolation because faculty are in a unique position to observe and interact with both international and host national students as they spend time learning and working together within their academic department. Faculty believed that international students' strong ties with co-nationals, their weak English language skills, and their lack of time to invest in friendships all played a role in their isolation. They also identified host national students' friendship preferences and structural barriers as contributing factors. Faculty observations generally supported previous findings, however, one important difference is discussed in light of differing cultural norms regarding friendships.

International students, cross-cultural relations, faculty, graduate students, host national students

INTRODUCTION

International students often face significant challenges when studying abroad, including adjusting to a different culture and educational system, financial and academic stress, and communicating in a second language. Establishing social relationships, particularly with students from the host culture, is also among international students' major concerns (Chen, 1999; Furnham, 1988; Heikinheimo and Shute, 1986; Kaczmarek, Matlock, Merta, Ames, and Ross, 1994). According to Lulat and Altbach (1985), "Next to academic success, positive contact with natives of the host country ranks at the very top of international student needs" (p. 460).

The Importance of Contact with Host Nationals

A number of studies have considered how international students' relationships with host nationals affect their experience abroad. Academically, students paired with host national students in an eight-month peer support program in Australia had higher grades and higher retention rates than those who were not involved in the program (Westwood and Barker, 1990). Perrucci and Hu (1995) found a relationship between contact with host national students in the United States and satisfaction with one's academic program and academic appointment. Historically, establishing relationships with local people has also been positively related to international students' overall satisfaction with their nonacademic experiences abroad (Klineberg and Hull, 1979; Lulat and Altbach, 1985; Sewell and Davidson, 1961).

Conversely, limited social contact with host nationals is tied to feelings of loneliness, depression, and stress (Chen, 1999; Hull, 1978; Schram and Lauver, 1988). It is also negatively related to students' perceptions of their cultural and academic adjustment (Heikinheimo and Shute, 1986; Zimmerman, 1995).

International Students' Isolation

International students' ability to develop relationships with host nationals has significant consequences, influencing their overall level of psychological and emotional functioning, their academic performance, and their level of satisfaction with studying abroad. Nevertheless, many international students were isolated from host national peers (Arthur, 1997; Mestenhauser, 1998). For example, Trice (2004) found that 50 percent of the graduate international students at an American research university socialised with host nationals once a month or less. The purpose of this study is to understand better the causes for this isolation. In this case, the population of interest is students pursuing graduate degrees at a research university in the United States.

Causes of the Isolation

Previous studies have identified a number of factors that contribute to international and host national students' isolation from one another. Several researchers have examined international students' commitment to and level of interest in establishing friendships with host nationals (Alreshoud and Koeske, 1997; Bochner, McLeod, and Lin, 1977; Furnham and Alibhai, 1985; Heikenheimo and Shute, 1986; Yang, Teraoka, Eichenfield, and Audus, 1994). Researchers have also explored the barriers that international students may face when they attempt to befriend host nationals (Heikenheimo and Shute, 1986; Lulat and Altbach, 1985; Penn and Durham, 1978; Sodowsky and Plake, 1992; Trice, 2002; Yang et. al., 1994;).

Considering first international students' commitment to establishing friendships with host nationals, studies have shown that some choose not to build relationships with domestic students because they lack the time to do so. Academic work takes priority, leaving little time for anything else. In a study of Japanese, Taiwanese, and Chinese undergraduate and graduate students enrolled at an American university, Yang et. al., (1994) found that this was the third most common reason students gave for not having meaningful relationships with host nationals. The first two reasons were no opportunities to establish these relationships and cultural differences. Heikenheimo and Shute's (1986) interviews with 46 Southeast Asian and African undergraduate and graduate students enrolled at a Canadian university also showed that academic demands were a barrier to interaction with host nationals.

Considering international students' level of interest in befriending host nationals, Furnham and Alibhai (1985) studied the friendship networks of 140 international students from around the world who were studying at a British university. They found that these students strongly preferred co-nationals as their first choice for friends when they needed help with a personal problem or when they wanted to go shopping, to a movie, or to a party. They preferred host nationals only for more utilitarian functions such as help with an academic or language problem. The results matched those from an earlier study of Asian international students studying at an American university (Bochner, McLeod, and Lin, 1977). Using a different approach, Alreshoud and Koeske (1997) studied Saudi Arabians attending an American university and found that most students described themselves as only "a little" to "somewhat desirous" of engaging in activities with Americans.

Findings from these last three studies suggest that many international students have little interest in establishing friendships with host nationals. Alreshoud and Koeske (1997, p.243) assumed that the Saudi Arabian students' attitudes were due to "vast cultural differences" between the two cultures. However, none of the researchers pursued students' reasons for these preferences. The following studies took a different approach by broadly exploring the barriers international students cited as inhibiting intercultural relationships.

Heikenheimo and Shute (1986) found that differences in male-female relationships, enjoyment of different recreational pursuits, and different values inhibited intercultural relationships between Southeast Asian and African international students and host Canadian students. In the study by

Yang et. al, (1994) Japanese, Taiwanese, and Chinese students perceived that cultural differences, including values and beliefs, were significant barriers to meaningful relationships with Americans. It is important to note, however, that while some students in these two studies avoided relationships with host nationals due to cultural differences, others viewed differences simply as a barrier that must be overcome to establish cross-cultural friendships.

Several studies have also found that international students who faced racial discrimination, who were culturally dissimilar to the host culture, or who had difficulty communicating in English are more likely to experience social isolation or poor social adjustment (Heikenheimo and Shute, 1986; Lulat and Altbach, 1985; Penn and Durham, 1978; Sodowsky and Plake, 1992; Trice, 2004). In addition, the Southeast Asian and African students in Heikenheimo and Shute's study (1986) perceived that Canadian students' ignorance about their home countries and cultures hampered relationships – the Canadian students did not understand these international students' backgrounds, traditions, or values. African students in the study also felt that Canadians were cold and avoided closeness, which made it difficult to establish friendships with them.

Finally, Trice (2002) found that graduate international students in the United States who had experienced problems establishing relationships with American students offered several reasons for their isolation, each of which attributed responsibility to Americans. They included American students' lack of interest in befriending them, their ethnocentrism and discrimination against international students, and their impatience with foreign accents. In addition, students described American students' tendency to want shallow relationships rather than so-called 'real friendships'.

These studies indicated that international and host national students were often fairly isolated from each other. However, while some studies suggested that this was strictly the international student's choice, other studies indicated that host nationals played an important, if not primary role in fostering the isolation. The latter set of studies cited in this literature review suggested that, as members of the host culture, domestic students had the power to decide whether they would befriend students who were weaker in the sense that they often struggled to understand the language and cultural norms, and might also look different from host students (Bourdieu, 1977; Tierney and Jun, 2001).

Because international students' isolation is a significant issue that influences their overall experience abroad, it warrants further investigation. By better understanding the causes, faculty and student affairs professionals can develop more appropriate interventions to increase international students' social interactions with host nationals.

PURPOSES OF THE STUDY

This study seeks to increase understanding of the complex reasons why many international students are isolated from their host national peers. The focus, in particular, is on international students studying at the graduate level. Using a different approach than those used in previous studies, this study relies on data gained from interviews with faculty members. This population is in a unique position to observe and interact with both international and host national students as they spend hundreds or even thousands of hours learning and working together within their academic department. Faculty members spend time with students in classrooms, in laboratories, and in student and faculty offices. From their vantage point, they may be able to provide insight into the extent to which both host national and international graduate students' attitudes and behaviors contribute to international students' isolation.

The research questions guiding this study were:

- (1) To what extent do faculty members perceive that international and host national graduate students are academically and socially integrated within their department?

- (2) If faculty members perceive that members of the two populations are often isolated from each other, what do they believe causes this isolation?
- (3) Do their explanations for students' isolation match the findings of previous research on this subject?
- (4) Do foreign-born and native-born faculty members offer different explanations for international and host national students' isolation from each other?

METHODS OF RESEARCH

Participants

In order to answer these questions, the researcher interviewed faculty members from four academic departments within three professional schools at a top research university in the United States. The four units included a mechanical engineering department, a materials science and engineering department, an architecture department, and a public health department. They were selected for their relatively high graduate international student enrolment, (each enrolled between 18 and 59 percent international students at the graduate level) and their similar organisational structures.

Within each department, the chair was interviewed first, followed by five or six faculty members. Most chairs recommended two or three specific faculty members for interviews who served on key departmental committees or who were especially interested in international student issues. The researcher attempted to interview both foreign-born and American-born faculty, those with and without tenure, males and females, and those who had not been directly identified by the chair as having a special interest in international student issues. Therefore, two or three additional faculty members from the unit were purposely selected based solely on their ability to fulfil these criteria. In all, 27 faculty members were interviewed, including 12 foreign-born faculty and 15 American-born faculty, 23 tenured and 4 non-tenured faculty, 23 men and 4 women.

Seven of the 12 foreign-born faculty members had lived in the United States at least 16 years, four had lived in the country for at least eight years, and one had lived in the United States for only four years. Five were born in Western Europe, one in Eastern Europe, two in Asia, two in Africa, one in the Middle East, and one in the Caribbean.

The study's focus was limited to faculty members' work with graduate students because a majority of international students at four-year institutions in the United States study at the graduate level (Davis, 2003). In addition, faculty members generally spent far more time with these students than with undergraduates as they worked with them on research projects and taught them in small seminar classes. The majority of the international students enrolled in the four departments came from Asian countries – specifically China, India, Korea, Taiwan, and Thailand.

Instrument

A review of related literature, conversations with administrators from the University's graduate school and English Language Center, as well as discussions with several international students, shaped the semi-structured interview protocol. The initial draft was pilot tested with an administrator and a faculty member who provided feedback regarding clarity and format. Revisions were then made before the interviews began.

The final interview protocol asked faculty members to describe ways in which international students had influenced their department's culture and specifically to describe international students' level of integration with their American peers. When applicable, faculty members were asked how they explained the segregation between international and domestic students that they had observed. The interview protocol also included questions regarding whether international students' presence had altered the way faculty taught, advised, or supervised their students or

altered departmental policies regarding enrolment, student financial support, and admissions criteria. Trice (2003) and Trice (2005) have detailed the findings related to these topics.

Procedure

All but three participants gave permission to record the interview and these tapes were subsequently transcribed. Notes taken during and immediately after the interviews provided the data for the other three participants.

Initial data analysis involved studying the interview transcripts to look for prominent themes. These were coded by hand and then a list of the codes was created. Due to the exploratory nature of this study, the researcher was hesitant to begin the analysis by using pre-determined codes and matrices, so this more structured approach became the second stage of the analysis (Miles and Huberman, 1984). By analysing the coded and organised data, relationships became evident (Creswell, 1994; Eisenhardt, 1989; Lincoln and Guba, 1985). Once a draft that described and analysed the data was completed, a person from each of the four units reviewed the findings and provided feedback regarding the accuracy of the descriptions. In each case, no significant errors were found.

RESULTS

The majority of faculty interviewed believed that the domestic and international students in their departments were poorly integrated. Few communicated with each other outside of class, even though many shared office and research space as graduate assistants. Domestic and international students did not study together and they did not spend time together socially.

Strong Bonds with Culturally Similar Students

Foreign- and American-born faculty members articulated the same causes for the isolation. The first theme clearly placed responsibility with international students – they simply preferred to befriend those who were culturally similar to themselves. For example, an American-born faculty member from Materials Science and Engineering explained:

Korean students, don't take this the wrong way, but they have their own Mafia. They have their own community structure in place...They have childcare, they have medical care, they have their own travel agency. It's a set infrastructure for the Korean students. We have our own ghettos, if you will, within the department.

The following comment from a foreign-born faculty member in Mechanical Engineering also reflects this view:

Some ethnic groups tend to stick to each other way too much, even for their own good. Typically Chinese and Koreans tend to be like that. If you come from China, it's really great to have somebody that understands you, as being there to help you, walk you through the first steps and so on. But then if you only talk to Chinese students and their families and so on, and you never speak English, you never improve, you don't get as much out of the culture here, so you miss a lot.

Weak English Language Skills

As indicated in this last quote, faculty also perceived that many international students' weak English language skills contributed to their isolation from host national students. They observed many who preferred to speak their native tongue, even when working and studying in the department, largely because their relationships were with co-nationals. As an American-born faculty member from Mechanical Engineering described the situation,

We have a big office with research assistants.... When you go in there, the two Chinese guys will be sitting there talking in Chinese and the two Korean guys will be sitting there talking in Korean.

A foreign-born faculty member from Materials Science and Engineering also acknowledged that speaking one's native tongue can form an imposing barrier to intercultural relationships. "I tell them frequently, '...International students, don't speak your language in the lab or in class'".

Few Opportunities to Work Alongside Host Nationals

Two other themes shifted the focus from international students to structural barriers that hampered cross-cultural relationships: research group homogeneity and a lack of time to commit to social relationships. First, culturally homogeneous research groups often served as a significant barrier because the graduate students spent much of their time working in a laboratory. Because members of the research group were all of the same nationality, they missed the opportunity to interact regularly with students from other countries. According to respondents, this homogeneity was generally not intentional on the part of the faculty, but was the result of both student choice and foreign-born faculty members' connections with sending institutions in their home country. As a faculty member from Mechanical Engineering observed,

I'm from India. It just so happens that a majority of my students are Indians. I don't know why. My [American] colleague next door has all American students. And this kind of thing I have seen. Looking at a Chinese professor, you'd see a lot of Chinese students. It's not intentional. At least in my case I know.... I don't know if it is that the Indian students who come from outside just generally feel more comfortable going to an Indian faculty member, or does the American student feel a little less comfortable approaching me?

Lack of Time

A fourth theme that faculty spoke about focused on international students' lack of time to pursue relationships with host nationals. Graduate students faced significant time constraints as they immersed themselves in their studies. As two people explained,

I think social relationships and getting to know something about the culture itself are mostly missed by a lot of international students where they are focusing on the books themselves and they go from housing to school, from school to housing. (Foreign-born faculty member from Architecture)

There's generally less socialising amongst graduate students than there used to be. I think that the pressure is great to produce quicker for the faculty, for contracts and so forth. (American-born faculty member from Materials Science and Engineering)

Host National Students' Preferences

A final theme that faculty discussed during the interviews suggested that international students were not the only ones who felt more comfortable interacting with culturally similar peers – many host national students felt the same way. A foreign-born faculty member from Materials Science and Engineering explained, "I tell them frequently, 'Domestic students, you reach out to internationals'". An American-born faculty member from Public Health observed,

I think that the American students tend to be the leaders in terms of student organisations and there are a number of them in the department. The foreign students aren't very active to my knowledge in that. And that's one of the approaches where they kind of integrate. So I think that there's a tendency for many of the foreign students not to...well I don't really know. I guess many of the American students may hang out more with other American students.

In order to summarise these findings, faculty members interviewed for this study believed that the international and domestic students in their departments were generally quite segregated. They attributed this to international students' preference for spending time with co-national peers, their limited ability to communicate in English, too few opportunities to interact with host national students, and their commitment to their studies, which often precluded time for intercultural friendships. In addition, they observed that many American students preferred to spend time with students who were culturally similar to them.

DISCUSSION

Faculty observations are consistent with previous studies which have suggested that international students often prefer to befriend culturally similar peers and at least some have little interest in pursuing relationships with host nationals (Alreshoud and Koeske, 1997; Bochner, McLeod, and Lin, 1977; Furnham and Alibhai, 1985). It is important to remember, however, that the interviewed faculty worked in departments with relatively high graduate international student enrolments (between 18% and 59%) and that the majority of the students came from only five Asian countries. Therefore, the students may have had less motivation than those in departments with lower and more diverse international enrolments to pursue friendships with host national students.

Faculty observations are also consistent with studies that have identified international students' lack of time and difficulty communicating in a second language as barriers to integration with host nationals (Heikenheimo and Shute, 1986; Penn and Durham, 1978; Yang et al., 1994). Results from this study went on to highlight the role that structural barriers such as research group homogeneity played in supporting isolation. This specific finding had not been highlighted in previous research but is important because, while structural barriers can be powerful forces for isolation, they are also among the easiest to remove.

The faculty perspectives described in this study provide, however, only limited support for previous studies which found that many international students desire and actually attempted to establish relationships with host nationals, but found that the host nationals were not interested (Heikenheimo and Shute, 1986; Klineberg and Hull, 1979; Trice, 2002). In some faculty members' eyes, American students generally had not made an effort to reach out to their international peers and so were in a way responsible for the isolation. Nevertheless, those interviewed did not describe American students' aloofness or blatant acts of discrimination that international students had described in previous studies. Perhaps faculty had witnessed these behaviors but did not feel comfortable sharing them with the interviewer. Additionally, the hurt that international students described when they were unable to establish satisfactory friendships with host nationals might partially be explained by cultural differences.

Australia, Canada, Great Britain, and the United States are four of the leading host countries in the world (UNESCO, 2005). They are also among the most individualistic of all cultures (Hofstede, 2001). In practice, this means that societal members value independence, privacy, self-reliance, respect for personal boundaries, and individual responsibility (Kartalova, 1996). "Ties between individuals are loose" (Hofstede, 2001, p. 225) and individuals from these countries tend to have numerous personal relationships, which may last for only a few years and may remain fairly shallow (Stewart cited in Wierzbicka, 1997).

In previous studies about international students' isolation (Heikenheimo and Shute, 1986; Trice, 2002), students spoke of their unmet desire for "real friendships" and close relationships that went beyond the casual level. These comments may reflect assumptions about the nature of friendships based on many international students' cultural norms. Researchers have long documented that the notions of 'friend' and 'friendship' are culturally specific and do not represent a human universal (Gareis, 1999; Hofstede, 2001; Kartalova, 1996; Wierzbicka, 1997).

Students from Asian countries represented the majority of those enrolled in the four departments included in this study and a large proportion of international students globally. Most were from highly collectivist cultures and had been brought up to have a high need for social contact. They were therefore dissatisfied when they were unable to establish this because it was very important for them to harmonise with other members of society. In Japan, for example, “being a ‘good’ person requires maintaining interdependence and fostering empathic connections with others” (Markus, Mullally, and Kitayama, 1997, p.16).

However, in many individualistic countries, one has to work to establish friendships, because they do not come naturally with one’s position in the community. For this reason, societal members develop skills, such as small talk and smiling, which help them form friendships (Gareis, 1999). According to Hofstede (2001), this is not the case in collectivistic cultures. “People have less need to make special friendships. One’s friends are predetermined by the social relationships into which one is born” (p.225). Consequently, they do not acquire as many skills in initiating friendships and are unsure how to pursue friendships with host nationals.

These cultural differences may help to explain why many faculty members believed that international students preferred to establish friendships with co-nationals, while at the same time previous research found that many international students reported that they had tried to befriend host national students, but were met with seeming disinterest (Heikenheimo and Shute, 1986; Trice, 2002). Compared to collectivist cultures, Americans and others from individualistic cultures may appear aloof and cold. Certainly, not all international students desired deep relationships with host nationals because of distinct cultural differences, and certainly outright discrimination existed at times against international students. However, differing cultural expectations regarding friendships may also play a significant role in explaining international students’ isolation from host nationals.

Based on this understanding of cultural differences, it is somewhat surprising that foreign- and American-born faculty expressed similar perspectives about international students’ isolation. Many of the foreign-born faculty members were from collectivist cultures. One explanation is that, regardless of their nationality, faculty seemed to respond to the interview questions based on what they observed, rather than the underlying causes. They saw international students chose to speak their native language in laboratories and offices, they watched them immerse themselves in their studies, and they saw them establish friendships with co-nationals. They did not observe them reaching out to host nationals or indicating in other overt ways that they wished to befriend their American peers.

In addition, perhaps the foreign-born faculty, all but one of whom had lived in the United States for at least eight years, understood friendship norms in a highly individualistic culture and recognised how important it was to take the initiative in establishing relationships with host nationals. They also knew the value, within cross-cultural relationships, of achieving a certain level of English language competency. Yet they had not seen students work at these things and maybe for this reason they did not believe international students were taking responsibility for their social lives. This is an interesting topic for further research.

RECOMMENDATIONS AND CONCLUSIONS

Several faculty members interviewed for this study offered suggestions for addressing the structural barriers to integration that they had observed. First, departments should deliberately increase research group diversity so that the laboratories where graduate students spend so much time do not consist of just one nationality. Including group projects in courses and assigning individuals to the groups, thereby allowing students to get to know one another as they learn together, would also be wise. Finally, providing study rooms, or other facilities where students could informally spend time together outside of class, could make a positive difference. In addition to diminishing structural barriers, helping all students understand how cultural norms

influenced friendship expectations was another important goal for which student affairs professionals would likely take responsibility.

International students' isolation is a complex issue that is not easily solved. It is true that intercultural relationships often take extra effort, but, from a developmental perspective, both host national and international students suffer when isolation exists. Opportunities to learn from each other and to broaden one's understanding of different cultural perspectives are severely curtailed. There are significant differences in the nature of friendships across cultures, but these differences need not be inhibitors to developing friendships. Research findings widely agree that "similarity of cultural background is not a necessary prerequisite for friendship" (Gudykunst, 1985, p.281). In fact, once a friendship has been established, attitudinal similarity becomes a much more important variable (Gareis, 1999).

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Parental participation in pupils' homework in Kenya: In search of an inclusive policy

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Homework is assigned on the assumption that parents or other elder members have the capacity to assist the pupils and that home environment is conducive for the pupil to do homework. A cross-sectional survey using structured and semi-structured interviews was conducted among pupils and parents in Kengeleni division in Mombasa district to explore socio-cultural and economic factors that influence parental participation in pupils' homework and, consequently, propose recommendations for homework policy formulation. The results show that although parental willingness to be involved in pupils' homework is high, this involvement is hampered by many socio-economic factors, including illiteracy and low income. On many occasions, homework is not only incomplete, but also not done, and the pupils are consequently punished for this. In the absence of clear, written policy on homework, there is a poor fit of inclusion of homework as the unwritten part of the curriculum.

Homework policy, parental participation, Kenya

INTRODUCTION

The relationship between homework, parental involvement and student achievement has become an important area of inquiry in educational research. Although homework is highly supported as useful (Cooper 1989; Ferhman, et al 1978; Leone and Richards 1989; Reynolds 1991), there are mixed research findings about consistent linkages between homework and student achievement (Chen & Stevenson 1989). While a number of research findings have reported a positive relationship between parental involvement in student homework and student achievement (Delgado-Gaitan 1992; Grolnick & Slowiaczek 1994; Xu & Corno 1998), some research findings have questioned the value of parental involvement in homework (Casanova 1996; Cooper 1989; Levin et al. 1997).

According to Hoover-Dempsey (2004), homework fostered the school-home learning feedback process by allowing parents and other adults to know what the child was learning as well as giving teachers an opportunity to hear from parents about their children's learning. In this regard, educationists, teachers and parents generally agreed that homework developed students' initiative and cultivated parental responsibility. Often, parents became involved in pupils' homework because they expect their pupils to perform better in class work and in examinations (Clark 1993; Levin et al 1997).

Most school practice in well developed countries suggested that elementary and secondary students were asked to do homework, and parents were often asked to become involved in supporting students' homework performance (Cooper 1989; Roderique et al 1994). These, however, were countries and schools with clear homework policies, unlike in many African countries, Kenya included.

The declaration of free primary education in Kenya in January 2003 has shown a huge increase in enrolment figures. The high enrolment rates posed challenges to appropriate pedagogy especially where the pupil teacher ratio was as high as 100:1¹. Equally important was the multiplier effects of coping strategies that were employed to deal with the large classes, such as multi-shifts and multi-grade in the context of a lack of adequate teaching and learning resources. But even when homework was completed, the high pupil-teacher ratio negatively affected effective feedback from the teachers. This called for parental involvement in pupils' homework to supplement the teachers' efforts.

A written school homework policy had several advantages: schools with homework policies tended to set guidelines for teachers to correct, grade, and return homework systematically to their students, thus reinforcing learning. It is worth noting that schools with homework policies generally provide specific guidelines regarding what is expected from parents. Moreover, schools with homework policies tend to design carefully and provide homework assignments appropriate to each grade level. These advantages build on the premise that a lack of written policy on school homework assumes a lot about the factors at work or factors that may influence parental participation in homework. Lack of an established homework policy may place either insufficient or unrealistic demands on the child and the students may not be expected to work to capacity. Conversely, the students may receive too many assignments from different teachers on the same evening that may consequently negatively affect their capacity to learn effectively.

As a supplementary learning strategy beyond the normal school hours, homework is highly favoured. This is necessary with a wide syllabus that calls for extra time beyond the regular learning schedules. However, the workload is often too demanding for the pupils, especially when they have to carry class assignments home against competing family chores and prevailing circumstances in terms of physical facilities and conducive learning environment. In the context of no written policy on homework, teachers often assign homework to the pupils that in most cases is determined by the available textbooks, often regardless of the curriculum and whether pupils are able to get parental guidance, or even whether the pupils are able to tackle the assignment on their own. Pupils are often punished when they do not complete the assignments, with negative implications that may even result in school drop out or push out. Schools should establish homework policies and clearly communicate them to parents and families through written statements or other appropriate media.

Homework policy based on home-school agreements is more likely to promote homework completion and a renewed interest in pupils' learning process. Significantly, homework policy needs to be formulated within the context of gender considerations. This is in recognition of the fact that homework completion is more likely to be higher among the boys than the girls – the latter being engrossed in family chores much more than the former. This is likely to influence equal gender participation in classwork and achievement. Hence comprehensive homework policy needs to not only be sensitive to socio-economic and cultural backgrounds, but importantly, to culture-specific gender roles and expectations by giving special attention to the girl-child.

The salient issue therefore is to provide a background for school homework policy consideration, given that in the Kenyan context, parental participation in homework has been affected by the

¹ Kenya School Improvement Project Baseline Survey, 2004

lack of a clear written policy on homework. Homework in this study is conveniently defined as out-of-class tasks assigned to pupils as an extension or elaboration of classroom work. Three types of homework can, thus, be identified: practice, preparation and extension. Practice assignments reinforce newly acquired skills, for example, students who have just learned a new method of solving a mathematical problem may be given sample mathematical exercises to complete on their own. Preparation assignments help students get ready for activities that will occur in the classroom, for example, doing background research on a topic to be discussed later in class. Extension assignments are frequently long-term continuing projects that parallel class work. Pupils must apply previous learning to complete these assignments, which may include science projects and papers.

RESEARCH DESIGN

This study was conducted in Kengeleni division of Mombasa district, a peri-urban setting of people with mixed religious backgrounds (Christianity and Islam) and socio-economic characteristics (business, salaried, unemployed). Hence, while some schools had moderately well developed infrastructure, others were poorly served, and the pupils needed to share the limited learning materials such as reference books.

This study was a cross-sectional survey, in which data were collected using structured and semi-structured questionnaire interviews. A total of 117 randomly selected parents were interviewed. These were the parents' representatives of pre-school, Class 1, Class 2 and Class 3. We focused on the lower classes because it is in these grades where parental guidance in homework was critically sought. The second method of data collection was through the application of the *Learning Styles Inventory*² (Kolb 1984), in which we specifically focused on the children's perception of their study time and sound preferences. Data were analysed using Epi Info.

RESULTS

The mean age for the parents was 34 years, with the most recurring age of 30 years (mode) and hence the majority of the parents appeared to be youthful and could be said to be generally a socio-active group. Many parents were married and this accounted for 87 per cent (100 parents). The rest were 7 per cent (8) divorced, 3.5 per cent (4) single, 1.7 per cent (2) widow or widower and 0.9 per cent (1) separated. The mean number of children for these families was 2 male children (maximum 6), 2 female (maximum 7) children and mean total of 4 children (maximum 13) for a parent. It is therefore apparent that these families were large and a parent might be required to support more than one child with homework.

The majority of the parents had low levels of formal schooling. A significant 90 per cent (104) of them had undergone formal education while the remaining 10.3 per cent (12) indicated informal education. Although 'had formal education' ranked high, the levels attained indicated that majority of them, 56 per cent, had attained the primary level of education, followed by 35 per cent attaining secondary education, seven per cent were below primary education, one per cent were post secondary education and one per cent had received adult education. The remaining who had pursued informal education were 75 per cent (9), Madrassa Education, 8 per cent (1) Arabic, and 17 per cent 'Others'. From the survey, most of the respondents, 46 per cent (53) were business persons or self employed, 27 per cent (31) were unemployed, 15 per cent (17) were classed in the other employment category and 13 per cent (15) were salaried.

² Adapted from Dunn and Dunn teaching and learning styles inventories. It is a Likert scale that probed Pupils' Mobility, Posture, Verbal, Sound, Manipulative, Group and Study time preferences.

All the sources of income pooled together as total yearly income showed that a significant number of the parents (26% (28) of parents) earned an income of between Kshs. 2001- 4000 in a year. Only five (4.7%) parents fell in the bracket of Kshs.16000 and above in a year. Despite this low amount of income received by the parents, many of them lived in rented houses and hence paid rent every month. Sixty-nine per cent (80) lived in rented housing, 22 per cent (25) owned the houses they lived in, and 10 per cent (11) were given accommodation by relatives. Of these, 51 per cent (59) were in permanent housing (probably the rented ones), 40 per cent (46) were in semi-permanent housing and the rest, 10 per cent (11), lived in temporary housing. The type of accommodation dictated the home study environment, for example, in terms of lighting for study and noise levels for concentration.

Almost all parents indicated that they assisted their children with homework. This was indicated by 97 per cent (108) who said 'yes' and three per cent (4) who did not. Active homework help was primarily a "mother's responsibility" as exemplified by children being assisted with their homework by mothers, 58 per cent (59), 29 per cent (30) by fathers, 9 per cent (9) by other people and 4 per cent (4) by siblings. However, the interpretation of what they meant by assisting the children with their homework might vary. Those who did not assist gave several reasons including, "they are not given homework by the teachers", "I'm illiterate and those who are educated are too busy for that work", and "they go for tuition".

The individual learning styles of the pupils was explored specifically on children's perceptions of their study time and sound preferences. For study time preference, the survey revealed that the majority of them concentrated most when studying just before going to bed (33% Always, 19% Usually, 24% Sometimes, 13% Rarely and 11% Never). In addition, most of them said that the best time for them to concentrate on difficult material was in the evenings (28% Always, 19% Usually, 24% Sometimes, 15% Rarely and 15% Never). The pupil's preference for the time of study was when they were at home in the evenings.

On Sound Preferences, pupils preferred very quiet places (37% Always, 19% Usually, 19% Sometimes, 13% Rarely and 12% Never). This fact was also confirmed when they were asked if radio or music helped them concentrate when doing homework. Many of them said No (19% Always, 13% Usually, 24% Sometimes, 15% Rarely and 29% Never).

DISCUSSION

The theoretical orientation of role construction provided an important framework for exploring and understanding parents' involvement in children's education. Often, the parental-role construction defined the range of activities that parents believe to be important, necessary, and permissible for their own engagement in their children's schooling (Hoover-Dempsey & Sandler 1997). This may be derived from a reflection of parents' expectations and beliefs about their responsibilities with regard to their children's schooling. Often, such roles are derived from personal experience and expectations as well as the perceptions and expectations of others (Biddle 1986).

Role theory is demonstrated in our research findings where almost all parents noted that they participated in their children's homework. This demonstrated the belief that parental involvement in children's schooling was a normal requirement and responsibility of parenting. This had also been reported from other similar studies that focused on identified parents' beliefs about the importance of helping with homework, opinions about homework goals and quantity and effective homework helping strategies (Hoover-Dempsey et al 1995; Okagaki et al 1995; Stevenson et al 1990, Baker & Stevenson, 1986; Baumgartner et al 1993; Dodd 1996; Epstein et al 1993; Hoover-Dempsey et al., 1995; Kay et al 1994).

The findings in this study show that parents' awareness about their children's learning difficulties is an important reason for their continued involvement in their homework. This fact has been demonstrated elsewhere (Anesko et al 1987; Bryan et al 1995; Chen and Stevenson 1989; Kay et al, 1994; Levin et al, 1997). The study also underscores the fact that role construction is motivating in parental involvement in homework. According to Hoover-Dempsey (2001:195), 'parents' involvement activities take many forms - from establishing structures for homework performance to teaching for understanding and developing student learning strategies. Operating largely through reinforcement and instruction, parents' homework involvement appears to influence student success insofar as it supports student attributes related to achievement'.

Parental willingness to help with homework has been associated with their involvement in pupils' homework (Ames 1993; Balli et al 1998; Chen and Stevenson 1989; Cooper et al 1998). When parents indicate unwillingness, it is often due to the fact that they are incapable or lack the information that can help their children (Kay et al 1994). This is consistent with our findings that show that illiteracy is a strong factor for lack of parental involvement in pupil's homework.

Previous studies (Dauber & Epstein 1993, Eccles & Harold 1993) have demonstrated that often parents would want to be involved in their children's homework because the children are still young and need concerted guidance. Other than giving homework to pupils, teachers have often invited parents and involved them in the pupils' schooling. Teachers often seek parental help, and parents often seek the teachers' help in cases of 'difficult pupils'. Parents thus are made to understand that their involvement in pupils' homework is expected and needed (Hoover-Dempsey & Sandler, 1997).

The findings in this study note that socio-economic status is particularly important in parental involvement in homework. This is in sharp contrast with other research findings (Dauber and Epstein 1993; Walberg et al 1985). Even though almost all the parents expressed a willingness to be involved in the pupils' homework, they are incapable of giving the much-needed guidance to the pupils. Many of them are illiterate and poor and cannot afford to buy supplementary learning materials. They are preoccupied with different chores to fend for their families and, paradoxically, children are expected to engage in some form of child labour that can contribute towards family provisioning and sustenance.

Socio-economic status is a critical issue in many African communities where illiteracy and poverty levels are high, thus limiting parental involvement in homework. In some cases learning and reference materials have to be shared among pupils, and not all parents are able to buy for their children personal subject-specific text copies. More important is the fact that some parents expect the children to help them after school, during the time the children are expected to undertake their homework assignments. Based on the traditional gender division of labour, this is the time when the boys have to look after the animals and the girls to fetch water, firewood and help in the evening to prepare the family food before they eventually clear the table and wash the dishes. This is against the children's desires to study in the evening and in a quiet place. High poverty levels lead to crowded homes where distractions and little opportunity for concentration are the norm. The net effect of distractions and lack of concentration is that homework is not guided, poorly done, incomplete or never done at all, and therefore precipitates conflicts at school and at home.

The fact that homework is seldom completed is confirmed by KENSIP (2002) survey reports³. The survey report indicates that either the pupils do not get adequate parental guidance with their homework, or that they are assigned a lot of homework that they cannot complete in time. Consequently, the pupils are punished for not completing their homework and this may not

³ Kenya School Improvement Project Survey Report, 2002.

encourage them with their assignments, but only demotivates and discourages them. The overall effect is a lack of participatory learning.

The individual learning styles of the pupils agree with the research findings of Xu and Corno (1998) who emphasised that specific decisions about creating structures for homework at home depended in part on the pupils' needs and preferences and on parents' ideas about specific involvement activities that fitted the pupil and family context, for example, what the home was like and what other demands required parents' time. This underlay the significance of socio-cultural and economic factors in influencing parental involvement in pupils' homework.

POLICY IMPLICATIONS AND RECOMMENDATIONS

The Institute of Policy Analysis and Research (1999) has noted that "education which focuses mainly on written texts (to make it worse in a foreign language) tend to disadvantage children, especially those in rural areas. The written text-based schooling also makes education very costly, thus out of reach to many Kenyan children and households". However, it needs to be noted here that literacy is part of education, and striking a balance between needs and costs is deemed important, and particularly in the context of homework policy formulation. Based on this case study, homework policy formulation takes the following considerations: parental literacy level, household poverty level, homework workload, gender considerations and the availability of learning resources specific to each school.

There is need for the Kenyan Government to consolidate and address the inadequacies in the existing education policy documents. Unfortunately, Kenya has produced several education Reports through Commissions, Acts and Sessional Papers that are yet to be integrated under one legal education policy document. Even the Ministry of Education and other Ministries' operations need to be streamlined, so that greater mandate is given to certain ministries. There is urgent need to bring together all education policies ranging from Early Childhood Education, Basic Education, Higher Education and Technical Education under one legal education policy document.

In order to foster productive parental involvement in pupils' homework, there must be a deliberate attempt to raise the literacy level of the illiterate parents. In particular this involves the strengthening of the Adult Education Department, which currently is under the Culture and Sports, and unfortunately, not under the Ministry of Education. By being placed under the Ministry of Culture and Sports, the Adult Education Department has over the years slumped into oblivion. The failure of the Adult Education Department is best exemplified with the recent introduction of Free Primary Education in Kenya that has shown primary schools enrolling so-called 'adult pupils' – currently holding the record of the world's oldest pupil who is only interested in learning "how to read the Bible and count money".

By strengthening adult education by the government, and coupled by intensive literacy campaigns by civil society organisations, the literacy level of parents will be raised, thereby allowing willing parents to engage in productive involvement in their pupils' homework. Strengthening the adult education component can also help bridge the gap between the tutored and untutored pupils. Currently, there are no equal learning opportunities for all learners with the increasingly widening gap between private and public schools, and even sadly, within public schools where only pupils whose parents are able to pay for private tuition receive additional private tuition. The thesis is that if all willing parents' literacy levels were raised, the differential household income levels might not result in marked disparities in the learning opportunities between the tutored and non-tutored pupils.

Given that almost all parents consider it their responsibility to be involved in their children's education, this positive attitude can be harnessed to by organising school open days, in which the pupils' class teachers take parents through their children's performance. Open days are organised

in very few urban schools in Kenya, and rarely in the rural schools. The open days need to be made compulsory for the parents, and particularly for the male parents with a penalty of non-attendance. This can foster parental responsibility against the ill-conceived notion that homework help is a “mother’s responsibility”.

The gender biases in domestic chores that are performed by girls and boys are deeply and culturally entrenched, and may not be immediately resolved by a homework policy. However, several suggestions can be advanced to cater for equal learning opportunities for both boys and girls. First, the so-called ‘take away’ component of homework should be made as small as possible, so that all class assignments are conducted and concluded at school and not at home. This can ensure that the few shared learning resources like textbooks are available to the pupils through working at school. Homework completion is low when few pupils are able to borrow the textbooks and take them home. In practice, therefore, the timetable should be formulated such that the last school hour is dedicated to homework. But even if this is being done, parents must still be constantly sensitised to the need to allocate equal learning opportunities for all their children regardless of their gender.

School policy on homework needs to be developed at the school level, local level and national levels. At the lowest level of policy making, the document on homework policy needs to be made at the class level. Each school needs to have a clear written policy on homework with respect to the amount for every class, beginning with the lowest class to the highest, and each parent needs to sign this as a binding document. In practice, the document becomes an agreement between the class teacher and the parent. In content, the document spells out the role of parents in relation to homework, and the penalties for breaching this agreement. In the document it can be spelt out how much work a pupil is assigned per week in respective subjects, thereby regulating the workload that the pupils carry home. While it is worth noting that some schools have gone ahead and introduced homework diaries that parents must countersign, this needs to be reinforced, legitimised and applied across all primary schools in Kenya. The problem with diaries, however, also centers on the literacy level of the home, and the assistance of the literate members of the family needs to be sought.

The middle level of the homework policy document needs to be at the school level, in which each school as an institution sets out the overall guidelines regarding homework. At the school level, policy issues may include how home-school agreements can help to create and maintain parents’ commitment to homework, the frequency and content of homework tasks such that homework tasks are carefully designed to meet a child’s individual needs including those with special educational needs, parental roles on child homework support such as the provision of a peaceful and suitable place for doing homework, and the need to motivate children by praising them once homework is completed. This needs to be a binding document between the school administration and the parents, and needs to spell out what the school expects of the parents, and what the parents demand from the school and the teachers. This will foster home-school collaboration; thereby enhancing parental involvement in their children’s learning process. Homework policy drafting at this level needs to involve all the teachers, the parents, the school management committee members and representation of the parents – teachers association.

The highest level of homework policy document must be at the national level, in which the Ministry of Education sets clear overall guidelines regarding homework. The District Education Boards and representation of the Parent-Teacher Associations should be involved in the policy formulation process. However, creating several layers of policy level is likely to give rise to problems of enforcement. This is particularly true, considering that in essence; even the zonal, district and provincial levels may need to have distinct homework policy documents. Nonetheless, emphasis needs to be made at the class and school levels, with the national level providing overall legal framework for homework policy guidance and regulation.

CONCLUSIONS

The significance attached to homework nationally in Kenya cannot be gainsaid. This is critical where learning has to be relevant at national as well as individual levels - allowing pupils to realise their other 'multiple intelligences' (Gardener 1986). A well-documented homework policy ultimately allows for school-parent participation in the pupils' learning process for effective benefits. One significant step in doing this is through the establishment and publication of school, local and national guidelines on homework.

The Kenyan Government also needs to consider giving clear guidelines on the purpose of homework, the type and amount of homework that is appropriate for pupils of different ages, homework to cater for special education needs, planning and coordination of homework so that the demands on pupils are balanced and manageable. Moreover, the role of parents and guardians in supporting pupils, homework and study support facilities, and importantly, the emphasis on the inclusion of homework in the preparation of lesson plans need to be stated. Feedback mechanisms on homework from parents to teachers, teachers to parents, teacher to pupils and pupil to teachers, needs to be given substantial emphasis within the documents that are prepared.

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Choreographing learning in developmental psychology utilising multi-generational genograms and reflective journal writing

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Teaching a complex topic, such as lifespan developmental psychology, challenges most lecturers to find ways to produce and develop adequately students' ability to integrate theoretical knowledge and an understanding of psychosocial issues in everyday life. In this paper, I will explain the possibilities of tools from practice in creating and engaging in learning and knowledge production in developmental psychology. Based on the notions of my teaching philosophy, social constructionism and a family systems perspective, I applied the principles of the multigenerational genogram, life-story remembering and reflective journal writing as strategies for choreographing the stage on which reflective learning and the co-construction of knowledge took place. In a reflection on practice I contend that these strategies, when combined in a learning context for lifespan developmental psychology, provide useful tools for gaining access to the kinship network and balance the teaching enterprise with a process of everyday living so that learning becomes both pictorial and practical.

Collaborative teaching, co-constructing knowledge, multigenerational genogram, remembering, reflective journal writing, collage making

INTRODUCTION

Choreographing learning spaces for the co-construction of knowledge in psychology courses at undergraduate level is a challenging enterprise. It is particularly challenging in a context where the culture of learning clearly defines the roles of learner and lecturer in an almost non-negotiable power hierarchy. Furthermore, the rules of interpretation and cognitive processes are somehow different from my own where questioning and debate are valued (Nisbett, 2003), and passive, input-driven teaching not an option for pro-active learning. Students at the institution where I am currently teaching also find it difficult to express themselves and their views in a language in which they may not feel competent—conversing in English, the language of tuition, as opposed to Cantonese, which is their native language. Sharing in the process of knowledge construction seems to be a violation of their existing “realities” and engaging in conversational activity and talk, or even asking questions, is a foreign concept to most students. On the other hand, the local context provides a rich resource of information regarding transitional periods in the lives of the citizens and as primary context for applying developmental psychology.

The purpose of this paper is to explore and explicate the possibilities of utilising alternative mechanisms for engaging students in knowledge production in developmental psychology courses. In this paper I explain how the underlying assumptions and philosophy guiding my teaching practice inform the practical application of three techniques from practice: the multigenerational genogram, life-story remembering and reflective journal writing, as strategies

for choreographing a learning context in developmental psychology courses at undergraduate level.

CHOREOGRAPHING LEARNING

I use the concept of choreography as metaphor referring to the rhythmic dance that evolves in the interaction between students (learners) and me (facilitator) in a learning context. The dance between the students and me is accompanied by the music of my teaching philosophy, a philosophy informed by an intuitive belief and acceptance of a social constructionist position as the point from which to engage in the complex dance of collaborative teaching. Underlying my teaching philosophy is a passion for psychology and teaching, a passion that provides a starting point from which I engage with students in the learning environment on an equal basis and appreciate the special knowledge and understanding that students have of their community and the local discourse (White, 2000). In choreographing a learning environment I endeavour to create a stage for facilitation and transference of knowledge, attitude and skills where students can appreciate their personal knowledge as much as that provided in textbooks, and where students can develop confidence and personal agency in their learning (Carlson & Erickson, 2001; Garson & Archer, 2000). In different courses on developmental psychology that I teach at undergraduate level at the University of Macau, I take ideas from the field of social constructionism (Burr, 1998; Gergen, 1985, 2000) and family systems (Goldenberg & Goldenberg, 2001; McGoldrick, Gerson & Shellenberger, 1999), combined with the assumptions of my philosophy of collaborative teaching, to create a connection between theory and practice and to develop students' critical thinking skills and knowledge construction abilities (Van Schalkwyk, 2005).

A collaborative teaching model challenges both students and facilitator “to reconstruct how they think about teaching and learning” (Anderson, 2002, p.2), and about sharing responsibility for the learning process as equal partners (Garrison & Archer, 2000). By decentring the dominant accounts and becoming familiar with personal knowledge that comes from a rich history of lived experiences, I encourage students to become reflective in the mapping of new ideas and thoughts about the subject matter. The students and I engage in different dances as we collaboratively reflect upon existing knowledge systems, explore different perspectives and move, for example, from just learning and memorising theoretical constructs, to thinking about the influence of personal experience, and to interpreting observations in accordance with relevant theory or scholarly debates. Furthermore, students develop a critical awareness and psychological thinking not only in terms of theoretical knowledge, but by integrating their own “expert knowledge” in similar vein, thus moving away from passive learning to a position of negotiating alternatives.

Moreover, I believe that learning, particularly with regard to developmental psychology, does not only take place in the classroom and students should also engage in observational and reflective skill development outside of the classroom. Through creating their own meanings on the stage of their personal lives, students can engage in the social action of co-constructing knowledge in psychology that is of greater consequence to critical and reflective thinking and practice. I also have much to learn from the students in my class, particularly where I am now teaching in a foreign culture. Thus, in choreographing learning in developmental psychology a stage emerges on which a process of mutual exploration of a variety of fields and resources unfold, and where establishing conceptual links and conclusions become tailored to specific needs that are locally relevant.

Finally, on the learning stage, language is crucial as a way in which we construct meaning in an interactive manner (Shotter, 1993). However, if one has to speak in a second language with which one is not particularly familiar and competent, the social act of talking and negotiating can be lost and collaborative learning is a defeated purpose from the start—the stage remains empty and the actors mere parrots of rote learning. Choreographing of the learning stage in a non-native

language setting poses particular challenges to the collaborative learning process. In a culture where the principles, beliefs and interpretation are also somewhat different from that in which developmental psychology texts emerge, the reciprocal process of collaboration and sharing knowledge of prior experiences and perceptions, as well as cultural and contextual stories of knowing and being should therefore be negotiated in a different manner. Although I believe that knowledge is “inexplicably linked to the participants involved in meaning making” (Souza, 2004, p.4), alternative mechanisms become important as a means to communicate those meanings and to act through language on the learning stage, and to construct new knowledge.

STRATEGIES APPLIED TO CHOREOGRAPH COLLABORATIVE LEARNING

My objective in choreographing the stage for a lifespan developmental psychology course was thus not only to facilitate learning, but also to apply psychology in different settings in pursuit of the co-construction of personal and public knowledge that would sustain beyond the realms of the classroom. I considered it important that learning had to take place in such a way that students would integrate personal meanings regarding a variety of life experiences with the subject matter of developmental psychology. For this purpose, I employed three strategies to choreograph the delicate dances evolving on the learning stage of a developmental psychology course. The strategies of a multigenerational genogram, life-story remembering and reflective journal writing were not mutually exclusive but integrally linked and the aim was to engage with the students and to encourage active participation even though they felt constrained by their limited language abilities.

The Multigenerational Genogram

McGoldrick et al., (1999) posed that the multigenerational genogram was a practical and useful framework for understanding complex patterns of interrelationships in a coherent and systematic manner. As a subjective, interpretive tool the genogram was mostly used within practice by health care professionals and psychologists. However, in facilitating an undergraduate course in the second year of a degree programme in psychology, I successfully used the multigenerational genogram as a strategy for choreographing a learning stage and engaged students in the co-construction of knowledge regarding developmental psychology. Mapping the three generations of their own family systems historically and assessing the life cycle transitions for different members of the family, provided a context for the stage on which they participated with me as the director (facilitator or lecturer) in the explorative dance concerning different topics and evolutionary patterns and processes of human development. It also provided a framework for case study research and for generating tentative hypotheses for class discussion and reflective activity, thus becoming a valuable strategy for facilitating more coherent co-construction of knowledge in developmental psychology.

The utilisation of the multigenerational genogram in the learning context unfolded in three parts. I started the course during the first lecture with a brief introduction of traditional perspectives on lifespan development and the vertical and horizontal challenges the individual faced during his or her progression through life. I focused in particular on the different interrelated and interdependent systems proposed by the ecosystemic theory (Bronfenbrenner, 1979) and a psychosocial approach to development through life (Newman & Newman, 2003). Furthermore, during this first lecture, I explained the common elements of the genogram and basic information about individual family members and the family as a collective required to compile a multigenerational genogram (McGoldrick, et al., 1999). In a class exercise, the students were guided in compiling a genogram for their own families of origin including at least three generations and using what they readily knew, such as demographics and relationships (legal and otherwise) between family members, and patterns of behaviour evident in their own lives and that of their family members. Dates of significant life events in family members' lives and the types of

events that could impact on individual development were also indicated. During this first part of the unfolding of the multigenerational genogram, students became aware of what they already knew and how it related to the subject matter. They entered onto the stage as actor-participants in the process of knowledge co-construction, thus taking responsibility for their own learning and identifying the gaps in their knowledge systems (Garison & Archer, 2000).

The genogram could not be completed in full during this first lecture period. The students were therefore expected, in the second part of the project, to add further information at home, particularly pertaining to aspects such as family rules and rituals, myths and legends, role appropriate behaviour, and significant events for which they needed to consult with other family members. In completing the genogram in collaboration with their family members the door was thus opened to also include the family onto the learning stage and for privileging the personal experiences and meanings embedded in the family life story (Figure 1). Students also became aware of characteristics processes that made their family unique and that expressed the qualities, capacities, and psycho-social activity of the family as part of the larger community setting and culture (McGoldrick, et al., 1999). Furthermore, they came to realise that social processes sustained knowledge, and developed awareness for the fact that we fabricated or represented our versions of knowledge through daily interactions in the course of social life (Burr, 1998).

Genogram of Mrs. Leng's Family:

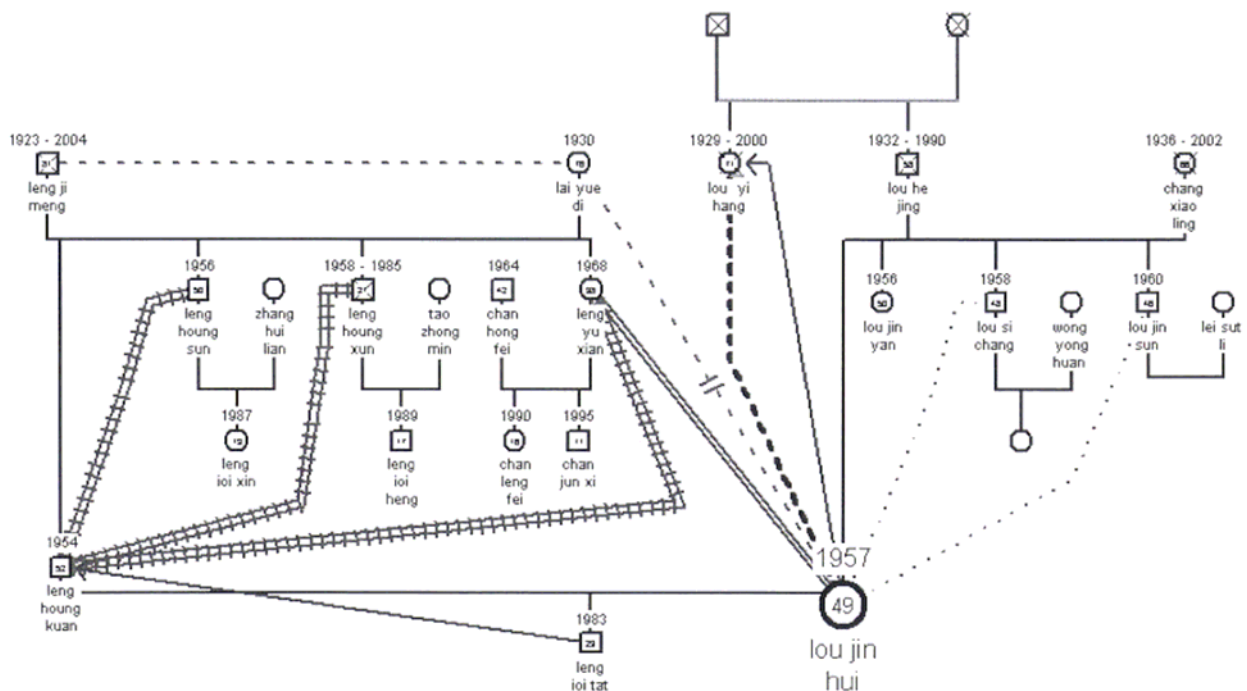


Figure 1. Genogram compiled by a student in a third-year developmental psychology course¹

Compiling a multigenerational genogram for their families of origin furthermore enabled students to construct a framework that provided clues to the challenges and life stressors of individual development, particularly during transitional periods. During the third part of the project, which continued until the end of semester and formed part of their assessment at the end of the course, students engaged in critically questioning their own genograms. I encouraged them to question and pose tentative hypotheses that could be presented either in class or by anonymously writing down their questions on a separate sheet and submitting it at the end of a lecture. These questions

¹ Students have to get informed consent from their families in order to submit the final collage as part of an individual assignment at the end of semester.

related to a particular period in the developmental life cycle and concerned both content and process. The questions also formed the basis for class discussion during which I encouraged students to participate and share in the process of co-constructing answers and finding solutions for complex problems.

A few of the many questions generated in a session on early childhood development suffice as example. I corrected the language for these questions posed by the students for the sake of this paper. However, the limitations of their language proficiency were usually evident in the questions and in individual feedback I would use the opportunity to correct these and help them to develop more effective language skills.

- *What happened before I could be conceived into my family? What contributed to my parents coming to know each other and getting married?*
- *If the mother of an unborn child was addicted to drugs, what would be the consequences for the newborn baby?*
- *What if my mother did not take care of me when I was a little girl or boy?*
- *How did I develop the ability to communicate through language?*
- *What processes were involved in learning to talk?*
- *If a child grew up in a two-language home, would his or her personality develop differently?*
- *If a child had no playmates in early childhood, would it impact negatively on his or her cognitive, social, and moral development?*
- *What made me develop as a girl or a boy?*
- *If a child entered formal education at an early age, would it influence the cognitive development in a positive or negative way?*

Applying the principles of a multigenerational genogram to map the patterns of interaction furthermore provided a representation of how people were connected with one another within the broader structure of three generations and in society. Discussing family legacy and ritual in a non-threatening manner (they did not have to provide any specific identifying information) offered students the prospects of recognising the inter-connectedness of different generations, trans-generational transference, and the ecological patterns prevalent during the lifespan. As a feature of the genogram, mapping family patterns and interrelationships also reflected the specific attachment bonds and sub-systems that were prevalent between the siblings and the parents and grandparents. It was thus possible, from an ecological perspective, to explore the relationships between family members and society and how different systems collaborated, offering the context and content of development through the lifespan and posing challenges to human development during the lifespan, something I did in a more advanced developmental psychology course at the third-year level.

I explicated above how I utilised the multigenerational genogram in a course on developmental psychology. In the context of co-constructing knowledge about developmental psychology, students used the framework for understanding the transitional periods from infancy to late adulthood, exploring common biological, cognitive, cultural, and psychosocial histories and implied futures for their family of origin. Constructing a genogram from a family systems and lifespan perspective involving at least three generations, helped the student to review assumptions and interpretations about family psychosocial ecology (Newman & Newman, 2003), also taking into consideration other system levels in the meso, exo and macro contexts (Bronfenbrenner, 1979).

In developmental psychology, different forms of knowledge abound and in a particular culture further artefacts of indigenous knowledge systems prevailed. I encouraged the students to be aware of the fact that “we should not assume that our ways of understanding [are] necessarily any better than other ways” (Burr, 1998, p.4), and that the textbook did not necessarily have more

authority than their own interpretations. By using their own frameworks and understanding of human development, class discussions were active participation settings in which students and facilitator shared meanings and made sense of different ways and systems of knowing, topical issues and processes that evolved during different periods of the lifespan. Through respecting, inviting and valuing each student's voice and being flexible and responsive to his or her personal accounts of the world (Anderson, 2002), collaborative learning became a reality.

Life-story Remembering

Integral to constructing a multigenerational genogram was the practice of life-story remembering (McAdams, 1993). Remembering comes through telling stories about one's lived experiences, events and relationships. However, remembering through telling one's life story could be challenging, particularly at the age of most of the undergraduate students in my classes (the average age of the second-year group was 19.2 years). They were only beginning the myth-making process (McAdams, 1993), and for many late adolescents not used to reflective practice, this was quite difficult. Furthermore, "sharing a family's history is a sacred relationship, not a matter of technical fact-gathering" (McGoldrick et al., 1999, p.13), and for Chinese students there was the added constraint that they were not encouraged by their culture or parents to reflect too deeply on positive and particularly negative experiences in their lives (Bond, 1986; Nisbett, 2003; Pina-Cabral, 2002). I therefore had to be sensitive to the ways in which students remembered their life stories in their family of origin and engaged with the stories of other members of their family such as father or mother.

In order to create some distance, I utilised a second strategy to choreograph the stage on which they learnt about developmental psychology. I used the process of performing life-story remembering in which I facilitated remembering by assigning a project in which they had to compile a life-story collage of 12-15 pictures, images or artefacts (Figure 2).

Life story collage and essay

For this project you have to make a life-story collage. The main objective is that you should demonstrate how you integrate major events in your past and project how these may impact on your present and future life.

Create your own life-story collage in response to the question: *Who am I?* Make use of photos, pictures and cuttings (also text) from old magazines and other media, and any other print material that tell something about you as a person. Your life-story collage can include reference to context, situations, and/or events, emotions, etc., as well as other people that tell us about who you are and how you came to be the person you are today.

Use as many images as you wish, but not less than 15. paste all images and pictures on one page (A3 is preferable) but do not use poster board, since you will need to fold the final product to an A4 format. After completing the collage, make a colour copy so that you do not lose any special pictures that you put on the collage. You also have to number the images and text messages for when you do the second part of the project

Figure 2. Prescriptions for compiling a life-story collage

They were free to choose, without threatening their privacy, whatever pictures or images they wanted, as well as cuttings from popular magazines. The main criterion was that the pictures, images and artefacts represented their development from early childhood to the present. They

could also include images that represented future anticipations, attitudes and beliefs about the world they lived in (Figure 3).

Besides the collage, the student also had to compose an essay on his or her life story. Writing an essay on their own life stories was less threatening than performing it impromptu without reflection, and they had time to think about how and what they wanted to include in response to some guiding questions. I posed the guiding questions in such a way that they could move from the more general and overt actions and relationships (e.g., *Who is the person that greatly influenced your life?*), to those that were more difficult to deal with (e.g., *What events represent a low point in your life?*). By posing this assignment, I invited students to reflect on their experiences and their own transitions through life up to the present.



Figure 3. A life-story collage

During class discussion, after completion of the collage and remembering essay, students participated in sharing their lived experiences, events and relationships with classmates. This was the performance stage of the project and they were free to share only that with which they felt comfortable. As facilitator, I guided them towards collaboratively interpreting their own life events in terms of theoretical constructs and concepts in lifespan development. I choreographed a learning stage with this assignment where “a reliable and accurate link between the objective and subjective worlds” (Freedman & Combs, 1996, p.28) could be facilitated, and where relational responsibility was shared (McNamee & Gergen, 1999). The students and I connected, collaborated, and constructed with each other resulting in “the learning relationship and process [to be] more mutually gratifying and rewarding” (Anderson, 2002, p.6).

Participating in a life story project invited students also to reflect on ways in which their own lives shaped their understanding of human development. Garrison and Archer (2000, p.14) proposed that “the aim of education [was] to collaboratively develop the thinking and learning abilities of students in the pursuit of worthwhile and meaningful knowledge...and [students] to be self-directed in their continuous search for personal meaning and public knowledge”. Utilising the life-story remembering in addition to the multigenerational genogram provided such a framework for the transactional processes of higher-order learning to take effect and for the confirmation of personalised knowledge. Sharing their life stories and collaborating in meaning-making on the learning stage of a developmental psychology course provided an opportunity socially to construct meanings and created a setting in which students took responsibility for their own learning.

In the aftermath to the life-story project, I asked the students to evaluate the learning space created by the collage making and life-story remembering and to comment on whether sharing their experiences helped them co-construct more significant knowledge systems than what would have been possible by just listening to a lecture in a passive way (the language in these extracts was not corrected revealing some of their language limitations).

- *Past memories rush to my mind at the time of doing my collage.*
- *Everyone live with different story in their life. Every little pieces of their life experience can group up into a colourful story book... In conclusion, the process of making this collage, I think it can let me to have a good memory about my past issues... It really is an unforgettable memory.*
- *From the course outline, the life story collage attracted my attention since I like doing the artistic work that can show my own feeling and thinking. It is like a mind map that represents my thought... it is also a good chance to look at my life... I really think about my life process, my experience and all the event that happens to me.*
- *This is my first time to do a life story collage for myself; it is a challenge to me. At first, I feel I cannot find a clear mind and memory about my childhood and school time; secondly, I have no such experience in writing life story. However, when I start to search pictures, my memory become clearer and clearer, many pictures appear, a lively childhood and school time are replayed clearly in my mind.*
- *[In making this life-story collage, I realised that] I cherished gains and learnt from losses. I feel my life is going in a positive way, as I can learn from mistakes and accumulate experiences of successes. Still, I will keep learning from others and I as learning is a life-long process.*
- *It is a good experience for me. I must remember what I learnt in this project and find out the solution for those problems.*

Reflective Journal Writing

A third strategy that I used for choreographing the learning stage in a developmental psychology course was the practice of reflective journal writing. I invited students to keep a journal in which they wrote about their observations in everyday life. Reflective journaling, focusing on critical thinking and questioning of observations promoted self-insight, self-development and self-directed processes for life-long learning (Harris, 2005). Although time-consuming, reflective writing was a learning tool that enabled students to reach a deeper and different understanding of the issues under discussion. Writing was an intentional activity with a specific purpose in mind and reflective journals offered a space for cognitive activities such as “observation, speculation, doubt, questioning, self-awareness, problem stating, problem solving, emoting, and ideation” (Kerka, 1996). By expecting them to submit regularly journal entries as part of continuous assessment, I also attempted to engage them in an ongoing manner with the subject matter of the course and to keep track of their progress, both in terms of observational skills and for the

interpretation of these observations. Thus, students again took responsibility for their own learning and meaning making, and submitting their journals for review added to the overall grade for the course.

As a starting point to reflective journal writing, I provided students with critical questions that they could use as prompts for interpreting their observations (Figure 4). I posed several questions that they could reflect upon and, if necessary, consult further literature in order to gain insight in the observed behaviour. Using different theoretical concepts to interpret events and behaviours that they observed in everyday life, they gained insight with regard to the physical, cognitive and psychosocial transitions in the life cycle of members of their community and their own.

- What do you think of the situation/behaviour/lecture of the day that you observed?
- Can you summarise the observation in terms of assumptions and/or a problem statement?
 - Did you challenge your own assumptions? How?
 - What factors were included and/or excluded from your definition/description of the observation? Which psychological factors did you take into account?
- Do you think that the situation/behaviour/lecture of the day promoted the expression of care, empathy, and concern for the physical and emotional well-being of other human beings?
- What conceptions of the good society and the good life are promoted? Are these based on self-interest or cooperation?
- How did you arrive at the conclusion you present in this reflection?
 - Does the conclusion focus exclusively on the reading for this course, or does it include further reading and/or integration of previous readings in psychology (also in other psychology courses)?
 - Does the conclusion include other systems affecting the person?
- Were you sceptical about the validity of your decision/conclusion?
 - Do you trust your judgement?
 - Did you consider other alternatives?
 - What other interpretations could have been used?
 - Was intuition involved in making this decision or coming to this conclusion?
 - What decisions would you make to manage this situation differently? What would the results look like?
- Did you consult other literature to support your conclusions? Which explanations were best supported by the literature?
- How did you evaluate your thinking processes?
 - How did you evaluate your analysis of the observed situation?
- What conclusions did you reach after examining your own critical, reflective thinking

Figure 4. Critical thinking questions for reflective journal writing

Reflective journal writing had the added advantage of providing students with the opportunity to practice their language skills, while weaving accounts of their private and personal experiences and observations to reflect upon the content of the developmental psychology coursework. As a less formal and less inhibited way of representing knowledge, students were thus provided with a space in which their own authentic voices could be heard, furthermore supporting a necessary emotional component of the learning process. In their journals, the students revealed their identity and became aware of their own thought processes and ideas, which in turn allowed them to claim ownership of these thoughts as their own and strengthening their understanding of the topics under discussion.

Some extracts from the reflective journals suffice as examples of how students developed sensitivity for their environment and utilised the reflective journaling as learning space to express their viewpoints and explore their thoughts regarding developmental psychology topics. These extracts were taken from the final year students' reflective journals in an advanced developmental psychology course in which the learning content also focused on the family system.

- *In Macau, the dominant culture is the Chinese culture which promotes harmony within the family. According to the Chinese tradition, the Chinese does not like to reveal their problems or bad things to others. They thought that it would be shameful to let others know about their own family. These traditional beliefs and cultural background makes the families in which there are disabled family member(s) harder to speak up and ask for help.*
- *Sometimes punishment in my eyes may be the perception of others' reinforcement. From the book, it is easy enough to understand that Skinner's learning theory for children that both reinforcement and punishment are used to shape children's behaviour. When I first came across with Skinner's theory, I think his theory is mostly widely applied in my daily lives.*
- *Everyone will learn difference things in the different periods, which we calling "development". For aging, there are many communities or organisations to take care the old people in Macau. How about the giftedness? The giftedness student's step is a little bit faster than the others. They also need some complements to help them to face their difference and difficult stages.*
- *Today, I go to visit my aunt who is pregnant with her third child. Her fetus is now five months old. We often talk on the phone and have lunch together. It is interesting to find that I know her pregnancy lately. She tells me that there is a Chinese traditional custom about pregnancy. A pregnant woman can tell her pregnancy to her own family members (her husband, parents, and siblings). However, she can only tell other friends and distant relatives about her pregnancy until her pregnancy period is over three months. She explains that if the pregnant woman tells everybody about her pregnancy, her baby will become stingy and the woman may have miscarriage easily. I really do not understand the concept and my aunt does not understand it either. She says it is a wide-spread Chinese custom and she thinks it is better to hold this belief. I think it is related to one of the Chinese values of being modest.*
- *A... [a family member] is in the stage of young adulthood, she should have more contact with her friends, it is very important for her to be in-group than out-group. Working in a company is just another family, if she doesn't contribute in this family, it would be very difficult for her to continue staying in this big family.*

CONCLUSIONS

Utilising the three strategies outlined provided me with the tools to choreograph the learning stage in undergraduate developmental psychology courses and to co-construct, in collaboration with the students, knowledge that went beyond the scope of the textbook materials. All three strategies fitted my philosophy of teaching in psychology and my aim "to grant privilege and honour the personal experiences, desires, motivations, knowledge and skills" (Carlson & Erickson, 2001, p.207) of my students. The tools from practice were quite useful and beneficial in creating a learning context in which students developed new knowledge systems, attitudes and skills.

In this paper I reflected on my teaching practice. Rather than conducting a comparative analysis concerning the effectiveness of different strategies or comparing different teaching styles, I

reflected on my practice as it unfolded on the learning stage for developmental psychology courses. This could be considered a limitation because I do not present any data or factual truths, and I did not subject my interpretations to reliability and validity testing. No absolute knowledge claims could therefore be made and generalised to different contexts. It was, however, not the purpose of this paper or the objective of my project to conduct such comparative research. Besides, a comparative analysis would not have matched the philosophical assumptions that supported my practice of choreographing the learning environment. Therefore, credibility and plausibility of these strategies could only be established when others could successfully employ the same or similar tools from practice in order to engage students successfully, particularly students who had to construct knowledge in a second or third language, in collaborative learning and co-construction of knowledge.

Making use of privileging questions that encouraged students to share experiences from their lives during group discussions in class or in the form of reflective journal writing encouraged my students to think deeply about the constructs they encountered in the course. In this way, we mapped new knowledge and collaboratively engaged in reflective meaning making. As a learner myself in the reciprocal process of co-constructing knowledge, I also gained insight into the interrelationships, reciprocal patterns of interaction, and cultural legacies of Macanese families that helped me choreograph a stage for developmental psychology learning that was fitting for the context in which it would be applied. In an extended version of this project in the third year, students had to do the genogram project for a different family, and conducted a life-history interview with one of the family members. The aim was for them to apply their learning to a real life situation and to expand their knowledge mapping new information and interpreting the life-history in terms of lifespan developmental processes. With these assignments, the students developed further skills in interviewing and collecting and interpreting qualitative data. Reflective journal writing became a regular practice for students by the time they reached their fourth year in the psychology program, and they also applied this strategy when engaging in the practicum training that formed part of the final year of the program. On this process I will report in another article.

Anderson (2002, p.1) commented, “knowledge is fluid and communal, yet personalised. When we share our knowledge with one another, we cannot know what each brings to the sharing... Whatever the outcome, it will be something different than either started with, something socially constructed.” It was quite challenging to facilitate the processes that unfolded on the learning stage, but also rewarding in the sense that students, despite their initial reluctance to communicate in a second language, became active participants in the learning and teaching process. In collaboration with one another, me as the facilitator, and the content of the prescribed texts their local knowledge and experience were once again challenged, and they came to recognise the place of personal reflection in the process of constructing knowledge (Anderson, 2002; Garrison & Archer, 2000).

Finally, I have to emphasise here, that utilising the multigenerational genogram, life-story remembering and reflective journal writing in the learning context as described above was not done for the purpose of planning any interventions, therapeutic or otherwise, but merely for choreographing the stage on which students could become active participants in the co-construction of knowledge rather than passive receivers of information. In collaboration with a colleague who was teaching counselling skills and practice and who also utilised the outcomes from the projects students did in the developmental psychology course, knowledge was also transferred to other courses. Thus, choreographing developmental psychology in this way made it a valuable opportunity for creating a coherent knowledge framework of psychology instead of the fragmentation that often resulted when learning units were kept separate and the subject matter taught in an input-driven style.

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Establishing the need for cross-cultural and global issues research

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More than any previous generation, today's students need to develop a global perspective and be knowledgeable about other nations in order to play a better role on the global stage. This paper first reviews some earlier and current studies on students' knowledge of the world, mainly conducted in the United States, and then it describes the global education status and similar studies in countries like Canada, Russia, the United Kingdom, China, Japan, South Korea, and Australia. Based on a review of studies in these countries, the paper proposes that contemporary assessments of students' cross-national and global knowledge and attitudes are necessary. The new research must be multinational, assessing what paired nations' school aged populations know about one another's history, geography, politics, economics, and international relations.

Global education, k-12, students, knowledge of the world, cross-cultural understanding

INTRODUCTION

The compelling changes in our economy, the dawning of the information age, and the horrible events of September 11, 2001 and their aftermath, have created an unprecedented need to focus on international knowledge and skills. To solve most of the major problems facing our country in the 21st century will require every young person to learn more about world regions, cultures, languages. (United States Secretary of State Collin Powell, 2003)

The terrorist attack on the United States on September 11, 2001 shocked and greatly impacted not only the United States but also the entire world. For the first time, perhaps since World War II, the American public is keenly interested in understanding more about the world that lies beyond their borders (States Institute Report, 2002). More than ever, there is the need for people all over the world to understand better the differences between people, nations, culture, religious beliefs, and values in order to live peacefully in this increasingly diverse but globalized world. More than ever, schools need to integrate global education into school curricula and throughout student school life to prepare them for the new challenges of the twenty-first century.

Attempts to infuse global education into the various states' and local school districts' social studies curricula of the United States can be traced to the late 1960s and early 1970s. The rise of advocacy for global education was doubtlessly caused by many factors such as advances in communication technology, increasing ease of world travel and improved transportation technologies, the growth of recognition of the transnational character of problems such as air

pollution and, perhaps most important, the growth of multinational corporations and world commerce.

Global education advocates realized that very little was known about the condition of students' cross-cultural knowledge,¹ so efforts were made to gather information that would substantiate the need for global education, portions of which are cited later in this paper. These data augmented other logical and rational efforts to persuade school districts and states to adjust their teaching to include more information about other nations and to offer greater treatment of global issues and themes.

Education systems and the condition of nation states and world affairs change over the span of a single decade, so much of the early research is now completely outdated. The importance of changing world trends increases the need for contemporary assessments of students' cross-national and global knowledge and attitudes. To be useful, new research must be multinational and comparative, assessing what paired nations' school aged populations know about one another's history, geography, politics, economics, and international relations. In addition, the inclusion of a global knowledge and issues scale that can provide a uniform basis for making comparisons among the many paired nation studies is needed. The following section of this paper first reviews some earlier and current studies on students' knowledge of the world, mainly conducted in the United States, and then it describes the global education status and similar studies in some countries like Canada, Russia, the United Kingdom, China, Japan, South Korea, and Australia. Based on the studies in all these countries, the paper finally proposes that a contemporary and comparative assessment of paired nations' school aged populations' cross-national and global knowledge and attitudes is necessary.

EARLY STUDIES OF STUDENTS' KNOWLEDGE OF THE WORLD

Early research on children's cross-cultural knowledge and attitudes is often traced to a group of studies that attempted to discover how children viewed their own political and cultural identities at different ages and stages of development. For example, Piaget and Weil (1951) studied how Swiss children's ideas of their homeland developed and their conceptions of relations with other nations and revealed identifiable stages of development that ranged from early cognitive and affective egocentricity to objective understanding of other peoples. Hess and Tourney's (1967) early work on the development of political attitudes demonstrated, among other things, that schools played an important role in the development of attitudes and beliefs about the political system. They also concluded that children normally acquired rudimentary attitudinal attachments to their nation-state at a very early age and that by eighth grade most attitudes, concepts, and understandings important to political socialization were well established.

The first large scale study of children's cross cultural knowledge was conducted by Lambert and Klineberg (1967), who surveyed over 3,000 children, aged 6, 10, and 14 years, in 11 countries. Their research led them to conclude that children's early views of themselves greatly influenced their views of foreigners and that these views were often developed by comparing and contrasting views between themselves and foreign people. They noted the existence of exaggerated national loyalties and stereotypes of other nation's peoples. Younger children's predominant sources of knowledge were their own parents and television and movies but by later grades school experiences dominated as referents for their knowledge.

Eicher, Piersma, and Wood (1975) conducted a multi-state (Iowa, Nebraska and South Dakota) survey of children's perceptions of the world, mainly China, India, and Nigeria. Their open-ended

¹ We realize that cross-cultural knowledge is only one component of global education. However, it is an important component and, taken across, many nations, regions, and cultures, this knowledge provides the wellspring of specific facts and instances that support understanding of global issues, themes, and understandings.

survey of over 1200 children in Grades 1 through 6 simply asked students to tell (early grades) or write (upper grades) what they knew about these four referents. Among other things, the authors found evidence of Piaget's stages of intellectual development, with older students possessing more accurate and realistic views of the world than their younger counterparts. This pattern held true for the children's views of China, India, and Nigeria, though even older students still showed substantial misconceptions and stereotypes of these nations. Nigeria was the least understood nation. The investigators generally concluded that younger children mainly viewed the world in reference to their immediate environment and that they held the most inaccurate and limited views. Students showed more accurate knowledge of the world in later grades and television had a noticeable influence on their perceptions.

The Educational Testing Service (ETS), under a contract from the United States Institute of International Studies, United States Office of Education, conducted a survey of 1,728 students in Grades 4, 8, and 12. The survey items and sampling procedure was designed by ETS researchers and implemented in the fall of 1974 in 27 states. The survey assessed students' knowledge, attitudes and perceptions of China, Egypt, England, France, Israel, Japan, Mexico, Russia, Spain, and the United States. Knowledge questions were about evenly distributed between geographic, political, cultural, and economic information. Attitudes were assessed with semantic differential items and paired comparison items were used to measure cross-cultural perceptions. Overall, the investigators (Pike, Barrows, Mahoney & Jungeblut, 1979) deemed that their results showed substantial student illiteracy of world affairs. Data were obtained on the foreign languages students studied, relevant aspects of students' and teachers' backgrounds, the frequency and rank order of importance of the nations studied at each grade level and the extent of students' learning in each of the four knowledge areas. The investigators particularly noted the geographic illiteracy of students at all grade levels. However, there were weak performances across the board on the knowledge items, causing the investigators to conclude: "As illustrated in the preceding section, this study presents some powerful examples of the extent of student illiteracy in world affairs and gives some indication of how far we have to go" (p.15).

Following the lead of Lambert and Klineberg, Cogan (1984) conducted another study that provided cross-national paired comparisons, this time focusing on college students and only between the United States and Japan. His survey of Japanese college students' international and global knowledge and attitudes replicated a national survey of United States' college students (cited in Cogan, 1984) conducted in 1980 by the Council on Learning. Cogan noted that the U.S. study had shown, among other things, that teacher education students had the lowest scores of all majors and, "Perhaps even more disturbing, the students responses to the attitude and opinion scales shows a very limited and parochial view of the world". Cogan asked Japanese scholars to translate the U.S. survey into Japanese and then checked for accuracy of cross-cultural meaning by conducting a backtranslation into English from Japanese. The instrument had four major sections and took about two hours to administer. The four sections were: background information on the respondent; foreign language interest and use; attitudes about world issues; and knowledge of the world. Cogan found, among other things, that Japanese students outperformed their United States counterparts in knowledge by an average of about 10 per cent and that there were differences in both groups' attitudes, with the Japanese students being more altruistic and less chauvinistic. He reported, "The sum of this is that Japanese education majors...know more about the world in which they live than their U.S. counterparts" (p. 22).

Cogan's 1984 preliminary report of his research was followed by a deeper analysis that held further insights (Cogan, Torney-Purta, & Anderson, 1988). This research used regression analysis to investigate relationships among the items and variables that were included in the study and allowed the investigators to report a number of new insights in the data. Among other things, the investigators reported that students who had been admitted to better schools, students with higher aptitude test scores, those who had studied history and geography, and those who frequently read

international news had better knowledge of global issues. Japanese students tended to know more than American students about Asian religion, Chinese culture, international trade, nuclear issues, and international organizations. Kogan, Torney-Purta and Anderson (1988) also included information on a study of secondary school students in ten states of the United States that used many of the same test items to examine predictors of global awareness and concern. Among the conclusions reported from this study was that global awareness and concern were related to "school grades, reading international news in the paper, gender (boys performed better), number of years of social studies classes, foreign travel, and watching television news".

RECENT STUDIES OF STUDENTS' KNOWLEDGE OF THE WORLD

A few more recent studies continue to suggest that American students lack basic knowledge of other nations. Osunde's study (1996) reveals that American high school and university students know very little about non-Western nations, especially those of sub-Saharan Africa. Besides, students had developed stereotypes, misconceptions, and negative attitudes about Africa. A report given by Harvard University after a review of 30 years of undergraduate curriculum concluded that American students urgently needed more knowledge of international affairs (Report of Harvard University, 2004).

In June 2001, the National Commission on Asia in the Schools issued its report on American students' knowledge of Asia (Asia Society, 2001). The report found that despite the fact that Asia was the world's largest, most populous, and fastest-growing region, that while a majority of American students acknowledged Asia's vital role in the continued prosperity of the United States, in general, they lacked a rudimentary knowledge of Asia's geography, history, people or economic and political systems. Most students identified their teachers and schools as the principal source of information about Asia. However, it was also found that most teachers were not being prepared to help students to learn international knowledge because few non-western history courses were offered at American colleges, and Asian history was not required for a degree in history and a teaching certificate. Similarly, language instruction in the United States did not reflect the existing realities. Currently very few students studied Asian languages. The report concluded that young Americans remained dangerously uninformed about international matters, especially Asia, home to more than 60 per cent of the world's population (Asia Society, 2001).

A year after this study, in 2002, the National Geographic-Roper 2002 Global Geographic Literacy Survey polled more than 3,000 18- to 24-year-olds in nine countries including Canada, France, Germany, Great Britain, Italy, Japan, Mexico, Sweden, and the United States (Roper for National Geographic Education Foundation, 2002). The survey found that United States students lagged behind their peers in other countries in their knowledge of geography and current affairs. While only 17 per cent of young American citizens could find Afghanistan on a world map, about 11 per cent could not even locate the United States on the map. Considering this survey was conducted in light of September 11, it was appalling that young Americans remained uninformed or ignorant of even basic knowledge of the world.

In the same year, Holm and Farber (2002) examined the geographic knowledge and global awareness of American upper-level undergraduate university students in a large teacher education program. Holm and Farber's study indicated a high degree of inattention, insularity, and lack of awareness among the prospective teachers. They argued that it would be like "teaching in the dark" if the pre-service teachers did not share geopolitical knowledge or develop global awareness, which has become increasingly important in an increasingly diverse world.

The most recent study was conducted by Clarke (2004) to investigate American students' global awareness and attitudes to internationalism in a world of cultural convergence. It surveyed a sample of 701 college students to ascertain their global awareness and attitudes toward

internationalism. The research found that college students had average levels of global awareness, and mixed beliefs about the United States' involvement with other countries.

UNDERSTANDING GLOBAL EDUCATION IN OTHER COUNTRIES

The findings of previous studies clearly indicate that American students and teachers are not well-prepared in global education, and that it is critical that more efforts be made to foster both American students' and teachers' knowledge of other nations and promoting cultural and global understanding and awareness. American educators need to be aware of and knowledgeable about global education and about what American students know about other nations. It is equally important that we understand how other nations conduct global education to develop their students' cross-cultural and global awareness, and how well their students are informed of other nations in terms of history, geography, politics, economics, and international relations.

'Global education' is a commonly used term in the United States, yet the meaning of this term can come in varied forms in other countries, such as development education, global perspectives in education, intercultural education, world studies, international education, and education for international understanding. Great efforts have been made in many countries to include global education in their school curricula to promote students' global understanding and awareness. The following section aims to (a) explore the status of global education in countries including Canada, the United Kingdom, Russia, China, Japan, South Korea, and Australia; and (b) review possible research in these countries that report how well their students know about other nations.

Global education in Canada

Global education in Canada evolved with the funding provided by the Canadian International Development Agency (CIDA) (Tye, 2003). When the CIDA funding was eliminated, local sources have been funding global education programs in some provinces. The main purpose of global education in Canada is to integrate a global perspective into teaching and to instill a sense of global citizenship and increase global awareness of students.

Attempts have been made to infuse global education into Canadian social studies curriculum to help students better understand other nations. A study was conducted by Petrie, in New Brunswick, Canada in 1988 as an assessment of the impact of the Grade 9 social studies curriculum that had been developed by the New Brunswick Global Education Center. The test was administered to all 6,396 ninth grade students at the beginning and end of the 1987 school year. The first part of the test required students to locate countries on an outline map of the world and the second part measured particular aspects of Canadian geography, economics, and politics. The third part borrowed heavily from the ETS study and assessed students' knowledge of the geographic, cultural, political, and economic conditions in China, Middle East, Japan, India, Africa, Western Europe, and Latin America. The final portion of the study measured students' attitudes toward several global issues. Among other conclusions, Petrie (1988) reported that what teachers emphasized or neglected in their presentation of the curriculum directly influenced students' knowledge. Students were also apparently influenced by both print and television news. Significant increases in students' knowledge of specific countries were present when teachers confirmed that significant attention had been given to these nations. Petrie noted that students emerged from the year-long curriculum with a "more international... outlook," and that "the attitudinal changes represented by the results of the tests would appear to be those which are generally sought by proponents of global education" (p.16).

Global Education in the United Kingdom

Global education in the United Kingdom dated back to the early educational interest in world matters in the 1920s (Hicks, 2003; Holden, 2000; Ibrahim, 2005). This early interest led to the

well-known World Studies Project in the 1970s and 1980s. The conceptual framework of the Project, directed by Richardson influenced teachers in the United Kingdom to develop a global dimension in the curriculum. In the 1980s, the World Studies Project 8-13 was established and targeted children aged 8-13. The project had five themes: others and ourselves; rich and poor; peace and conflict; our environment; and the world tomorrow. By the mid 1980s, many schools in England and Wales adopted the World Studies 8-13 project (Holden, 2000). Another equally influential global education program was conducted by Selby and Pike at the Center for Global Education. Selby and Pike (Pike, 2000) were both influenced by Richardson's World Studies Project and their global education program focused more on secondary schools.

The world studies programs in the 1980s were attacked by conservative politicians in the United Kingdom (Hicks, 2003; Holden, 2000). Among the major criticisms, world studies projects were accused of indoctrination for giving one-sided views of the world. The conservatives pointed out that by building a global perspective into the curriculum, politics was brought into the classroom. The teaching methods were also under attack. The use of simulations and role-play were considered improper. The rationality of having world studies as a school subject was questioned. The conservatives believed that the world studies project lowered the educational standards for the schools that had used these projects. Later on, the term 'world studies' was replaced with 'global education', which implied an approach rather than a single subject (Holden, 2000).

A recent study reported by Davies, Evans, and Reid (2005) calls for a 'new global citizenship education' based on an analysis of the existing global education and citizenship education programs in England. Their study reviewed and compared the global education and citizenship education programs in United Kingdom during the last three decades and concluded that global education and citizenship education programs should be separate from each other. Instead they call for a "globalizing citizenship education".

Global Education in Russia

Global education was not introduced in Russia until 1991 when the Russian Ministry of Education invited scholars both in Russia and the United States to establish a global education program in its national curriculum (Mehlinger, 1998; Tucker, 1991). The objectives of global education in Russia were as follows: (a) understanding the plurality of possible world outlooks; (b) understanding problems the world civilization faces; (c) developing abilities to accept positively other cultures, finding commonalities and differences when comparing cultures; (d) systematic and system thinking; and (e) active involvement in solving problems of community, country and the whole world (Kolker, Ustinova, & McEaney, 1998; Mehlinger, 1998; Tucker, 1991). In Russia, global education was perceived as an approach to education that would help build a bridge between the nation's authoritarian past and the more democratic and open society of their future (Tucker, 1991; Mehlinger, 1998). Global education was also adopted as an approach to break down Russia's isolation of the twentieth century and enable them to participate more fully in the interdependent world of the twenty-first century.

While the United States and Russia share many geopolitical characteristics and are facing a similar challenge to integrate the nations' economies and cultures into the world community of nations in the post Cold War era, both countries view a joint global education program as a potential channel for collaboration. In fact, such a channel has surfaced between the two nations. Mason, Kruchkov, and Kilbane (1998) compared the global education programs integrated in the curriculum of two schools, one in Russia and one in the United States. The study found that there was considerable agreement between Russian and United States educators regarding the fundamental issues related to global education, but there were some differences as well. In terms of the purpose of global education, the Russian school seemed to emphasize the significance of a global perspective to the individual development of students while the American school focused more on the relational impact of the global curriculum (Mason et. al, 1998). Kolker et. al (1998)

were convinced that such an integrated global curriculum could promote comprehensive changes in education.

Global Education in the Asia Pacific Region

A striking development in global education in the Asian Pacific area was the establishment of the Asia-Pacific Center for Education for International Understanding (APCEUI) by joint efforts of Asian governments and UNESCO in 2000. "Its major tasks are to conduct research, strengthen school curricula, create support in the civil society, train professionals, promote international exchanges, develop and disseminate educational materials and information, and encourage international cooperation and networking" (Tye, 2003, p.166).

The global education movement in Asia was launched by each nation and was intended to meet the urgent needs of the new century and to improve its relationship with other nations in this increasingly interconnected world. To a certain degree, this global education movement also reflected the efforts made by APCEUI. The following section addresses the global education status in a few Asian countries.

Global Education in China

Tremendous changes have taken place in Chinese society since the late 1970s when China started the policy of opening up to the world and economic reform. Since then there has been a strong and growing concern for issues related to global education, such as global awareness, education for international understanding, environmental education, population, and globalization of economy (Tye, 2003). Global education has become a hot topic in China in recent years as China has endeavoured to improve its political and economic status in the world and achieve the goal of developing China into a powerful but peace-seeking nation.

Traditionally, knowledge of the world gained by Chinese students was mainly presented through the social studies curriculum, specifically, world history, world geography, and political science. Under current curriculum reform, world knowledge was presented through 'Morality and Society' at the elementary school level, 'History and Society' at the middle school level, and 'World History and World Geography' at the high school level. The new national curriculum standards stressed that one of the major goals of social studies was to help students develop global awareness, to understand and to respect different cultures in the world.

To help K-12 Chinese students to be more aware of global issues and implement this international understanding project, the Beijing Institute of Education conducted a survey of students' knowledge of global issues (Yu, 2002). This survey investigated over 2,000 middle and high school students in Beijing on their knowledge of: (a) world culture and history; (b) world religion and ethnicities; (c) world population, resources, and environment; and (d) peace and development. The research found that Chinese students, in general, lacked deep understanding of other nations' culture and history. While the majority of the students had a deep knowledge of the United States, their knowledge of Europe and other nations was poor. Students had some knowledge of world religions, yet this knowledge was incomplete and often biased. Most students understood the interrelationship between population, resources, environment and sustainable development, and they were concerned about global issues; however, their knowledge of environmental protection and some global issues was superficial and sometimes misleading. The research also found that Chinese students were resistant to learning about the Japanese culture because of the Japanese invasion of China during World War II and the history textbook controversy.

Another study was conducted to understand how Chinese students perceived America and what they know about America (Zhao, Zhou, & Huang, 2005). Over 100 high school students in three

regions of China were either interviewed or wrote an essay about their image and knowledge of America. The research found that although Chinese students had mixed feelings toward America, they possessed great knowledge of American culture, history, geography, and political and economic system. Media and social studies curriculum were reported as the major sources of their knowledge.

Besides the social studies and foreign language curricula, mainly English education in China is no doubt the most important way to expand students' world knowledge. As an international or a global language, English serves as a window for Chinese students to see the world, the key to accessing the western modern scientific and technological advances, and the most important way to communicate with both native English speakers and people from non-Chinese speaking countries. The major goal of English teaching in China is to help students to become capable of communicating in English and to obtain more knowledge about the world.

Global Education in South Korea

Global education in South Korea can be traced back to 1960s, when the Korea National Commission of UNESCO (KNCU) tried to disseminate the value of peace. The most important role of global education in Korea was to help Koreans understand the local and global contexts in which Koreans lived (Savolainen, 2001).

Two important changes have taken place in the realm of education in South Korea in the past few years: one was the revised Curriculum that included "Education for International Understanding and Peace Education" (EIU) as an elective course at high schools in 2001, and another was that the South Korea Ministry of Education started to implement the New Approach for Unification Education (Chung, 2000). The revised curriculum mandated that the course covered a series of topics and programs, including democratic citizenship education, environmental education, education of information and its ethics, and education for international understanding, cooperation and peace (South Korean Ministry of Education, 1998).

Currently, global education in South Korea is mainly conducted through the social studies curriculum, especially world history and world geography. The general goal of world history is to help students: (a) understand the development process of civilization in world history; (b) recognize Korean status in the world through learning the process and characteristics of the formulation of modern society; (c) understand, analyse, and interpret historical materials to synthesize and evaluate the world history; (d) analyse the decision making process in history and apply the process to the solution of problems in current society; and (e) understand historical conflicts and their resolutions, and participate actively in solving problems shared by whole human races. However, modern and contemporary world history in South Korean addresses more Western history than Eastern history. This overemphasis on Western history results in ignorance of other cultures that do not belong to Western society (Zhao, Hoge, Choi, & Lee, 2006).

The national goal of world geography also tends to help students understand the world through investigating the characteristics and the change of these countries based on basic knowledge of geography, developing abilities to explore and solve local problems from the worldview; and cooperating with people in different countries (South Korean Ministry of Education, 1998). English education in South Korea is considered as an important way to obtain knowledge from other nations.

As in China, South Korean students are generally resistant to learning about the Japanese culture. The tensions between Korea and Japan still run deep. The root of these tensions stems from Japanese atrocities during its occupation of Korea for 36 years in the twentieth century and distortion of the historical issues regarding Japan's actions during World War II.

Global Education in Japan

In Japan, the term ‘international education’ is more commonly used than ‘global education’. The concept of international education, as introduced by UNESCO, came to be known to the general public in 1954 when UNESCO adopted the recommendation concerning “education for international understanding and co-operation” and Japan adopted and promoted similar proposals to those of UNESCO (Sato, 2004). Since then this form of education has been called ‘Education for International Understanding’ in Japan.

Basically Japanese elementary students obtain their knowledge of the world through social studies and moral education. However, in both subjects, little world knowledge is introduced before Grade 5 and often the knowledge presented is heavily and explicitly value-laden (Sato, 2004). The main purpose of social studies and moral education is to help develop students’ attitudes to and ways of thinking about other countries and about Japan. In secondary schools, the major sources to gaining world knowledge continue to be the social studies and moral education curriculum.

International education in Japan may be popular and progressing, but in reality, the knowledge of and attitudes towards the world that are being structured in schools are very Western-biased (Parmenter, 1999). Knowledge and culture of Asia and other nations are largely ignored.

Education for international understanding in Japan emphasizes understanding various cultures of other countries and learning foreign languages. As in China and South Korea, foreign language education is highly valued. To a large extent, foreign language in Japan, China, and South Korea means learning English. Foreign language is a major school subject with an international perspective, however, the major goal of foreign language education in Japan is not international understanding or world knowledge, but the mastery of grammar and vocabulary necessary to pass examinations (Parmenter, 1999).

More than 50 years have passed since Japanese started its education for international understanding. However, Okuda’s research indicated that the education for international understanding in schools in Japan is far from satisfactory (Okuda, 1997). A positive development is that the new school curriculum now includes education for international understanding, and hopefully it can help Japanese students develop more knowledge of nations outside Japan.

Global Education in Australia

Global education in Australia can be dated back to the development in education in the 1960s, when many educators became concerned about global issues and were committed to change or eradicate global poverty and inequality (Griffin, Woods, Dulhunty, & Coates, 2002). Later environmental education, peace education, education for human rights, and multicultural education were advocated and pursued in the school curriculum. Global education in Australia has been supported by the national government and many non-governmental organizations that have developed instructional materials for teachers. Global education in Australia has focused on ecology, social justice, human rights, economic, technological, and political interdependence (Tye, 2003). Generally, global education in Australian schools aims to help students to: (a) understand international development issues and ways to reduce poverty; (b) build peace and resolve conflict; (c) appreciate and value diverse cultures, languages and religions; (d) promote human rights and social justice; and (e) work towards environmental sustainability (The Australian Agency for International Development, 2005).

In the past, the curriculum used to be Western-oriented. However, in recent years the Australian Government and schools have largely recognized its regional position and its relation with Asian countries. This recognition has enhanced the international dimension in the Australian school curriculum.

The Assessment Research Center at the University of Melbourne conducted a survey of 7000 Australian students' knowledge and understanding of Asia (Griffin, Woods, Dulhunty & Coates, 2002). Primary and secondary students' knowledge and understanding was described in a profile that consisted of seven levels, including knowledge of historical, cultural and contemporary issues in Asia, understanding of the impact of Asian historical figures on traditional and contemporary practices, basic knowledge of symbols, food, customs, costumes, popular cultural artifacts and people. The research found that students' scores were distributed over the seven knowledge levels, although more secondary than primary students were grouped at higher levels. At primary and secondary school levels, girls tended to have more positive attitudes than boys towards Asia. Differences in the year levels were most evident at the extremes. Middle school students tended to have more negative attitudes towards Asia than primary students. However, it was unclear why there was such a difference in attitudes.

A CALL FOR RESEARCH INTO ISSUES IN GLOBAL EDUCATION

It is pleasing to see that global education was addressed in almost all of these countries during past years and more international content, especially knowledge of Asia, Africa, Latin America, the Middle East, and various global issues, has been increasingly presented in the school curricula. At the same time, many global education programs have been implemented in schools. Some countries, especially non-English speaking countries have put unprecedented emphasis on foreign language education to promote students' ability to communicate in English as well as their cross-cultural awareness and global understanding.

Despite the increase in global or international education, reviews of the research literature indicate that few studies have been conducted in recent years to examine the effectiveness of various global education programs implemented in Canada, the United Kingdom, Australia, Russia, and some Asian Pacific countries. Similarly, few studies have examined knowledge students in Grades K-12 of other nations in terms of their history, geography, political science, economy, and other global issues. This specific lack of research is the primary impetus for a call for research into issues in global education. More than any previous generation, today's students need to develop a global perspective and be knowledgeable about other nations in order to play a better role on the global stage. Knowledge from comparative studies of how well students of paired nations know about each other can surely help improve the global education programs in these countries and help teachers to prepare better students to face challenges in this culturally diverse and globally connected world.

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From decentralisation to centralisation of community secondary schools in Botswana: A community disenfranchisement in education

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This position paper explores the nature of community involvement in education, focusing particularly on Botswana schools. The exploration was made against a decision taken by the Ministry of Education to end the partnership venture established in the 1980s between itself and the local communities in the running of the junior secondary school. The paper was informed by views of a group of Heads of junior secondary schools who only a few years ago co-managed these schools with the Board of Governors. Relevant literature aided and backed the argumentation of the paper. The paper began by an examination of the concept of a community. This was followed by a background, to illuminate the discussion of the paper, detailing the evolution of community schools in Botswana. The paper concluded that the decision taken by the Government to terminate its partnership with communities had the potential to demotivate community participation in education at both the local and national levels.

Community, decentralisation, board of governors, educational partnership

CONCEPT OF A COMMUNITY

The term community cannot be taken for granted as self-evident because it can be employed in a wide variety of contexts and usages. One can speak of the business community, the academic community, the Botswana community, the Muslim community and so on. What is common among the different communities, however, is that each community is wedded together by a common intent. In relation to education, four types of communities are prominent. The definitions of the types of communities are summaries based on Collier's (1994) description of co-operative communities and on their description as "groups of people together in a location or people with some sort of relational grouping". First, there is the village type or traditional or indigenous community. Inhabitants of this type of community are usually a closely knitted group, whose members have a deep sense of belonging. Members share many so called 'commons' such as a common culture, history, future, values, language, social activities such as weddings, funerals and common water points for their livestock. In such a community, one's concern is everybody's concern. Collier's (1994, p. 101) definition of a community suits well the traditional community as:

...a group of people who have existed throughout history and sharing unconventional ideas, or ...a population aggregate inhabiting a contiguous territory, integrated through common experiences ... conscious of its unity, and able to act effectively in a crisis.

Second, there is an adopted community which is found mostly in towns and cities. Members of this community are a heterogeneous group held together by, for instance, the same school their children go to. Their allegiance to the school can at best be described as temporary and artificial. Parents' bonds (if any) with the school get broken immediately their children cease to be students

at the school. Although parents may share the same residential location, the structures of the community may not exert a common influence on the different life styles within the neighbours because of their diverse backgrounds. The third type of community can be described as made up of members who do not necessarily share the same neighbourhood but may share a common religion, culture, and ethnicity. The fourth type of community is the national community, referring to all citizens of a country irrespective of their race, colour or cultural origin. The Botswana community in the 1970s, for example, contributed towards the building of a national university making individual contributions through different means such as livestock, cash, and crops. The first two definitions; the traditional and adopted communities are closely relevant in describing the participation in education by communities in Botswana. The usage of the term community in this paper is therefore to be understood in the contexts of these two definitions.

BACKGROUND

This section traces the background of community secondary schools in Botswana and discusses their evolution from private and independent to government institutions. Local communities in Botswana have some history of involvement in the provision of education despite their low level of education. When formal education was first introduced in Botswana in the nineteenth century educational facilities were very basic (Ramsay, Morton and Mgadla, 1996). In a number of primary schools mud and grass-thatched structures were built by communities to provide better places for teaching than the shades of trees. This community spirit was later to be extended to the secondary schools during the twentieth century. Secondary schools such as Moeng College built in 1949; Phuthadikobo in the 1950s; and Seepapitso in 1950 (Ministry of Education, 1984) were community initiatives. People donated livestock, cash, and volunteered their labour and skills towards the building of these schools.

Other communities took their cue from these success stories and between 1968 and 1973, built secondary schools of their own such as Mahalapye, Ipelegeng, Itireleng, and others (Ministry of Education, 1984). Communities, in building these schools, were responding to a need for secondary education for children who could not find places in the limited number of government and church schools. At that time there were only nine such schools (Ministry of Education, 1984). The community schools were wholly financed by the communities and each school was run by a Board of Governors or by a School Council. Though the schools were private and independent they followed the same academic curriculum that the government schools followed. The academic achievement of students at these schools was always lower than that of students at the government schools (Education Statistics, 1976) because of the comparatively inferior resources (untrained teachers and limited funds). The Government, in its first National Commission on Education (Education for Kagisano, 1977), committed itself to release these schools from their financial predicament, but without taking away the people's involvement in the schools. Though this move was made with good intentions, it marked the beginning of the people's loss of independent control over the schools. Gradually the schools' management evolved from private and independent through to a partnership and eventually to sole government control.

The ideals of a partnership between the Government and the local communities to forge consensus in the provision of education started only in the mid-1970s in Botswana. These ideals have been encapsulated in the 1977 (Education for Kagisano) and 1993 (Report of the National Commission on Education) National Commissions on Education, the details of which are stated in this section. In addition to the financial support, the Government also offered to improve the management of the schools. The Government was concerned that:

Education cannot achieve its goals if it is not pursued in partnership with the community. The Government strongly recommends that the community should as much as possible participate in the development and management ... this educational

partnership brings parents closer to the school ..(Primary School Management Manual (2000, p. 80)

The partnership venture was also born from the specific concern that:

The Commission has learned from many submissions and from its own visits to secondary schools that the community aspects of secondary education are weak, both in terms of the social/community life in the school and in terms of the link between the school and the community in which the school is located. (Education for Kagisano, 1977, p. 119)

The notion of a partnership was consistent with the widely held realisation that schools were open systems which could benefit from their communities in as-much-as communities could benefit from them (Hoy and Miskel, 2001; Hanson, 2003; Owens, 2004). It was also consistent with the view that where parents were actively involved in their local schools, and with their children's education, the whole learning community was stronger and better learning outcomes were achieved (Rycroft, 2005). In addition, when schools worked together with families to support learning children tended to succeed not just in school, but throughout life and that when parents were involved in their children's education at home, the children did better in school (Henderson and Berla, 1994). Subsequent to this realisation a new type of community secondary school emerged in 1984 in Botswana (Report of the National Commission on Education, 1993, p. 142). This happened at a time when the country was experiencing economic boom. The diamonds were selling well and the beef industry was flourishing. The government could therefore afford to spread schools, as it did, throughout the country and extend educational services to all social groups. More teachers were trained and externally recruited to match the fast expanding secondary education.

Boards of Governors were formed to run the community junior secondary schools. The Boards were legally empowered to receive and spend funds, an arrangement which would give them flexibility in buying, selling, or renting and raising money "as the direct involvement of the local community in the operation of educational institutions is essential" (Report of the National Commission on Education, 1993, p. 379). Taking the educational operations to the local authorities by the Botswana Government was in itself empowerment to the communities. Scott and Jaffe (1991) defined empowerment as the desire for people to make a difference and the organization's willingness to harness their enthusiasm. The desire by one party to get involved and the acceptance of this by the other party resulted in a relationship between the two. As Scott and Jaffe cautioned, empowerment was not boundless. The Boards of Governors were to operate within the statutory instrument framework of the Minister of Education. The roles for each partner were clearly defined. The Government's role in the educational marriage was concerned mainly with issues of the curriculum, technical support and the provision of most of the physical infrastructure such as classrooms. The construction of dining hall and kitchen was to be the responsibility of the respective communities. The provision of staff houses was to be a joint responsibility between the communities and the Government. Each school would have a 13 member Board of Governors, comprising members of the community and Ministry of Education to run its affairs. Community representatives were voted into the Boards mainly on account of their social standing in the community and not necessarily on their educational influence because educational attainment was a rare strength among village community members (Molosi, 1993). The Chairpersons of the Board were invariably therefore dominated by business people in the communities. The Boards operated under guidelines that among other things specified that:

The Boards shall open bank accounts in the name of their respective schools, invest the funds of the school and raise and disburse funds as necessary or expedient for the proper running of the school(s). The Accounting Officer of the Ministry of Education shall have the power to exercise control and utilization of all such funds, stores and

buildings. (Board of Governors Guidelines for Government Aided Community Junior Secondary Schools, 1984, p. 7)

Initially the expenditure of the school finances was such that any two of the three (two members of the Board of Governors and the Head) could sign in the account, although accountability remained with the Head. This arrangement was later changed to have the Head as one of the two signatories.

Words and phrases such as ‘ownership’, ‘partnership’, ‘self-reliance’; ‘empowerment’, ‘stakeholders’, ‘do it for yourselves’; and ‘consultation’ which become clichés characterized the selling of the partnership venture to communities. Teams from the Ministries of Education and Local Government had traversed the length and breath of the country to sell the new type of community school in all its form and shape. And who could resist such a grand and noble idea, particularly in a country where post-primary educational opportunities for students were very limited. The idea was welcomed with a lot of enthusiasm by the communities and soon schools were built all over the country. Between 1984 and 2005, a total of 206 junior secondary schools had been built or revamped to the new type of secondary school (Education Statistics, 2004). As if the idea of a partnership was a project with a fixed lifetime, 20 years later, in 2004, the Government decided against the idea of a formal partnership in education with the community. Boards of Governors were dissolved and Government was to take these schools and run them along state owned schools lines (where monetary decisions were highly centralised), thus virtually taking away ownership of the schools from communities. This take-over meant that the Board members representing the community were automatically no longer signatories to the school account. This re-centralisation aroused great concern and strong reaction from the public. The Government was blamed for not having consulted the communities when control of the schools was assumed. Politicians, and in particular, councillors were unfazed about the decision as demonstrated by some of their comments: “It would have been better for the Government to play a monitoring role at such institutions, for example, in the management of finance, instead of a complete take-over, because there is already a lot in the hands of the Government”, (The Botswana Gazette, 2005:3). Problems now faced by schools as a result of the take-over were insurmountable, “because decision-makers are packed at headquarters”. “You cannot co-ordinate so many schools from one central point. The schools were better placed in the hands of communities” (ibid). The Government’s action was criticized as contradictory to its policy on outsourcing. On the one hand the Government talked of privatisation and outsourcing and on the other it was centralising educational institutions, such as brigades and community junior secondary schools. In defending the Government’s position, the Assistant Minister of Education said: “The Government decided to take over the schools because communities had difficulty managing them. In his submission the Minister of Presidential Affairs and Public Administration similarly argued that the Government decision was justified because people who were given the responsibility to manage the schools were failing to do so, arguing that “it is not a contradiction to outsource because where people cannot manage government has to step in”. “Local authorities and schools’ Boards of Governors are no longer in control because the Government now provides every resource for the running of such institutions”, he added (ibid).

SCHOOL LEADERS’ VIEWS ON THE TERMINATION OF THE PARTNESHIP

Heads’ views were obtained using a semi-structured protocol and were presented as descriptive data and in tabular form (see Table 1).

The descriptive responses by school leaders were based on how justifiable and democratic the Government decision was and what were the likely consequences of the decision undertaken. A selection of these descriptive responses by the Heads is given.

The decision and the way it was executed was in order and appropriate. Consulting the communities would have caused delays in the take over process. After all, the Government has all along been financing the schools singled handed and its decision should not cause any problems. Schools will be efficiently run as there will be better controls financially and administratively. School Boards have been a hindrance to the efficient running of schools. The change will strengthen the PTA and parents see it that way and the PTA is well suited to continue the role of the School Boards.

There was no consultation and proper communication to the people involved in community junior secondary schools' management. The decision was undemocratic and unethical. Though the Ministry of Education might have had a good reason to dissolve Boards of Governors, its approach was unjustifiable. The news of a break away in partnership came down on the communities like a hurricane sweeping through relaxed and unsuspecting people. The way the Ministry of Education handled the whole issue is likely to affect voluntary participation in education by communities. Communities at large will have no forum to channel their views on education since they no longer have representative bodies at both the regional and national levels. The PTA, now as the sole community mouthpiece is unfortunately not as empowered as the Board of Governors was. Because committee members of the PTA do not get a sitting allowance they view their role in schools as voluntary and not binding. One head observed that: Parents would remain partners to the schools and not to government. Only members who had children at the school would be involved in education at the school level only. The Government has overstretched itself politically, resource wise and socially by unnecessarily shouldering a responsibility it ought to leave with communities. This, they argue is likely to backfire in the future because the Government would need community input and this might be difficult to achieve. Parents were becoming interested in the education they have helped shape. The decision to dissolve the School Boards has had a crushing blow on the communities' pride in their schools and their enthusiasm towards education had waned.

Table 1. Views of school heads on schools' take over by the Government

| Decision | No. of Responses | Percentage |
|------------------------------|-------------------------|-------------------|
| Justified and democratic | 4 | 12 |
| Justified and undemocratic | 18 | 55 |
| Unjustified and undemocratic | 11 | 33 |
| Total | 33 | 100 |

DISCUSSION

The Heads' views presented above could not be judged as representative of the views of all Heads, but were, however, indicative of particular trends of thinking by the heads on the particular subject being investigated. Apart from the democratic, moral and ethical considerations, two fundamental questions that could guide the discussion of the paper need to be asked. First, do the communities have a stake in the outcome of the decision by the Government? Second, could they have contributed expertise had they been involved in the decision? The answer(s) to these questions are found in the conclusion.

The idea of a partnership in education is akin to decentralisation, and particularly in the context of Botswana, the type of decentralisation Mok (2004, p. 7) refers to as: "... territorial decentralization that involves ... a redistribution of control among the geographical tiers of government, such as ... states/provinces, districts and schools". Decentralisation could arise from an increase in size of the organisation, the geographical separation of different parts of the organisation, or the need to extend services to remote areas such that they enjoy some measure of

autonomy (Mullins, 1993, p. 316). Decentralisation of education, a process of transferring decision-making authorities from higher to lower units of school governance has become a global phenomenon in the quest for quality education (Beare, Caldwell and Millikan, 1989, p. 71; Hung cited in Mok, 2004, p. 21).

Usually, when governments make decisions to re-centralise educational functions they want:

To assert control over key areas such as resource management including finance, so that the lines of control are simplified and made more direct; by the imposition of a number of efficiency disciplines ... and the abolition of many advisory and consultative bodies such as councils and boards. (Beare *et al.*, 1989, p. 71)

The reasons for centralisation are sometimes made to “improve economies of scale and a reduction in overhead costs; improve decision making which might otherwise be slower ...” (Mullins, 1993, p. 317).

The Botswana Government decision to terminate its official relationship with School Boards was based on the difficulty the Boards had in managing the schools. It is not clear, however, whether the difficulty was related to the management of the finances or other resources. It was as simply as “... where people cannot manage the Government has to step in”. Given the level of the Board members’ educational qualifications, they would indeed have had difficulty in managing schools. The inclusion of many of them in the Boards was not necessarily guided by their level of education. Rather, their political or social status in the community, particularly in the rural areas where the majority of the schools were, was the main guiding criteria in their selection. The financial system that was introduced in those schools did not help the situation either. A comparison of how the community and the government secondary schools financial systems operated showed that the system used in community schools was more prone to financial abuse. The community schools operated a cheque account system whereas government schools used a General Purchase Order as a transaction unit. The latter system did not involve hard cash. The seemingly loose accounting system used at community schools was the most likely reason that motivated the Government action.

It is clear from Table 1 that most Heads (67%) supported the decision taken by the Government, possibly basing their support on the low educational levels of the Board members which constrained the expediency of decisions as lamented by one respondent that: “School Boards have been a hindrance to the efficient running of schools”. According to the information provided by the Heads in Table 1, the manner in which the Government reached its decision was less favourable to most of them. The majority (88%) felt the way the decision was executed was not democratic since the people on the ground were not consulted. As put by one Head: “The news of a breakaway . . . came down on the communities like a hurricane sweeping through relaxed and unsuspecting people”. One could view the decision as a betrayal to the brokered educational partnership between the Government and the communities and a denial to the communities of their rightful engagement with places where their children were being schooled. It was therefore a regression in the educational advancement of the country, in terms of community participation. The Government’s decision to withdraw school management is at odds with contemporary views on school community involvement by Beare *et al.* (1989); Sexton (2004); Glickman (1995) and Hacker, Wilson and Johnson (1999) that community participation in education is not an option.

The decentralisation of education to the local authorities has an element of empowerment to the site-based management or lower units of governance. Empowerment as a process, where administrators share power and help others use it in constructive ways to make decisions affecting themselves and their job, (Hoy and Miskel, 2001) has the potential to be translated into cooperation and teamwork between the one giving it and the one receiving it (Carnall, 1999). The giving of responsibility to the local authorities rather than managing functions from the centre has

become a much espoused management and administrative theory that taps into communities' sense of identity (Carnall, *ibid*).

In Australia, communities played a significant role in education. Parents were encouraged to participate beyond the traditional fund-raising roles. As Morgan (2000, p. 6) indicated:

Parents have representative bodies at state and territory level to represent their views to state governments. In turn, these state-level bodies have formed a national peak body, the Australian Council of State School Organisation to represent their consolidated views to the national government.

Local communities' role in school reforms is very essential. Not only is it important, they want to be meaningfully involved. The most credible communication with them about schools flows outward from personal communication. Attempts to deny them what they perceive to be their right can work against schools as "... they will always make their decision whether they are informed or not, so it is better they be informed and involved in what schools are planning" (Sexton, 2004, p. 7). Emphasising the importance of parental involvement in education, Glickman (1985) and Hacker, *et al.* (1999) argue that parents have certain knowledge about their children which the teachers and administrators are not aware of, and teachers and administrators have certain knowledge about the students which parents are not aware of. The knowledge gap cannot be bridged unless each of the parties shares what is known to it which the other does not know. The current wave of discipline problems in schools which has attracted much of the public's attention is a clear need for a closer cooperation between schools and their communities (Moswela, 2004).

Also, the need to include sex education in the school curriculum, for example, partly because of the frightening state of the HIV/AIDS pandemic in the country in future needs the cooperation of parents because of the inherent cultural implications of the subject. Again, as the economy continues to decline, as it does, government may seek monetary relief from parents. Already, the Government has introduced a cost-sharing measure in education beginning in 2006 where each parent is to contribute five per cent of the cost of educating their child. Heads' view on the consequences of the Government decision was that, obtaining cooperation from communities and parents on such important issues could prove difficult for the Government to achieve as communities would no longer understand how they fitted into the larger mission. Remarks from government officials such as: "Local Authorities and schools' Boards of Governors are no longer in control because the Government now provides every resource for the running of such institutions", further distances communities and parents in particular, from participation in education. Encouraged by the above comment and by the councillors' protest against community disempowerment in education, communities might shift responsibility, including their own, to the Government for any failure by schools.

The other danger in denying participation of the local people in issues that affect them such as education as seen by Beare *et al.* (1989, p. 243) is that:

The more educated the population becomes, the more sophisticated are the demands and the stronger run the trends towards localisation and privatisation. . . . that any government which tries to stem the flood could be inundated by such a stream of locally oriented *administrivia* that centre will be in danger of collapse from overload. Decentralisation is therefore tending to become a coping reaction.

THE GOVERNMENT COULD HAVE HAD A BETTER APPROACH

Since the Government had involved communities when the idea of a partnership in education was first mooted, the withdrawal process, for ethical reasons, should have followed a similar path of consultation, at least to preserve some good relationships that might have been established during

the partnership. Community withdrawal from schools' management came at a time when more educated people were permanently relocating to villages as they retired from government service.

This was an opportunity for the Government to have exploited experience and talent to strengthen the partnership venture from people who could offer a more informed direction of education. If the Government concern was the inefficient use of the monies, which I think it was, the Boards could have been relieved of this aspect and been allowed to continue with the administrative function of schools. Beare *et al.* (1989) cautioned that as communities became more educated they might demand genuine involvement in schools, particularly if there were no sign of progress beyond words on the part of the Government or nothing suggesting that something was being delivered on the ground. As the educated retire and become active members of their communities, they are likely to demand their full involvement in the provision of education to the children.

CONCLUSIONS

The provision and management of an effective education system cannot be achieved without the deliberate participation of the people it purports to serve, the community. An attempt to exclude the community in educational issues is likely to be suicidal on the part of a government because by its nature, education is a public commodity. After toiling for so long and so much to provide basic infrastructure for schools the Government needs to applaud the community for its effort. Part of the partnership agreement is that boards, representing communities, are responsible for building part of the staff houses, the school kitchen, and that each parent with a child at the school paid some levy. The communities had made remarkable efforts in this regard with some achieving major projects such as the building of school hostels for the boarders and some had raised funds that purchased school vehicles and computers. The minority Heads' view that the involvement of school boards was not necessary because the Government wholly funded schools, is viewed by the author as a flawed argument.

In reference to the two questions asked at the beginning of the discussion section, the argumentation of the paper reveals that indeed the communities did have a stake in the decision. The decision affects the education of their children and they are taxpayers. Although they lacked expertise that sprung from their limited level of education, at least at the political level they were not ignorant and could have contributed to the decision. Since the situation was outside their zone of acceptance, they might see themselves as having been denied the right to participate. They might feel alienated and manipulated because they were sidelined in a crucial decision that directly involved them. Future calls by the Government to communities to participate in educational activities could be resisted. It is suggested that in order for the Ministry of Education not to lose a potential partner in education, it needs to expand the current roles of the PTAs and give them more say than they presently have without necessarily reverting to the Board of Governors system. Parental involvement in schools is limited mainly to ceremonial activities such as fund-raising for school ceremonies such as prize giving days and anniversaries. The Government may retain its strict control over the management of finances but the PTA's new role needs to open the opportunity for communities to have a bigger say in policy issues since it is evident that communities now have more educated members who are more informed and can therefore make quality contributions towards the development of education. Experience in Australia shows that although participation rates of parents are only a few percent, when there are major issues on the agenda, the level of participation rises, (Morgan, 2000).

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Lingering effects of the past on a University merger process in post-apartheid South Africa

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This article is based on an exploratory case study of an institution that is currently undergoing merger under the directive of the Minister of Education in South Africa. The findings reported here illuminate perspectives of senior administrators at Settlers University, an historically White university (or historically advantaged university), regarding its merger with the historically Black (or disadvantaged) University of the Homeland. This article articulates perspectives of senior administrators regarding the impact of this merger on their students, staff, administrative structures, academic programs and institutional culture. In particular, the article highlights the intricate dynamics of a government-mandated process between two institutions with divergent legacies. Given the incongruent histories of the two merging institutions, what are the challenges and opportunities that confront merging institutions and how do these senior administrators envision a future of the new merged university?

Mergers, institutional transformation, South African higher education, organizational culture.

INTRODUCTION

[The merger] is not going to make a difference because we are going to remain as Settlers campus and Homeland campus. The deputy director general in the department of education made a statement that senior executives are going to be affected by the merger because there are not going to be any duplication. We are three vice-rectors here at Settlers and two in Homeland's group, that makes five. We have two Rectors and only one can serve; this means [after the merger] they are going to take one. The next possibility is redeployment or retrenchment. Because we are merging to become one institution, if there are people at Homeland, which is predominantly Black, who are excessive, they may come here. There will be those targeted senior positions that have to be filled and we will have to start internally first. But the fact is Settlers is going to remain the predominantly White campus and Homeland is going to remain mostly Black (A senior administrator at Settlers University, reflecting on the merger).

This article is based on an exploratory case study of an institution that is currently undergoing merger under the directive of the Minister. The findings reported in this work highlight perspectives of three senior administrators at Settlers University, an historically white university (also referred to historically advantaged university)¹, regarding their merger with the historically

¹ In this article, we use the terms historically white universities and historically advantaged universities interchangeably. Similarly, we interchange the terms historically White universities and historically advantaged universities. Since the change of government in 1994, there has been a concerted effort to move away from the use of racially-constructed terms, in keeping with the ANC government's vision of creating an equitable society, a 'rainbow nation'.

Black (or disadvantaged) University of the Homeland (also referred to as Homeland). In this article we convey their insights about the effects of the merger on their students, staff, administrative structures, academic programs and institutional culture, and the complex dynamics of a mandated process between two institutions with disparate legacies. Given the incongruent history of the two merging institutions, what is the vision of these senior administrators and the role(s) they envisage for their constituents within the new (merged) university? What are the challenges that confront the merging institutions? How can these institutions effect change on their campuses?

The institutional context of the university where this merger is taking place is significant to the success of this process, particularly in light of the historical relationship this institution had with its merger partner. Settlers University was established in 1869 but it underwent several name and structural changes until 1951 when it acquired its most visible identity under policies established by the then newly-elected National Party Government. Like other Afrikaans-language universities, Settlers was perceived as loyal supporter of the former National Party Government and its discriminatory policies. Booyesen (1989) contended that Afrikaans-language universities were used as instruments of political socialization where Afrikaner youth were indoctrinated with beliefs of Afrikaner racial superiority. While there were some voices of dissent, these were frequently subdued by the passive masses. Even during the 1980s when the political climate was particularly explosive and offered Afrikaner youth the opportunity to challenge repressive government policies, "the very nature of Afrikaner political culture, ...precluded (current political) events from impinging on students' consciousness" (Booyesen, 1989, p. 2). These institutions received a disproportionately high percentage of state financial support and boasted some of the best academic facilities in the country.

In contrast, its merger partner, Homeland was created in 1978 as a homeland university². Like other historically Black universities created during the apartheid era, this institution was established as a teaching university whose responsibility was to prepare graduates who would be ready to enter the workforce after completion of their bachelor's degrees (Mabokela, 2000). In keeping with the activist tradition present at many of the historically Black universities, during the latter part of the 1980s Homeland students were engaged in active resistance against the increasingly repressive policies of the homeland government, which were directly influenced by the broader policies of apartheid. Emerging from these divergent social, political, educational pasts, how do these institutions negotiate the current political environment to create a feasible partnership?

The discussion to which we turn examines mergers in other countries that have experienced government-driven processes. This examination does not only offer possible lessons and insights, but helps us understand where the South African experience fits within a broader discourse around organizational change.

MERGERS IN GLOBAL CONTEXT

During the 1980s governments in Australia, the Netherlands, and Britain were very actively involved in the promotion of institutional merges to rationalize their higher education systems (Goedegebuure, 1992). There are two basic forms of mergers, federal and unitary structures, the former being popular in the United Kingdom and a number of Commonwealth countries for a number of decades. With the federal model, specific responsibilities remain with participating institutions or are delegated to particular units with the overarching or central body taking other responsibilities. Particular powers and administrative responsibilities of each unit or level are

² In this article we will not provide a detailed discussion of the history of South African higher education system. For more detailed discussion see Mabokela (2000); Subotzky (1997); Nkomo (1991); Muller (1991).

clearly specified. This model is attractive to participating institutions with a substantial degree of autonomy, taking into account the different cultures and situations. However, it may limit the amount of course and administrative rationalization and can break down when member institutions differ markedly in size and strength. Federal mergers are losing popularity due to disappointing results (Kotecha and Harman, 2001). Unitary mergers on the other hand, allow a single governing body, a single CEO and a single set of structures for academic governance even with considerable administrative devolution of responsibility to major academic units. The most common model for merged institutions in Australia is a unitary structure without campus heads, campus budgets or campus academic boards. Funds for academic activities are internally allocated to cross-campus faculties, which in turn make allocations to schools on different campuses. A single academic board is responsible for academic governance (Kotecha and Harman, 2001). Kotecha and Harman (2001) further categorized mergers into different types: voluntary and involuntary, consolidations or take-overs, single sector and cross-sector, two-partner and multi-partner, similar and different academic profile mergers.

Researchers (Curtis, 2002; Kotecha and Harman, 2001; Reddy, unpublished; Woodward, 2001) have identified that mergers might be driven by five categories of factors: professional, academic, strategic, funding incentives and compulsory government mandates. The factors included similar commitments and student profile, geographical proximity, institutional equity, new organizational cultures, cost control, enhancement of administrative efficiency, sustained investment in facilities, improved academic offerings and research, and even simply a matter of survival. The drivers were essential to propose a merger, but there were some conditions required to get a merger started well and on track. Thompson (1985) and Reddy (2000) identified essential conditions for mergers such as geographic proximity, previous cooperation, complementary instructional programs, an enhancement in the quality of academic programs, common political interest, decisive legislation and strong steering by government, and skillful and committed leadership. Besides these, Kotecha and Harman (2001) stressed culture as a significant variable in merger processes, as “a particular cultural challenge for higher education leaders is to manage the merging of divergent campus cultures into coherent educational communities that display high levels of cultural integration and loyalty to the new institution”.

Merger practices in the United Kingdom and Australia had offered us lessons for future reference. In both countries, the government has tended to drive the restructuring with considerable initiative from individual institutions or groups of institutions (Kotecha and Harman, 2001). Their experience had shown that institutional mergers have achieved large, comprehensive institutions, and that these might have a competitive advantage in terms of size and scale, advantages for students in terms of academic offerings, infrastructure and services and quality of qualifications, and the potential for long-term economies of scale (Kotecha and Harman, 2001). However, among the intended benefits of mergers, Abbott (1997) examined change in average costs per student and student-staff ratios of a selection of Victorian Colleges of Advanced Education that were involved in the 1981/8 round of amalgamations. The results were compared to the average costs of some colleges that were not involved in amalgamations at this time. The findings revealed that (a) few financial gains were made from administrative economies and those did arise only did so after a number of years had elapsed. (Therefore, it is difficult to simply attribute these savings to the merger process); (b) the mergers' greatest contribution was in shifting resources out of the stagnant teacher education sector and into expanding fields such as business studies, and applied sciences; (c) the cost savings that did occur seemed to have arisen mainly because of the rise in the ratio of student to academic staff members. The main advantage of the amalgamations would seem to be in the creation of institutions that were adaptable enough to transfer resources out of contracting fields, and so ensuring that the institutions would use their facilities to their full capacity. In this way economies of size could be achieved.

Both researchers and practitioners expressed their concerns about potential problems in the institutional merging process. Curtis (2002) warned against hasty pace in the process and job losses as a result. Thompson (1985) argued that a lot of issues needed to be taken into consideration when a merger was planned to occur: governance and administrative structure, personnel and institutional policies, finances and property, students, legal ramifications, informing publics, and timing. Kotecha and Harman (2001) pointed out that mergers might compromise diversity within organizations. When exploring the significance of mergers in the reconstruction efforts within the South African higher education system, Humphrey (2003) contended proponents anticipated that mergers would not produce successful transformation of institutions without interventions at the root of organizational behaviour or affecting institutional culture.

METHODS AND PROCEDURES

Data Collection

The findings in this article are based on intensive open-ended interviews with three senior administrators at Settlers University. Within the context of this study, senior administrators include individuals who occupy executive-level positions within this university. At the time of these interviews this university was engaged in intensive deliberations with its merger partner to disentangle the intricate details of an amalgamation that would take effect in less than six months on January 1, 2004. Therefore, the perspectives reflected here were in many ways indicative of the heightened urgency to resolve very serious issues before the looming January 1st deadline arrived. These interviews varied in duration from 1 to 2 hours. The interviews aimed to capture the administrator's insights about the effects of the merger process on their students, staff, administrative structures, academic programs and institutional culture. Given the disparate histories of the two merging institutions, I was particularly interested in the vision of these senior administrators and the role(s) they envisaged for their constituents within the new university. Each interview was tape-recorded and later transcribed. The data were coded for emergent themes that are discussed in detail. In addition the interview data were supported by various government reports including *The Size and Shape of Higher Education Report* (2000), *A Framework for Transformation Report: A Final Report* (1996), as well as institutional reports, newsletters, websites related to this process.

Data Analysis

The analysis of the data employed practices associated with the constant comparative method (Merriam, 1998; Strauss, 1987) to identify recurring themes within and across data sources. The constant comparative process led to a single-case level of analysis where the findings were aggregated to incorporate a thematic approach. The process allowed important themes and categories to emerge inductively from the data across cases. The discussion that follows captures and conveys issues, concerns, and the vision of the senior administrators at the Settlers University.

PERSPECTIVES OF SETTLERS UNIVERSITY ADMINISTRATORS

The merger between Settlers University and the University of the Homeland was mandated by the government. As articulated in the National Plan for Higher Education (NPHE) (2001), the government envisioned a new higher education system with increased access, quality educational functions, and new institutional identities that would be characterized by both diversity and equity. The perspectives expressed by the senior administrators at Settlers highlight the tension between the government goal of attaining access, diversity and equity and organizational objectives of maintaining institutional identity, quality and high academic standards. The

concerns and issues identified by the senior administrators centred around four central themes: (a) faculty recruitment and retention issues; (b) student access issues especially for the historically marginalized Black students; (c) lack of coordination in transformation strategies; and (d) lack of attention to the so-called ‘soft’ side of the merger process.

Faculty Recruitment and Retention Issues

The senior administrators in this study expressed concern about the lack of qualified faculty at this institution to maintain a high standard of education. They raised specific concern about the lack of Black academics relative to the number required to meet the diversity and equity objectives of the merger. The administrators further highlighted the institution’s geographic location as a particular hindrance to attracting and retaining high-quality academics. Given that Settlers was located in a semi-rural area, there were limited professional opportunities for spouses of faculty being recruited. As Professor Venter explained, “Even when we have some people who would be willing to consider a career here at Settlers, they hesitate when they realize that job opportunities for their spouse are very limited”.

The geographic location also had implications for salaries, a factor that influenced some academics’ decision to accept or decline employment offers. That is, compared to institutions that were located in or near urban and other major industrial areas, faculty salaries tended to be lower and opportunities to consult and participate actively in the industry sector were limited. As Professor Venter further noted, “It is just normal that people (come to Settlers) to obtain qualifications and gather some experience and then they turn to more lucrative opportunities in more city-like environments and private sectors”.

Quality of life issues are of particular concern to Black academics who may face problems securing adequate housing near the campus, or obtain proper educational facilities and schools for their children. Emerging from the legacy of apartheid, Settlers University was located in a small town where the residential areas closest to the university campus were reserved exclusively for white residents. While in theory residential segregation had been outlawed since the ascent of the ANC government in 1994, the reality of segregation still loomed large. Therefore, Black academics have to contend with discriminatory attitudes and practices both on- and off-campus. Professor Zodwa, a senior ranking African academic at Settlers University succinctly conveyed the dual pressures of life for Black academics in this environment.

Historically [Settlers University] policies were designed for White students and White personnel, so for a person from another racial group to feel comfortable there a number of issues that need to be addressed. The first issue is language. Secondly, the general culture where you feel marginalized because you belong to the minority culture. You always experience a kind of tolerance, that is, you are just being tolerated and it’s very uncomfortable. To me it looks like we are busy moving apart. Integration is becoming very difficult. This does not only have to do with politics, it has to do with a number of issues. And some of these issues are still prevalent at the formerly White universities.

The issue of faculty recruitment and retention became particularly complex within the context of the merger. The academic staff and administrators at Settler’s merger partner were predominantly Black, while the staff at Settlers was overwhelmingly White. This scenario might present an ideal opportunity to desegregate the merged university; however, it also raised a number of critical issues given the disparate histories of these institutions. For example, Homeland was primarily a teaching university, while Settlers was a research institution. Given this difference, how would faculty from Homeland understand expectations around research and similarly, what value would Settlers faculty place on teaching excellence?

Student Access

Closely related to issues of faculty recruitment and retention was the challenge of making Settlers University more accessible to Black students in the post-merger period. Like other historically white universities under apartheid, Black students were legally prohibited from attending this university, except with permission from the Minister of Education. Frequently, such permission was denied. Given this legacy, there was concern among the traditional White constituents of this university that increasing access to Black students would lower academic standards at this university. As Professor Zodwa explained, the implementation of alternative admissions criteria that took into account the poor educational preparation of Black students in high school, were perceived as compromising the quality of this institution.

I don't want to discount the possibility that people still associate it (a lowering of standards) with the intelligence of Black people per se. The problem arises out of the type of education that these students get, particularly students from rural areas. Rural schools are still far behind. We have received emails from certain academics who said that we have to do a lot for Black students to bring them up to standard. Some of them are well-meaning, but some are very condescending.

Professor Zodwa further noted that it was in very exceptional cases that excellent Black students choose to enrol at Settlers. That is, they preferred universities that were perceived as academically superior to Settlers. Facing such competition, it became imperative for Settlers to explore alternative strategies to attract Black students. The implementation of alternative admissions strategies would not necessarily harm the academic reputation of this institution.

Settlers University has been regarded as a conservative university in the sense that it has served one segment of the population, White Afrikaners. Historically Settlers' policies were designed for White students and White personnel. With various efforts, merger as one of them, to include students from other racial groups, particularly Blacks, these students would bring with them values that were culturally significant to them. The challenge of how to make the diversified student population comfortable involves a profound change in its historical culture and values of this institution.

Similar to Black faculty, quality of life issues were a serious concern for Black students at Settlers. Historically, the very few Black students on this campus were not allowed to reside in the residence halls. They had to commute to campus from the nearby Black township, the majority using public transportation that was not always ideal and in some case unsafe. As Professor Zodwa lamented,

[Settlers University] is a very conservative community. We are having difficulties finding accommodation for our students. If Black students can't find accommodation in the hostels, they have to live in the townships. If a Black student calls looking for a place they say it's rented, but if my (White) secretary calls, then the place is available. Black student were not feeling very welcome and supported. There was a lot of dissatisfaction, a lot of frustration on the part of Black students. These are the realities that South Africa is facing. Whether we will ever reach that goal where we can all live in free society is another question.

While residence halls were theoretically open to all students the time of this Professor Zodwa expressed concerns about the conflicts between White students and the few Black students who resided in the halls. In his assessment, Black students perceived their presence in the residence halls as a tokenism, that is, something the university was obliged to do, rather than valuing them for their positive contributions. The intersection of academic and social pressures created a particularly challenging set of experiences for Black students at Settlers.

My daughter attended [an historically White university]. During her first and second year I always got via friends that even though she was doing very well in her courses, she was very frustrated. She was always the only Black in class, feeling very isolated. The social pressures, not the academics were getting to her. Other students here [at Settlers] have similar experiences. You find that there is one [Black] student in the faculty of commerce. That student will sit alone in class, does not have friends. This can be very strenuous. So as you can see, there is still a lot that has to be done. Yes, there are a few things that have been done to accommodate Black students, but more is necessary. For example, students in the faculty of engineering raised a concern. They requested the exam paper in English. You know what the lecturer said, “you go and ask Mugabe.” I said to the students, how is the university going to address these kinds of issues if you don’t disclose them. The students said, “we are not going to disclose them because we fear victimization”.

Uncoordinated Transformation Strategies

The merger process across most South African universities was coupled with wide-scale transformation of the entire system of higher education. The merger of Settlers and Homeland was reflective of the broader social and political issues that were still unresolved in post-apartheid South Africa. At the time of this study, the Vice-Chancellor (comparable to a university President in the US system) of Settlers identified what he called “deal-breakers” in the merger negotiation, namely, the administrative seats of the merged campus; the composition of the council (comparable to a board of trustees in the US context); the name of the new merged university; language; and values. The first three issues were resolved before the merger when into effect on January 1, 2005, however, language and values were most contentious. As Professor Erik explained, part of the challenge with the merger was the divergent understanding that the partners entered this process with. Therefore, a common understanding needed to be established. As he explained,

I think what we need is to clarify the common understanding of transformation. If the basis of the partnership is based on misconceptions, somewhere in the future we are going to have serious problems. When you merge, it’s like you are getting married. You have two partners understanding each other, trusting each other because you have to play open cards. In the particular case of this merger, the idea of transformation requires further clarification, so that we [know we] are departing from the same set of expectations. I don’t get a sense that these issues have been clarified across both parties and I don’t get the sense that we are all operating from the same set of expectations.

Professor Zodwa echoed concerns about the varied pace of change between the merging partners. As he noted, Settlers University implemented institutional changes, for example consolidation of some academic department and units, implementation of a peer-review process, prior to the announcement of the merger.

The negotiation between [Settlers] and the [Homeland] is complicated. From the side of the Homeland it’s the transformation agenda. Whenever we get from our Rector who has been charged with leading our team in the negotiation process, the question that we ask is, what sort of transformation is taking place at home, because charity begins at home? Hence, from the side of [Settlers], we started a transformation process a long time ago, when there were restructured faculties, condensed them into schools or focus areas. We started the process of peer-reviews. We invited internationally reputed scholars to come and review our scholars and they meet international standards. Hence our end product, our students receive high quality education from this university.

Many if these initiatives have not yet been addressed by their merger partner, nor are they priorities. These divergent priorities present one example of the challenge of what the merging partners consider critical and in need of immediate attention in the post-merger period.

Unattended 'Soft' Side of Merger

The senior administrators at Settlers identified what they considered the most testing aspect of the merger process, that is, the 'soft' side as Professor Erik termed it. All the administrators lamented the fact that significant effort has been placed on addressing structural dimension of the merger, while little attention had been devoted to the people, their fears and uncertainties and the institutional culture. Professor Venter's position conveys this anxiety:

I have that experience and it is also well documented in the literature that ... in terms of restructuring, the danger put forth is that a lot of attention is being given to the structural dimensions. The organizational charts and the names of the structures and things like that. Too little attention is being paid to the soft side, to the people side, to the culture, the thoughts, the perceptions, [and] the fears of the people. I can only hope that is this process that we are in. As soon as things are settled on the macro level in terms of the strategic, political level, we can really start to attend to the structural as well as the cultural in a balanced way.

The employees' perception of change and their fear of the unknown created resistance to the merger process. Therefore, it was a significant challenge to

modify or encourage behaviors among people that will create a culture that is more tolerant, that is more inclusive of those who have been marginalized

in the historically White institution. In some ways, the lack of attention to this fear of the unknown reinforced stereotypes and pushed the Settlers constituents further into the protective zone of resistance. Professor Zodwa cited a sad recent incident that occurred at the graduation ceremony to illustrate this lack of understanding and conflict between the values of the White constituents of Settlers and the Blacks:

[When the Black family started ululating] some people decided to leave because they saw this as being rude. An [intense] internet discussion arose from this matter; the journalist interviewed a variety of people on campus including the Rector, people in human resources and student relations. I said, there is a lot that needs to be done at this university. People keep talking about reflecting Christian character, it's a good thing for marketing the university but the issue of Christianity should be in the hearts of people. Such intolerance does not reflect Christianity. However, because we come from divergent groups and the fact that we were divided in the past there needs to be honest soul-searching, introspection by everybody. Reality is that we are going to face these challenges. We are not staying on an island that is far off from the reality of race relations and life in South Africa... Someone made a remark that seemed very offensive and said, "Blacks have to ululate because they are entering the civilized Western world." This statement came from a whole professor. And I said you don't understand how offensive it is to make such remarks because people will ululate when there is success, when they are happy. In fact when [Blacks] enter the so-called Western civilization, we lose a bit of ourselves. It is more painful than they would ever think.

The merger, as one of the various efforts to include students from other racial groups, particularly Blacks, brought with it values that were culturally significant to that of the Whites. Professor Zodwa realized the significance of a profound change in its historical culture to make the diversified student population comfortable on campus, "Settlers should now transform completely

in terms of the students, the culture. I think it's almost like Africanization". Professor Zodwa cited another incident where a student program, African night, intended for all students was presented, but only the Blacks attended the event.

I remember in 1994 we were described as the "Rainbow Nation of God" by Bishop Desmond Tutu. The question I want ask is, have we moved to become that Nation of God? To me it looks like we are busy moving apart; integration is becoming very difficult...When we had an African art exhibit, an event planned for the whole campus, only the Black students attended. White students have an attitude. I think Black students are putting forth an effort, especially on the cultural front.

Language was another contentious issue in the merger process. Within the broader political history of South Africa, the struggle around language dated back to the early days of colonialism and the conflict between the British, Dutch and the local African groups (See Mabokela, 2000; Mmusi, 1987 for amore detailed discussion of this issue). Historically many Africans viewed Afrikaans as the language of the oppressor, particularly after its imposition in Black schools which triggered massive opposition. It was through the massive 1976 Soweto infamous student riots (by Black students) that the apartheid government's Afrikaans language curriculum resulted in a national state of emergency thus subsequently this proposal was overturned. As Professor Zodwa explained:

Last year we received a petition that (Black) student took to the Minister of Education complaining about the language issue. They said specifically that we are not going to feel accepted until the language issue is addressed. At this stage, an arrangement has been that non-Afrikaans speaking students should attend evening classes. And the feeling of those students who only have command of English is that they type of service they receive in the evening classes is inferior. The lecturer does not show the same level of enthusiasm. It's a form of secondary service they are getting.

Professor Erik's assessment of the language issue captured the broader sentiment of the traditional (White) constituents of Settlers university, who viewed the use of Afrikaans as a medium of instruction directly connected of their culture and sense of identity. Therefore, any effort to introduce English might be interpreted as a direct assault on Afrikaner culture. As Professor Erik explained, "The use of simultaneous [Afrikaans/English] translation was a major concession", particularly among the constituent who were seriously concerned about the institutions loss of identity.

The language issue was intricately linked to identity of the traditional constituents of Settlers University. Professor Erik indicated vehement opposition from alumni who were concerned about the institutions loss of identity, specifically about the institutions name and its Christian identity. In the eyes of the alumni who were said to be the strongest within South Africa, compromising these values was akin to abandoning the very soul and essence of Settlers University.

Emerging from these very contentious issues raised by senior administrators at Settlers University, what lessons have been learned? More importantly, how did this experience inform broader discourse around institutional mergers?

LESSONS LEARNED AND RECOMMENDATIONS

Recruitment and Retention Strategies

As we consider lessons learned from the insights shared by the senior administrators at Settlers, we have to bear in mind that the merger between these two institutions was mandated by the Government. In some ways, part of the complexity of this process arises from the reality that these are reluctant partners

One of the major challenges facing Settlers in the post-merger period is its ability to recruit and retain a racially diverse workforce. Most importantly, Settlers needs to be able to meet the government mandate to create an accessible and equitable institution of higher education. The recruitment and retention of diverse administrative and academic staff at Settlers University requires a conscious effort given its legacy as a symbol of apartheid education. At the time of this study, the racial composition of the staff at Settlers was overwhelmingly White (more than 95%). The question becomes how does Settlers successfully merge with Homeland, and optimize the opportunity with to diversify its staff and respond to the government mandate?

The senior administrators shared insights about a staff diversification process they referred to as “growing our own timber”. This refers to the process whereby the university identifies postgraduate students with high motivation, supports and encourages them to pursue further academic degrees, and eventually grooms them to assume academic and administrative positions on campus. According to Professor Venter, Settlers has established a special budget for target hires of talented scholars from historically excluded groups (that is, Blacks). It is interesting to note that the senior administrators do not express much enthusiasm to recruit a racially diverse academic and administrative staff from their merger partner, Homeland, despite the fact that the staff at this institution is overwhelmingly (more than 90%) Black. Conversations with senior administrators suggest that there are areas of duplication after the merger in academic programs and administrative positions, thus necessitating staff reductions in some cases. Given this scenario, it seems reasonable to explore the option of employing staff from the merger partner.

Retention becomes imperative once ideal candidates from marginalized groups are hired. The administrators at Settlers envision implementation of retention strategies at two levels in the post-merger period. At the individual level, the institution can provide both intrinsic (work environment) and extrinsic (monetary) rewards to retain qualified academics and thus respond to the national agenda to promote access and equity in higher education. At the institutional level, it is critical to address issues that relate to the culture of the organization. The latter may present more significant challenges because it relates to those factors Professor Erik identified as “deal-breakers,” that is, the issue of language and institutional identity.

Federal or Unitary Post-Merger Structure?

There are some contradictions regarding the structural organization of the post-merger institution as articulated by the senior administrators. The following statements shared by the current president of Settlers demonstrate this confusion. On the one hand, Professor Erik argued for the creation of a single post-merger institution, stating, “This [post-merger] institution will merge and become one institution...we will negotiate on creating unitary management, this is not a federation. While the post-merger institution will have a single University President and governing board,” characteristics usually associated with unitary mergers (Kotecha and Harman, 2001). Other insights shared by the Professor Erik imply a federal structure for the new university. As he asserted,

[After the merger] we want this campus to maintain its institutional identity, not so much in its name, but in its essence. Eighty-five percent (85%) of our students are Afrikaans-speaking, not only White Afrikaans, but Colored Afrikaans –speakers as well. To maintain our students, we have to say that this campus can still be called Settlers. This is the first condition and a very important one.

The above statement embodies characteristics of a federal merger (Kotecha and Harman, 2001) where each campus retains autonomy and operates independently. Evidence from the literature cautions that federal mergers while initially attractive to institutions with markedly different conditions such as Settlers and Homeland, may limit the amount of administrative rationalization

and eventually breakdown. The ideal merger needs to reflect a delicate balance between unity and diversity, with shared goals for creating an equitable, inclusive institution.

Cultural Integration with Mutual Respect for Difference

This merger on a surface and quantifiable level is about the demographics. However, given that the people involved in the process come from divergent groups and were divided in the past, the merger must go beyond numerical representation. In Professor Venter's words, "There needs to be honest soul-searching, introspection by everybody." But how do administrators and staff in the post-merger university promote integration of groups of different races and cultures on campus? Professor Zodwa emphasized the importance of moving beyond the idea of tolerance, to truly embrace and appreciate difference within the post-merger university. As he clarified,

People use this term [tolerance] on a number of occasions but they don't know what the implications of its use are. If people show that attitude, that they only tolerate you for particular purposes, if you are a self-respecting person, then you will definitely feel very marginalized. There needs to be respect for one's culture, not tolerance. One doesn't necessarily imply that cultures are going to be forced to be one; the so-called "melting pot syndrome" where all cultures are forced to become one. This doesn't work. There needs to be a type of mutual respect for different cultures. When Black people come have to feel respected and they in turn will respect their White colleagues.

While senior administrators at Settlers have been engaged in deliberations about the merger process, and have been compelled to confront and perhaps resolve some of their apprehensions, other constituents on campus are still challenged and there are pockets of resistance among students, academic and administrative staff, and alumni.

The Road Ahead...

This exploratory study sheds light on a single case of a government-mandated merger, "a forced marriage" between partners that prefer to remain autonomous. The response of these institutions to this government mandate is further complicated by the broader social-political climate to desegregate South African universities and to create accessible, equitable institutions. While the findings of this exploratory study reflect only the perspectives of senior administrators, they reveal important issues that if unattended have the potential to compromise the success of this process.

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Education reforms in Indonesia in the twenty-first century

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This article examines the reforms in education that have been occurring in Indonesia following the socio-political change marked by the fall of the Soeharto regime. Democratic citizens are now desired explicitly in the 2003 Education Act. As the decentralisation policy in governance has been implemented, autonomy in education has resulted in several consequent reforms. School Based Management has been chosen as a new paradigm in school management, while the new curriculum focuses on competency-based principles and school-based development. However, obstacles including cultural and economical barriers are assumed potentially to hinder the success of the implementation of reforms, if not carefully and appropriately handled.

Indonesian education; school-based management; competency-based curriculum; education reform; education autonomy

INTRODUCTION

Since the fall of the New Order¹ regime in 1998 in Indonesia, many changes have been or are occurring. In terms of policy, the restriction to two periods of the presidency, direct election, and the implementation of the policy of autonomy are among the significant reforms. These changes have had an impact on education. However, information about such changes and the impact in Indonesia, written in scholarly articles and internationally accessible, is hardly found. This article is, therefore, in a way intended to reduce the lack of information by examining educational reforms in Indonesia around the turn of the twenty-first century and presenting it to international readers. The first section describes the change in objectives of Indonesian education, taking *The 2003 Education Act* into account. The second section examines the recent education management reform following the implementation of *The Regional Autonomy Act in 1999*. This reform was marked by the implementation of School-Based Management (SBM) as a new paradigm in school management. The third section reviews the reform in school curricula that now focus on a competency-based approach in teaching processes and a school-based approach in its development. Finally, this article points out several challenges that are likely to hinder the success of the implementation of such reforms, if they are not handled appropriately.

¹ New Order or Orde Baru is a term used to refer to a period of Indonesian modern history after the fall of Sukarno (Old Order or Orde Lama) in 1966. The changing order was marked with the *coup de état* of the PKI (Indonesian Communist Party) on the 31st of September, 1965. In 1966, General Soeharto took power and became the second Indonesian president. In 1998, following the severe economical crisis that hit Asian countries including Indonesia, Soeharto was forced to resign, and the New Order regime collapsed. The current order, frequently called the Reform Era, began.

OBJECTIVES OF INDONESIAN EDUCATION

In accordance with the socio-political changes, the *Acts*² associated with the Indonesian national education system have been issued several times after Independence in 1945 up to the most recent time including in 1950, 1956, 1989, (Poerbakawatja, 1970; Tilaar, 1995) and in 2003. *The 2003 Act* (Indonesian National Education System Act or INESA) is regarded as important since Indonesia has undergone dramatic recent changes particularly in the political system with the movement from authoritarianism to democracy, which started shortly after the fall of the Soeharto or New Order regime in 1998. The governance system has also changed, from centralist to decentralist or, rather, to what is popularly termed as '*otonomi yang lebih luas*' meaning a 'wider autonomy' (Jalal & Supriadi, 2001).

As stated in *INESA 2003*, national education is aimed at developing each student's potential to become people with faith and piety towards God the Only One, good morality, good health, knowledge, intelligence, creativity, independence, and to become democratic and responsible citizens [my translation] (*Departemen Pendidikan Nasional*, 2003d, 2, article 2). There is an emphasis in *The Act* on religious and moral values, intellectual competences, and democratic values.

Although Indonesia is not a theocratic country, the people put religion as one of the main considerations in their activities. Indeed, *UUD* (the State Constitution) 1945 emphasises that each citizen must adhere to a religion (Ministry of Public Religion (MPR), 2003). There are now at least five religions formally recognised by the Indonesian Government, the main ones being Islam, Christianity, Hinduism, Buddhism, and Confucianism. It can be understood, therefore, that religion plays an influential role in almost every aspect of life in Indonesia including education (Novera, 2004). Religious values are taken as one of the educational standards and objectives. These values are expected to become an integrated part of students' personality, and to be manifested in their morality (Tilaar, 1999). These religious and moral objectives have been repeated explicitly in each Indonesian Education Act (Poerbakawatja, 1970; Tilaar, 1995), though there has been an ongoing apprehensiveness that such objectives have not been achieved (Adimassana, 2000; Sudarminta, 2000).

As education should be able to develop specific cognitive, psychomotor, and affective objectives (Bloom, 1956), practising religious morality is not sufficient for children to survive in this competitive era. A range of attributes is needed such as the basic competences and life skills (Bailin, Case, Coombs, & Daniels, 1999; Blank, 1982; Bloom, 1956; Cameron, 1986; Campbell, 1996; Metais, 1999). However, as Muhaimin, Suti'ah, and Ali (2001) and Darmaningtyas (2004) have pointed out critically, the Indonesian education system has so far placed a heavy emphasis on cognitive attainment by students. Knowledge learnt and mastered by students has been separated from its application (Darmaningtyas, 2004). Learning objectives would seem to have been formulated for students to meet certain targets of curriculum content without sufficient attention being given to the issue of how the learnt knowledge was to be applied in real life (Joni, 2000). Consequently, many school graduates are unable to take active roles in the community and survive at a time when change and competition have become common features (Darmaningtyas, 2004; Joni, 2000; Tilaar, 1999).

After the fall of the Soeharto or New Order regime, Indonesia underwent a dramatic change, particularly in terms of the political system, as it moved from authoritarianism to democracy. This

² The Education Acts in Indonesia are explicitly mentioned in the Indonesian 1945 Constitution (Undang-Undang Dasar 1945) for government to issue as a legal foundation for the establishment of the national education system. The constitution says, 'each citizen has the right to education', and 'government must carry out a national education system, which is arranged by national acts' (MPR, 2003).

has had a great impact on education, as education cannot be separated from politics (Jalal & Supriadi, 2001). Students need to be enlightened to the democratic values and practices, as indicated in *INESA 2003*. Hochschild and Scovronick (2002) stated that schools were a crucial locus for educating children to become democratic citizens, who contributed to constructing and sustaining a democratic country. Azra (2002) argued that a democratic governance system had become an unavoidable trend since the fall of the Soeharto regime, because of both global and local demands. Thus, an important stage for Indonesians has been reached in that the phrase '*warga Negara yang demokratis*' (democratic citizens) was explicitly put in *The 2003 Act*, and was absent in *The 1989 Act*, as one of the objectives of education.

These three aspects of objectives are to be integrated into the personalities of Indonesian children. They are expected to exercise religious and moral practices and values, be intelligent, have life skills, be democratic, and be responsible to the nation. These objectives certainly have significant implications for other parts of the national education system, particularly management and curriculum.

SCHOOL MANAGEMENT REFORM

As described earlier, the current political reform, marked initially with the fall of the Suharto regime in 1998, had an impact on education. The decentralisation policy in the governance of the state had significantly influenced educational management and the curriculum. As a result, in 1999, '*Manajemen Berbasis Sekolah*' or school-based management (SBM) was introduced to reduce the severe dominance of the central (Jakarta) authority over almost every aspect of schooling.

According to the *World Bank Report* in 1998, Indonesia had had very centralised management with regard to education until 1999 (The World Bank, 1998). The central educational authority determined almost every aspect of schooling, while subordinate authorities (offices at the provincial and district levels) only had to implement the policies. Consequently, as the World Bank concluded, that there were ineffective institutional arrangements in the Indonesian education system. These ineffective arrangements resulted in some major constraints:

- a) a division of responsibility for delivery of primary education among various government agencies and ministries which resulted in a lack of accountability for results;
- b) overly centralised management at the junior secondary level;
- c) little autonomy for principals and lower level managers, leading to ineffective school management;
- d) a fragmented and rigid budgetary process; and
- e) civil service incentive structures that did not reward good teaching practices and led to an uneven allocation of teachers in schools (Jiyono et al., 2001; The World Bank, 1998).

In line with the centralised management, as Umaedi (2001) and Jalal and Supriadi (2001) stated, Indonesian educational management had been very largely macro-oriented. Tilaar (1999) explained that the policies about school affairs were issued heavily based on macro educational analysis. Bjork (2003) and Tilaar agreed (1999) that policy based on case studies was hardly ever found. Consequently, different needs of particular schools were not addressed on an individual basis. All schools received the same treatment.

It is through *Act No.22/1999 of Otonomi Daerah* (Regional Autonomy) that an ever-major decentralisation of the country's policies and management has occurred. According to Jalal and Supriadi (2001, pp.124-5), the objectives of the decentralisation are to:

1. lessen the central government's burden and its interventions over local problems;

2. improve people's understanding and their support for social and economic development;
3. plan better programs of social and economic improvement at the local level;
4. train people to manage their own affairs; and
5. strengthen the national unity.

In the field of education, the decentralisation policy was not only a national issue, but also a global movement. Bjork (2003) explained that in recent years international funding organisations have provided a large amount of money for the promotion of the decentralisation of education systems around the globe. Proponents of this approach argued that decentralisation would result in one or more of these following outcomes: (a) redistribution of power, (b) increased efficiency, or (c) greater sensitivity to local culture (Bjork, 2003). These three outcomes corresponded to the problems that Indonesia had faced owing to the overlapping and centralised management, as indicated previously.

Although the decentralisation of education had previously been one of the growing concerns of the New Order regime marked, for instance, by *The Government Act No.28/1990* (Jalal & Supriadi, 2001; Tilaar, 1999), there was no serious change made in the early 1990s in that regard. Criticisms on the implementation of such an *Act* and related decisions included both the lack of political will to implement such decentralisation, and the limited scope of decentralised matters, which covered only school physical development and maintenance (Jalal & Supriadi, 2001). This did not touch the more fundamental aspects of education, such as curriculum and instruction, and managerial issues, such as budget and recruitment of teachers and other staff.

However, the current decentralisation policy in education was marked significantly by the introduction of School-Based Management (SBM) to primary and secondary schools in 1999 (Jalal & Supriadi, 2001; Umaedi, 2001). This introduction has been one way of implementing the policy of educational autonomy embedded in *Act No. 22/1999*. This also corresponds to the global perspective that SBM is now becoming a common phenomenon, believed to be a promising means for whole school improvement. Advocates of this approach have argued that within SBM schools, where democratic structure and culture were promoted, improvements in all aspects of school became more feasible and possible (Caldwell & Spinks, 1998; Cheng, 1996; Everard & Morris, 1996; Gamage, Sipple, & Partridge, 1996; Mohrman, Wohlstetter, & Associates, 1994; Wohlstetter, Van Kirk, Robertson, & Mohrman, 1997).

Umaedi, the former Director of Secondary Education of the Ministry of National Education (MNE), asserted that SBM in Indonesia had been implemented to improve school quality (Umaedi, 2001). Therefore, some functions were being decentralised with which individual schools were supposed to deal in the sense that they were given a greater proportion of the responsibility and power of doing so. The developed functions include learning and teaching processes, school program planning and evaluation, curriculum development, staff management and recruitment, resources and facilities maintenance, finance management, student services, school-community partnership, and school culture development (2001, p.22).

Translating the above plan, Jiyono et al. (2001, pp.161-3) proposed a model for Indonesian SBM, which had five basic components – management, teaching and learning processes, human resources, resources and administration, and school council.

1. Management focuses on: (a) providing school organisational management and leadership, (b) developing school planning and policies, (c) managing school operations, (d) ensuring an established effective communication between school and the community, (e) encouraging the community participation, and (f) maintaining the school accountability.

2. Teaching and learning process functions to (a) improve the students' learning, (b) develop suitable learning programs to meet students' needs, (c) offer effective instructions, and (d) provide students with personality development programs.
3. Human resources function to (a) distribute and place staff with the ability to fulfil students' needs, (b) select staff with knowledge of SBM, (c) promote continuous professional development, (d) ensure the prosperity of staff and students, and (e) promote discussions of school processes.
4. Resources and administration function to (a) identify and allocate the resources available in accordance with the needs, (b) manage school funds, (c) provide supporting administration, and (d) provide for the building maintenance.
5. The school committee, comprising the active participation of community leaders, professionals, principals, teacher representatives, the district education authority representatives, and parent representatives, is responsible to elect the principal, collect money, control school finance sourcing from the community, block grant, central government's funds (except salary), and be involved in curriculum development.

In order for each above component to function properly, Jiyono et al. (2001) set up two pre-requisites. (1) Funds should be allocated and directly given to individual schools, contrasting with the long tradition in which funds were given to schools through long bureaucratic lines. (2) SBM-skilled staff should be available in the first instance in order to support and ensure effective implementation. Once these two pre-requisites were met, according to Jiyono et al. (2001), the implementation of SBM in Indonesia was on track. Unfortunately, until now, the investigator has not found from the accessible literature, so far, any research-based evidence of how SBM has been implemented.

Some Indonesian school principals, who were participating in a workshop of SBM conducted by the Managing Basic Education (MBE)³, have defined the characteristics essential to Indonesian SBM. While these characteristics were indeed not drawn from the factual phenomena of the Indonesian SBM through a scientific inquiry, they importantly revealed the principals' understandings and expectations of SBM. The characteristics were as follows:

1. The vision and mission of the school are formulated by the principal, teachers, representative of students, school alumni and other stakeholders.
2. There is a school development plan based on this vision and mission.
3. A school budget plan, in line with the school development plan, is developed transparently by the principal, teachers, and school committee.
4. School autonomy is realised, as shown by the school becoming more self-supporting and focused on meeting local needs.
5. There is participatory and democratic decision-making.
6. The school is open to criticism, input, and suggestions from anyone to improve the program.
7. Everyone at school is committed to carrying out the agreed vision and mission.
8. All the potential of school stakeholders is utilised to achieve the goal.

³ Managing Basic Education (MBE) is a project of improving basic education in Indonesia within the framework of SBM. This project is funded by USAID, and conducted in several districts in Java. Further information of MBE can be accessed on <http://www.mbeproject.net/>.

9. There is a working atmosphere conducive to improving school performance.
10. There is an ability to create a sense of pride among staff and the local community.
11. There is transparency and public accountability in implementing all activities (Managing Basic Education (MBE) Project).

These characteristics indicate implicitly some fundamental issues of SBM including: (a) school governance structure, (b) school autonomy, (c) shared decision-making, (d) school curriculum, (e) school management and leadership, and (f) staff professional development. However, the characteristics are not systematically conceptualised. Rubiannoor (2003), in his study of the principal's roles in implementing the SBM in a school in South Kalimantan, concluded that the principal was found to have understood his new role in the SBM implementation: (a) developing the school vision and mission, (b) setting strategies for quality improvement, and (c) implementing participative management. However, since the school was only at the stage of preparing for the SBM implementation, proper assessment of the implementation phase could not be done. He also found that human resources such as staff and teacher readiness cognitively, mentally, and culturally were among the problems that might hinder the success of the implementation (Rubiannoor, 2003, pp.146-9).

SCHOOL CURRICULUM REFORM

According to Mohrman *et al.* (1994) and Wohlstetter, Van Kirk, Robertson and Mohrman (1997), SBM should be seen as part of a more systemic set of changes, not as an isolated innovation, since it would not automatically improve the schools' and students' performance. A systemic set of changes in the SBM schools should encompass the introduction of new approaches to teaching and learning. In other words, structural reform through SBM implementation should happen side-by-side with, and connected strongly to, curriculum and instruction reform (Wohlstetter *et al.*, 1997).

In line with the above argument, and following SBM implementation, the Indonesian Education Authority introduced a new curriculum: *Kurikulum Berbasis Kompetensi* (KBK: Competency-Based Curriculum) in 2003. This curriculum began to be implemented in 2004. Therefore, the official name for this curriculum was *Kurikulum 2004* (the 2004 curriculum). According to MNE, this new curriculum put an emphasis on standardised competences that the students were to achieve and on a greater authority for the school stakeholders to participate in the curriculum development. Kwartolo (2002) explained that the aim of the 2004 Curriculum implementation was to produce the outcome of students with strong personality, and good competences and skills, in order that they would be able to develop successfully further such qualities either in the workforce or in higher education, and interact with the social, cultural, and natural environments.

A comparison between the 2004 Curriculum and the previous one, provided by the MNE (2003c), is summarised in Table 1. This comparison indicates, as Joni (2000), Sindhunata (2000), and Jalal and Supriadi (2001) suggest, in that the previous curriculum was material-oriented, overloaded with content, and centralist in its development.

The MNE (2003b, pp.35-7) also provided clear guidelines for curriculum development and management at every level—central and local authority, as well as school. The central authority plays the role of providing professional services for the regional or local curriculum developers, and seminars and workshops for quality curriculum improvement. The provincial authority functions to serve, support, monitor, and control syllabus implementation in the districts. Meanwhile, the district authority serves and supports the development, evaluation, and refinement of syllabuses. It also creates guidelines for schools in developing syllabuses, forms a team of the district syllabus developers, helps and analyses the school syllabus, and supervises and monitors

syllabus development and implementation. Schools are expected to develop their own syllabus, or use other schools' syllabus, and to coordinate actively with the District to develop the syllabus.

Table 1. A Comparison of the 1994 and 2004 Curricula

| Similarities | |
|---|---|
| 1994 Curriculum | 2004 Curriculum |
| <ul style="list-style-type: none"> • 9 year compulsory learning • emphasis on abilities of reading, writing, and arithmetical functions • essential concepts and materials in each subject to achieve competences • local content curriculum • 45 minutes allocated for each learning hour in every level of school | <ul style="list-style-type: none"> • 9 year compulsory learning • emphasis on abilities of reading, writing, and arithmetical functions • essential concepts and materials in each subject to achieve competences • local content curriculum • 45 minutes allocated for each learning hour in every level of school |
| Differences | |
| <ul style="list-style-type: none"> • centralist • contains no standardised competences • no activities to familiarise students to content and concepts • no ICT • multiple choice assessment • thematic approach for grades 1 & 2 students of elementary school (recommended only) • no continuity of competences • no curriculum diversification • syllabus developed by the local education authority or school depending on needs | <ul style="list-style-type: none"> • decentralist • contains standardised competences • integrated and programmed activities to make students familiar with content and concepts • introduction of ICT • classroom-based assessment • thematic approach for grades 1 & 2 students of elementary school (compulsory) • continuity of competences stratification from grades 1 to 12 (over school levels) • curriculum diversification: special and international curricula • giving opportunities to teachers, schools, and local authority for program elaboration and adaptation or analysis of materials |

As indicated in Blank (1982, pp.3-6), competency-based principles are not only related to the curriculum in the sense of formulating learning objectives and selecting content that is competency-oriented, but it is also related to the quality of instruction. It is therefore important to develop the teaching and learning processes that provide students with high quality, carefully designed, student-centred activities, and with media and materials designed to help them master each task or ability. For this, the MNE proposed what the teaching and learning process should be like in the context of the implementation of the *2004 Curriculum*.

The MNE (2003a, p.7) defines learning as an active action by students to build meaning and understanding, while teaching is the responsibility of teachers to create situations supportive to students' creativity, motivation, and responsibility for life-long education. The MNE (2003a, pp.7-11) also provided a list of effective teaching and learning processes that includes the following principles:

1. *Reversed meaning of learning*: This refers to a concept of information building and understanding by students, not knowledge transfer from teacher to student.
2. *Student-centredness*: Each student is different, and therefore the teaching and learning process must cater to the individual needs of every student.
3. *Learning by experiencing*: The process provides students with rich real life experiences related to the knowledge they are acquiring.
4. *Developing social, cognitive, and emotional skills*: this puts an emphasis on interaction and communication during the learning process.

5. *Developing curiosity, creative imagination, and the quality of believing in God:* The process facilitates students' increasing their curiosity and imagination. The process also creates awareness of the Divine dimension.
6. *Life-long learning:* The process supplies students with learning skills covering self-confidence, curiosity, the ability to understand others, and to communicate and work together with them.
7. *Integrated independence and interdependence:* This means that the process develops the spirit of competition within togetherness.

Besides such a list of the components, the MNE provides guidelines for effective teaching and management of learning. Such guidelines are important for a school's teachers in the process of the implementation of the new curriculum (Departemen Pendidikan Nasional, 2003a). This is because a comprehensive understanding of such a competency-based approach in teaching, and, hence, more responsibilities and creativities of teachers, are needed.

OBSTACLES OF IMPLEMENTATION

The literature also suggests some obstacles that might hinder the successful implementation of SBM and the *2004 Curriculum* in relation to the Indonesian educational context. One of the obstacles lies in the fact that teachers have culturally been accustomed to a centralised system. Bjork's (2003) study indicated an insufficient response from teachers to the decentralisation program in curriculum development. Although the study was conducted in the context of the Local Curriculum Content (LCC) program in 1998, it is pertinent to mention it here as some cultural situations may have remained similar between the time of his study and the present.

According to Bjork (2003), three reasons were identified justifying the insufficient teacher response. First, the civil service culture had prevented teachers from becoming free individuals who were able to be active, creative, and innovative. The civil service culture was replete with values of loyalty, obedience, responsibility, cooperation, and the like. As Emerson (1978) observed, this culture of transmitters of directives from their superiors rather than representatives of local communities resulted from the authoritarian practices of the New Order regime for more than three decades. Bjork (2003, p.205) clearly stated that Indonesian teachers tended to value the security of their job more than opportunities to influence school policy or to make a difference in the lives of their students.

Second, there was a lack of rewards and incentives for teachers with new or increased responsibilities. Teachers, in Bjork's (2003) observation, did not devote more of their time to something, which did not provide them with more financial gains. Indeed, it was the budget constraints that made the Government unable to provide financial rewards to teachers who agree to take on additional responsibilities. This budget constraint was acknowledged by some experts such as Sutjipto *et al.* (2001) who had been involved in formulating the Indonesian education reform policies. According to a report of *Asia Times Online*, the Indonesian education budget was the lowest in Asia, which only amounted to seven percent of the State Budget in 2000, while the neighbouring countries such as Malaysia, Philippines, Singapore and Thailand allocate from 25 to 35 percent of their annual budget for education (Asia Times, 2000). The recommendation of the constitution for allocating 20 percent of the annual budget for education had not been fulfilled.

Third, centre-local relations were still at a more centralised point on the continuum. Although the central education authority's officials expressed their commitment to empowering local authority people, they failed to provide sufficient means and assistance to support their commitment (Bjork, 2003; Rubiannor, 2003). Bjork (2003, p.208) described, "in theory, they [central people] want to increase local autonomy; in practice, they often undermine that very objective". Weston, the chief party of the MBE project, stated, "in many cases their [the government officials] actions

contradict their words (they talk decentralisation but practice a centralised approach). There is no clear list of functions delegated to school level, and more importantly little funding is allocated to schools” (personal communication by email, 2003).

Bjork’s (2003) three cultural reasons for the failure of the LCC Program outlined the difficulties of implementing the educational reform agenda in Indonesia. The centralised long-standing socio-political situation resulting in a loyalty and obedience culture have influenced negatively the decentralisation processes. Rubiannoor (2003, p.147) noted that cultures of *menunggu perintah dan meminta petunjuk* or ‘waiting for commands and asking for directives’ from higher authority were hard to change. The current socio-political situations have probably changed since the reform agenda was launched and the autonomy policy initially implemented, but it will take time to change the cultural behaviours of teachers and other people working in education.

Finally, the economic condition of parents, as a result of the long economical crisis that Indonesia has been facing, can become another obstacle to more intensive parental involvement in the school processes. Some parents may not be able to become involved in, for instance, school meetings as a consequence of the SBM implementation, since they have to devote their time to earn their basic living. This situation is even worse for many parents who have to end their children’s schooling because of their financial difficulties (Hartono & Ehrmann, 2001). While both the implementation of reform require much more funding to be allocated, the parents’ economical disadvantages prevent them from providing contributions to it. In poor districts, according to Filmer et al. (1999), this is much more problematic for the schools as the district government may not be able to provide the necessary funding.

CONCLUSIONS

The Indonesian education system has been undergoing a radical change. This change, triggered by recent socio-political situations, encompasses at least three major aspects of education. First, there has been a redefinition of the national education objectives, which put an additional emphasis on the importance of achieving citizens for living in a democracy. Second, the school management approach has changed from centralist to decentralist management. This shift is to be crystallised into the implementation of School-Based Management (SBM). Third, there has been a shift of paradigm in terms of school curriculum by introducing the *2004 Curriculum*, which is conceptualised in terms of: (a) setting nationally standardised competences for students to attain, (b) making a clear link between school graduates and job demands, and (c) accommodating local needs by involving local school stakeholders in the development of their school.

Obstacles that may hinder the success of the implementation of reform need to be dealt appropriately, or otherwise the reform remains good only on paper. Several recommendations can be advanced. First, in the framework of community involvement in education, socialisation of every policy and initiative taken need to be fully carried out. People cannot be left behind as if they are not one of the stakeholders of education and the schools. This needs to be followed by the empowerment programs of key stakeholders, parents in particular. Second, leadership at every level of education needs to be strongly developed as the literature (Fullan, 1999; Leithwood, Jantzi, & Steinbach, 1999; MacBeath, 1998) suggests what is necessary at a time of rapid change is effective leadership that guides and provides directions. Third, the civil servant culture of teachers needs to be changed into a professional culture. Teachers need to see their work as a profession with certain responsibilities and sufficient rewards. The Government’s plan to issue *Teacher Professionalism Act in 2005 (Rancangan Undang-Undang Guru)* is an appropriate step to take and is expected to create eventually the professional culture of teachers (Lie, 2005). Fourth, professional growth needs to be an integral part of the reform and fostered in meaningful and intentional ways. Fifth, 20 percent or more of the state budget needs to be allocated for education as recommended by the constitution in order to provide sufficient funding for the education process. An increase in the budget is needed as well to lessen the severe level of

corruption in education, which is happening at every level of bureaucracy, including the schools (Irawan, Eriyanto, Djani, & Sunaryanto, 2004). Finally, much research on every aspect of education in Indonesia needs to be carried out as part of the whole reform agenda to assess and evaluate the implementation of the reform. Case studies need to be accepted as the most widely employed approach as they are able to address the individual problems of each aspect studied.

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Internationalisation of higher education in Hong Kong

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With a view that internationalisation is an interactive response to globalisation, this paper examines the internationalising activities in the higher education sector, and in particular, the Hong Kong higher education sector. Four main areas are covered: (a) internationalising staff and students, (b) building an international network, (c) internationalising the curriculum, and (d) entering the Mainland market. The article compares the Hong Kong's response to the threat of globalisation with that of the other places and concludes that the nature of competitiveness is being particularly highlighted in its internationalisation of higher education. Its response is in resonance to the city's culture, which stresses market competition and survival of the fittest, and can be seen as being manipulated by the government and business sector in maintaining their dominance and power.

Globalisation, internationalisation, international education, higher education, Hong Kong

INTRODUCTION

Despite considerable variation and disagreement over the meanings of the terms 'internationalisation' and 'globalisation' (Knight, 1997; Gunn, 2005), they have appeared, and are continuing to appear, in discourses of all levels—at least in Hong Kong. Be it the taxi driver complaining about the rise in oil price due to market monopoly, the teenager arguing with his parents over their decision to send him to study overseas, or the Government Financial Head expressing the need to expand the tax base and introduce sales and service tax, phrases like “to keep in line with international trends” or “to remain competitive in the globalising world” do manage to slip in nicely. It is as if everything happening now is partially related to, if not a direct result of the two aforementioned processes. “It can be called in justification of political action and inaction and it can appear to explain everything yet nothing.” (Langhorne, 2001, p.xi) This is especially so in the Hong Kong education sector, in the midst of numerous reforms, that justifications under the name of internationalisation and globalisation are commonplace.

This paper aims to analyse the recent changes in Hong Kong universities, that fall under the banner of internationalising higher education in Hong Kong. Their practices, goals, conflicts and underlying forces are examined. It is the contention of this article that while the needs to internationalise are there, the term is manipulated to suit some otherwise political purposes.

This article first looks at the meanings and implications of internationalisation and globalisation and then narrows the discussion to the realm of higher education. A working definition on each term is offered before the article moves on to describe some of the activities Hong Kong universities have undertaken or are undertaking in their internationalisation. Since it is unrealistic for a paper of this size to look at every single venture related to the internationalisation of universities, the scope of this paper is set on the following four areas: attempts made on a) internationalising staff and students, b) building an international network, c) university curriculum internationalisation, and d) entering the Mainland market. While the paper concerns the higher education system in Hong Kong as a whole, some sections focus primarily on The University of Hong Kong (HKU) as a case study. It is the wish that HKU's background as a

colonial university and its reputation as a world-class university, can highlight the opportunities and challenges faced by some very well established universities in the region. This is followed by a discussion of the Hong Kong's characteristics in the internationalising exercise of its universities. The paper ends by re-examining the meaning of internationalisation of higher education in the contemporary Hong Kong situation. It also attempts to reconstruct the meaning of the terms 'internationalisation' and 'globalisation' by integrating the different perspectives discussed in the paper.

INTERNATIONALISATION, GLOBALISATION AND EDUCATION

Internationalisation and Globalisation

Internationalisation and globalisation, together with other terms like modernisation, westernisation and capitalisation, are some very popular topics in not only everyday but also academic discourses. While most scholars (for example, Altbach, 2002; Waters, 2001; Yang, 2000a, b) maintain the differentiation of these concepts, there are considerable overlaps in their historical development (Robertson, 1992) and real-life representations, which blur the distinctions. The fact that the terms are used in many different domains, each with its own focus and associated values and connotations, makes it impossible to agree on their exact meanings.

Different scholars now still hold very divergent views on this matter. Scott (1998), for example, refers internationalisation and globalisation to two "radically different processes dialectically linked" (p.108). To him, internationalisation is about how nation-states dominate the world whereas globalisation is the new world order formed by the breaking of national boundaries made available by advance in technology and the emergence of a world culture. Yang (2000a) likewise sees the two terms as two countervailing processes. However, he believes that internationalisation, which has an Eastern origin (the Sophists in Ancient Greece and the Confucianists in Ancient China), is driven by the "advancement of human knowledge based on realisation of the bond of humanity" and is primarily about "cooperation, collaboration, caring, sharing and altruism" (p.83). By contrast, globalisation stemmed from the rise of Western imperialism and modernisation in the nineteenth century and is driven by the belief in a single global market. It is a concept mainly concerned with gaining one-sided economic benefits through "competition, combat, confrontation, exploitation, and the survival of the fittest" (p.83).

Instead of seeing internationalisation and globalisation as two opposing forces, some scholars assess the terms from another perspective and focus on their interaction. Knight (1997) believes that their relationship can be best captured as a catalyst and a pro-active response:

Globalisation is the flow of technology, economy, knowledge, people, values, ideas ... across borders. Globalisation affects each country in a different way to a nation's individual history, traditions, culture and priorities.

Internationalisation ... is one of the ways a country responds to the impact of globalisation yet, at the same time respects the individuality of the nation. (p.6)

This view of internationalisation and globalisation is accepted by many scholars who research on the internationalisation of higher education (for example, Altbach, 2002; Biddle, 2002; de Wit, 1999). By regarding internationalisation as a response to globalisation, it is possible to explain the great diversity in the approaches taken by universities of different sizes, countries and cultures because it depends on individual views of the world. Under this framework, Scott's and Yang's interpretations of the internationalisation might be seen as a conservative nationalist's response and a traditional Eastern or Asian response respectively to certain selected trends associated with what people term as globalisation. While Knight's definitions are not incontestable and may have many limitations (for example, the loose control on what can be accepted as internationalisation due to its high flexibility may well exclude nothing but include everything), this has provided a

clear direction in the analysis on the many activities and measures on internationalisation of higher education. A similar but more refined definition from de Wit (1999) is adopted in this paper as internationalisation of higher education:

Internationalisation of higher education is the process of integrating an international/intercultural dimension into the teaching, research and service functions of the institution. This definition understands internationalisation as a process, as a response to globalisation (not to be confused with the globalisation process itself), and as including both international and local elements. (de Wit, 1999, p.2)

Internationalisation of Higher Education

“Most publications on the internationalisation of higher education refer back to the days of the Middle Ages and up to the end of the eighteenth century” (de Wit, 2002, p.5) when academic pilgrims had to travel to the few university cities in Europe from their home towns. Medieval universities then all received these migrant students, followed the same systems of examinations and program structure, used Latin as the official language and were recognised throughout Christendom (de Ridder-Symoens, 1992). In fact, the word ‘university’ can be traced back to *ūniversitās* in Medieval Latin (*The American Heritage Dictionary of the English Language*, 2002), which referred to “a range of corporate entities, including the guilds” (King, 2004, p.1). However, some scholars are sceptical about the medieval universities being international because nation-states did not even exist in those days (Scott, 1998). Besides, most contemporary universities are “not medieval creations but were established in the late nineteenth and twentieth centuries. Their histories reflect the concerns of industrialisation, nation-state formation and democratisation” (King, 2004, p.1) and are “instruments for the consolidation of territorial nation states” (p.1). This is why internationalisation of higher education, despite the claim to its origin in Medieval Europe, is a recent concept and “prior to the twentieth century, was more incidental than organised.” (de Wit, 2002, p.xvi).

‘International education’, oftentimes used as a synonym to ‘internationalisation of education’ especially in the American literature, was largely a product of foreign policy and national security in the United States between World War II and the Cold War (de Wit, 2002). It was a response to the new role of the United States in the new world order, which brought about the growing interchange between Americans and people of other countries. Area studies (for example, European studies or Japanese studies) and foreign language training, study abroad programs, and the intake of overseas students were heavily focused on and still remain some core components of present day internationalisation of higher education.

In Europe, before the Council of the European Communities’ adoption of an action program for education to advocate further European political integration in 1976, there was little talk and action on internationalisation of higher education, perhaps with the exception of occasional unregulated foreign student flow and the Swedish program on internationalisation to promote international understanding, cooperation and peace (Field, 1998). As mentioned earlier, the establishment of universities, especially those in Europe, was a result of industrialisation and nation building in the late nineteenth and twentieth century and this has given rise to the great diversity in the university systems in Europe. There are differences in degree structures, languages, traditions, and even public perceptions and functions of the universities. One main area in the discourse of internationalisation of higher education in Europe is the harmonisation of systems, as a response to the growing political and economic interdependence among European countries. Various programs like the European R&D policy, which tries to moderate and enhance the technological research in Europe to compete with the United States and Japan (Preston, 1991), the 1976 Joint Study Programs and its predecessor of the famous ERASMUS established in 1987, which aims at stimulating academic mobility within the EU for enhancing the quality and reinforcing the European dimension of higher education (EUROPA, 2005), or LINGUA, which

promotes the learning of European languages and raises its citizens' "awareness of the Union's multilingual wealth" (EUROPA, 2004, line 7), were set up to this end.

However, the increasing mobility of students, the dominance of market economy and the growing importance of English in the world, have given new meanings to the notion of internationalisation of higher education. Since the introduction of full-cost overseas student fees in the United Kingdom and in Australia in 1979 (de Wit, 2002; Smart and Ang, 1996), higher education has been increasingly seen as an export commodity. Now even universities in continental Europe (National Agency of Higher Education, Sweden, 1997) and in other non-English speaking countries like Singapore, Hong Kong, and even China are joining the battle in attracting foreign students. Furthermore, this talk of internationalisation of higher education has evolved into a strategic process, which involves not only activities or strategies in isolation, but also strategic university alliance, national review of higher education to enhance international competitiveness, redefinition of goals in higher education and the offering of offshore distance-learning programs (Altbach, 1999; de Wit, 2002). This is much the same as what Altbach (1999) notices: "the current wave of internationalism ... is motivated by profits.... The goals are to meet market demand and to create a market niche for an 'educational product'" (p.4).

The above brief discussion on the internationalisation of higher education is, if anything, merely an overview. There are many other perspectives not yet explored. It only serves to exemplify one point: that while the term may mean different things to different countries and at different times, its different interpretations are always purpose-driven—there are always external demands that the higher education sector has to fulfil. They may be the provision of knowledge and skills in working internationally (as it is in America's international education), the need for international recognition and harmonisation of university structures (similar to the case of Europeanisation in EU countries), the preparation of competitive graduates for the work place and the need to finance the universities by attracting foreign students and offering offshore programs (as it is in the contemporary marketisation and exportation of education), and many more. Given our working definition that internationalisation is a response to globalisation, an ambition of this paper is to examine which aspects of globalisation Hong Kong universities focus on and how this can be reflected in their internationalising acts.

INTERNATIONALISING HONG KONG HIGHER EDUCATION

Internationalisation is hardly new to the Hong Kong education system. Back in the dates when the British government won the Opium Wars and took over Hong Kong, there were already internationalisation initiatives undertaken by church bodies. They set up schools, introduced Western curricula and hired teachers from overseas—and they founded most of Hong Kong's highly prestigious schools: St. Paul's, Maryknoll Convent, and Diocesan. To become international, for nearly two centuries, meant to be modernised, to be westernised, and in many cases, to become British.

The University of Hong Kong (HKU), the oldest university in the region, was founded in 1910 by the Hong Kong Government to provide tertiary education for the expatriates, mainly Britons, and for a selected few Chinese elites living there. Similar to other colonial universities established in the British Empire, it was well networked to other commonwealth universities and proclaimed itself **THE** international university in the region. The scene changed after the establishment of Chinese University of Hong Kong (CUHK) in 1963, which took on the four-year university system from the United States and started the 30-year-long rivalry between the two universities. HKU took pride in its British tradition, its international reputation, and its adoption of English as the medium of instruction—viewing itself as the only rightful international university in Hong Kong, whereas CUHK boasted its positioning as the bridge between East and West, its mother-tongue education policy, its credit-based curricula offering wider choice and whole-person

development, and most importantly, its being different from HKU—believing internationality does not exist without locality.

However, until 1990s, in the 80 years of development of university education in Hong Kong, internationality, or internationalisation, is taken for granted. In fact, internationalisation was not an issue in Hong Kong higher education system before the expansion of university places in the 1990s. However, following the establishment of Hong Kong University of Science and Technology (HKUST) in 1991, and the subsequent upgrade of several polytechnics, colleges and institutes, internationalisation has come into being: first in the newer universities when they were seeking prestige and recognition as equals to the two well-established universities, then in even HKU and CUHK when they sensed the danger and competition from these new universities. In less than a decade, internationalisation has become a buzzword that can be found in every university's developmental plan posted on their websites. The next section illustrates some activities of Hong Kong universities, which fall under this big banner of internationalisation.

Internationalising Staff and Students

One key indication of internationalisation is the proportion of international staff and students in the universities. While Hong Kong has long attracted many overseas faculty members—for example, as many as 45 per cent of HKU academic staff were drawn from overseas (The University of Hong Kong, 2004), the non-local student population was only four per cent in 2004, of which 88 per cent were from mainland China (University Grant Committee, 2005a). Dr Lam (2004a), Chairman of University Grant Committee, therefore urged universities to conduct more outreaching and promotional activities, especially in South-east Asia and offer scholarships to attract foreign students, to achieve the government's vision of Hong Kong as “the education hub of the region” (University Grant Committee, 2005b, para.2) and the Asia's world city. Pledged to turn HKU “from a ‘good’ to a ‘great’ institution and turn it into a world-class research-led university” (Yeung, 2005, para.3) in ten years, Professor Tusi, Vice Chancellor of HKU included the doubling of the number of international students as a main area of development.

Unlike the talk of attracting foreign students for financial gain in the United Kingdom and Australia, Hong Kong universities focus on recruiting elite students. Instead of financial gains, more resources are needed for scholarships and subsidies are set up to attract these students to come and study in this relatively expensive city. What is there to be gained? While explanations like “overseas students can bring different cultural backgrounds to the university” offered by Victor Fung, the HKU Council Chairperson (Yeung and Chan, 2004, para.4) or Edward Chen, Lingnan University president's “giving our students cross-cultural exposure” (para.7) are offered, Dr. Lam's speech on internationalising student body in Hong Kong (2004) offers a deeper explanation as to what these cultural backgrounds and cross-cultural exposure may mean:

The cultural diversity of the student body is an important foundation for a truly excellent education because it stimulates “out of the box thinking”. Having more non-local students in Hong Kong will assist tremendously in the cultivation of long-term interpersonal contacts and friendships with potential future business and opinion formers of other countries. Non-local students also help Hong Kong's international image and stimulate healthy competition. (para.4)

In the end, such an active expansion of non-local student body is all about business: increasing competitiveness (both of local students and of universities) and enhancing international image, which, in turn, will further increase competitiveness.

Building an International Network

Another apparent internationalisation activity is the setting up of joint university agreements. While most universities in Hong Kong have good networks and even partnerships with many

overseas and mainland universities, the first strategic international alliance was HKU's participation as a founding member of Universitas 21, a network of international research-led universities in 1997 (The University of Hong Kong, 2004), which operates on three levels of international activities:

The first level encourages traditional collegial activities such as academic exchanges. The second level facilitates greater international collaboration between members. The third level focuses on opportunities for entrepreneurial activities" (Universitas 21, 2005, para. 1).

Universitas 21 promotes itself as an international network of the world's finest research-led and comprehensive universities and encourages internationalisation among its members. There are exchange programs for both staff and students and some projects on international e-learning platforms. HKU, as its founding member, is viewed as an anchor university in the region and this recognition means more than the actual programs Universitas 21 provides. Through joining this strategic network, HKU proves itself to be **THE** international university. The combined goodwill of these universities also brings about added prestige and therefore, more bargaining power to the university. In this regards, internationalisation has more to do with competition through the image gained by joining the alliance.

Internationalising the Curriculum

Another aspect of internationalisation of higher education is the internationalisation of the university curriculum. Two attempts to change the university curriculum structures are examined in this section: the introduction of the credit-based system at HKU in 1998 and the introduction of the new four-year university system to be implemented in 2012.

Credit-based system

Prior to 1998, most students at HKU took all their required and elective courses within their own faculties. With the exception of students under the Faculty of Arts and Faculty of Social Science, students were not allowed to take courses which were outside their faculties. Different faculties adopted a different currency in calculating its students' study load: modules, units, half-units, etc. and the same term, for example, 'a unit', might be referred to two different numbers of hours of study load in two faculties. This caused a lot of problems in the university's then growing international programs as many incoming foreign students might wish to enrol into courses under several faculties. Participating universities also expressed difficulties in translating study load undertaken at HKU to the system they used. This resulted in many students' being "obliged to take an extra year of studies to pursue overseas exchange programs" (Cheung, 1996, para.5).

Under this credit-based system, a normal student takes 60 credits a year. All students, (except those in medicine, dentistry and engineering) have 20 per cent of their curriculum devoted to general education: English, Chinese, Information Technology and cross-discipline subjects and the remaining 80 per cent to their specialism. Prof. Wong Siu-lun, Pro Vice-Chancellor, remarked that the system could "prepare students for a rapidly changing environment and facilitate academic exchanges with overseas universities" (Wong, 1998, para.2).

The inclusion of general studies was justified by Prof. Chan Ting-hon, also Pro Vice-Chancellor, as a response to the change in job profiles:

In the past, 90 per cent of science graduates entered the teaching field or became research fellows. Now, 20 per cent of them will be teachers while most of the rest join the business sector. The job market is changing fast and it may now be too much to teach students eight papers on chemistry. (Ip, 1997, para.3)

However, the internationalisation of the HKU curriculum was not solely a reaction to the global and local needs. For example, the selection of European Credit Transfer System, instead of the well-known American credit system, long adopted by CUHK, showed that some further hidden competition was at play. Henry Wai, deputy academic registrar, explained that the system was chosen because it had been tested for over six years in 145 European higher institutions and was widely accepted by universities around the world (Li, 1997). Nevertheless, many people were shocked when HKU announced in March 1997 that this was the chosen credit system because they thought it was the American credit system when HKU talked about credit-based curriculum. Apparently, HKU did not like the idea of copying CUHK and strived to be different from—even better than its rival.

The four-year university system

In October 2004, the Education and Manpower Bureau (EMB) of the Hong Kong Government released its first consultation document on the new '3+3+4' academic structure, which proposed a new system of six years of secondary schooling, followed by four years of university. It stressed the benefits of having a 4-year university system on providing "balanced, all round education", "a strong initial foundation of subjects to support a later more specialised focus" (EMB, 2004, p.4) and a system which allowed better international articulation with other important international systems such as the United States and Mainland China. It is now expected that all universities in Hong Kong will receive their first batch of four-year students in 2012.

There was overwhelming support for the proposal and many expressed its potential in increasing Hong Kong's international competitiveness (EMB, 2005a). Many believe that the project can "enable students to build a broader knowledge base and a more solid foundation for whole-person development, pursuing life-long learning, and provide community with all-round leaders" (EMB, 2005b, p.98). However, not many question whether a four-year university system will necessarily bring out these benefits. There is this misguided belief that four years of university is definitely better than three, with no clear evidence to prove this proposition. Recent statistics suggests that Hong Kong people do have, if not more, at least as much confidence on the three-year university system used in Australia and the United Kingdom as on the four-year one. With 19,000 and 17,800 Hong Kong students studying in Australia and the United Kingdom, these two countries, even with their three-year university system, are more popular than the United States and Canada which are hosting 13,400 and 11,000 Hong Kong students respectively ("*Cong liuxuequxiang kan bendi gaojiao*", 2005). This also shows that the reason behind the change cannot be international articulation building because the countries with a three-year university system are even more popular among Hong Kong people.

Entering the Mainland market

The last internationalising activity explored in this paper is Hong Kong universities' active expansion in the higher education market of Mainland China. HKU, for example, currently offers three joint master programs with Fudan University in Shanghai. Its School of Professional and Continuing Education has even taken the expansion more seriously and offered courses in Shenzhen, Zhuhai and Suzhou. Similarly, the School of Continuing Education of Hong Kong Baptist University (HKBU) has opened an Institute for Research and Continuing Education in Shenzhen and a United International College, together with Beijing Normal University, in Zhuhai. These Mainland programs are all marketed as 'international' programs, which give students an 'internationally recognised qualification', an 'international education experience' and even an 'international outlook on life'. Hong Kong universities, through its offering programs in Mainland China, have achieved internationalisation, both geographically—going beyond Hong Kong, and ideologically—putting on a foreign image in China. As for whether these programs can offer an international education experience or an international outlook on life even when most

teachers and students are Mainland Chinese, the answer is a definite **YES**—as long as the universities say that they are international, why would students say otherwise to disadvantage themselves? This, in the end, is concerned with the notion of image building.

INTERNATIONALISATION OF HIGHER EDUCATION: A HONG KONG PERSPECTIVE

This article starts off by looking at globalisation and internationalisation and how these two terms can be defined in the higher education sector. From the literature review, the article concludes that internationalisation of higher education can be regarded as a response to globalisation, “the flow of technology, economy, knowledge, people, values, ideas ... across borders” (Knight, 1997, p.6) and is about how universities incorporate an international dimension into the universities’ various functions. Examples of internationalisation of higher education in various parts of the world show that targets and rationales behind such an undertaking may well be very different: from provision of international knowledge and work skills to harmonisation of university structures, and from consolidating the country’s role in the new world order to scrambling for profits in this world market of education provision.

While examining the Hong Kong universities’ attempts in internationalising themselves, one theme keeps recurring: competition—in attracting foreign elite students, in being recognised as a world-class institution, in having the best credit-based curriculum, in developing students for work, or just in being **THE** international university. It is not surprising to have the Hong Kong internationalisation of higher education taking this direction because it closely matches the city’s economic and political characteristic as one of the world’s freest markets.

Given that internationalisation is a pro-active response to globalisation, Hong Kong universities’ response is both universal and unique. It is universal because, similar to other universities in the world, they concern issues like overseas students intake, harmonisation of degree structures, forming strategic alliances, and exportation of education service. At the same time, the focus is unique, because of Hong Kong’s competitive nature. Internationalisation of Hong Kong universities has a very strong image building element: the aim is to be called an international university. This in fact puts Hong Kong universities in a very embarrassing situation. On the one hand, they claim to have been internationalised—they are internationally recognised, have world-class fame, staff, curriculum and facilities; but on the other hand, they are yet to be internationalised—they need to keep up with world trends, to reform their curriculum structure, and to be more ‘international’. The process has already been achieved, but at the same time, is also being achieved. In the process, the concept of competitions as a fundamental driving force of Hong Kong is being further strengthened and passed on to the new generation. All can be seen as a political exercise, favoured by the government and business sectors, in maintaining their dominance and power.

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Measuring student course evaluations: The use of a loglinear model

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In this paper, the researchers attempt to incorporate the marketing theory (specifically the service quality model) into the education system. The service quality measurements have been employed to investigate its applicability in the education environment. Most of previous studies employ the regression-based analysis to test the effectiveness of course evaluations and teaching. In econometric term, the use of regression-based analysis contains some bias. This is because it does not capture the complex and interaction terms of the variables under study. In this article, the authors try to compare the use of a loglinear model versus the widely used normal-regression analyses to evaluate the students' course evaluations of Spanish classes at Universiti Utara Malaysia. SERVQUAL model has been employed in order to examine the usefulness of the model under study. The findings from the study shows that the loglinear model provides a better analytical procedure for students' course evaluation as it is able to explain more variation in the model under study.

SERVQUAL, regression analysis, Spanish classes, course evaluation, loglinear model

INTRODUCTION

In the academic world, it is important to evaluate the effectiveness of courses conducted from students' perspectives. Hence the use of a good analytical tool is important in order to capture the variance explained by the independent variables in the model under study. Previous studies have used extensively the regression-based models to explain the behaviour of the subject matter under study. These studies looked only at the linear relationship between the dependent variable and the independent variable (s). However, those studies were not able to capture the fundamental variations involved in the study. This is because the use of regression based analysis is not able to capture all the interaction terms among the variables, and it is crucial to use analytical tools that are able to capture interaction effects among the variables, since the interaction terms may be able to explain the variations involved in the model in greater detail. Hence this study is employed to evaluate the applicability of the loglinear model in an academic setting, specifically in the Spanish courses in Universiti Utara Malaysia (UUM). The Spanish courses were used as the focal-point of the study because it is a language course; hence, there was need to have extra interactions between instructor and students and also a better means of course delivery.

The objective of the study is to compare the use of a loglinear model versus the widely used normal regression analysis to investigate the students' course evaluations on Spanish classes at Universiti Utara Malaysia (UUM). The independent variables used in this study are basically from the service quality (SERVQUAL) measurements while the dependent variable used involves the overall satisfaction level of students taking the Spanish classes.

LITERATURE REVIEW

Goods are objects. A service is a deed and a performance. When goods are being purchased, something tangible is acquired. Berry et al. (1988) argued that because of the intangibility of services, customers evaluated service quality based on the tangible environment. LeBlanc et al. (1988) and Zeithaml et al., (1985) asserted that the problem of evaluating service quality was more difficult and complicated compared to product quality because of its intangibility. Since services were intangible in nature and the inseparability of production and consumption, it would be difficult for customers to perform prior evaluation of a firm's services; hence the trustworthiness, believability and credibility of the service provider were crucial determinants of patronage (Malhotra et al. 1994). How a service was performed would affect the customers' perception of the quality of the services rendered.

Services delivered are difficult to evaluate because they are delivered to people by people and cannot be standardized because of their heterogeneous nature (Gupta et al., 1988; LeBlance et al., 1988; Rushton et al., 1989; Zeithaml et al., 1985). The same contact person is not able to give the same level of services to another customer even though he is serving the next customer immediately. Furthermore, different providers have different methods of giving services and the service level also differs from time to time.

Many academicians give different definitions of quality. Customers' expectations are the true standard for judging service quality and not the policy of the bank or the management of the bank (Berry et al., 1988). Parasuraman et al. (1991) pointed out that customers expected service companies to do what they were supposed to do (fundamentals), not fanciness; performance and not empty promises. Therefore, defining customer needs in the service industries is more complex compared to the manufacturing industries because the customers are involved in the production process.

Berry et al (1988) argued that customers assessed service quality by comparing what they wanted or expected to what they were getting. Customers would build expectations of services based on earlier experiences, communication, image, word-of-mouth and the customers' need (Holmlund et al., 1996). Quality was how the offer of the bank gained uniqueness and value in the eyes of the customers and it was both the act of making the offer different and its evaluation by customers (Christopher et. al., 1994). The customers would be the judges in determining the success of the services rendered.

Westbrook (1980) defined satisfaction as the subjectiveness of individual evaluations. While Bearden et al. (1983) defined satisfaction as the positive final outcome when using the scarce resources. From the above definitions, satisfaction was related to the subjective emotional evaluation (Andreassen, 2000).

According to Yuksel et al. (1998), determining customer satisfaction was fundamental towards delivering effective services. Commitment to customer satisfaction must be an ongoing process because regardless of how well service was provided, customers would always push for higher levels (Murray, 1991).

METHOD OF ANALYSIS

This study employs the SERVQUAL measurement introduced by Parasuraman et al., (1988, 1994) (see Appendix) to measure the quality of service and the satisfaction level of the students in the Spanish classes at UUM. SERVQUAL is the abbreviation for service quality. SERVQUAL is represented by five dimensions (Parasuraman et al. 1988); tangibles, reliability, responsiveness, empathy and assurance and is measured using the differences between the scales for perceptions and expectations. Perceptions are defined as customers' beliefs concerning the services received

(Parasuraman et al., 1988). Whereas expectations are viewed as predictions made by customers about what is likely to happen during certain encounters (Parasuraman et al., 1988), namely, they do not represent predictions about what service providers “would” offer but what they **should** offer (Teas, 1993). This model has been used extensively in the West, but most of the researchers have used the normal regression-based analysis. In this study, another approach has been employed to study the relationship between the students’ course evaluations and the service quality using the loglinear model which is able to capture the interaction terms.

Students from the Spanish courses Level I to Level III were chosen as the respondents. This study included all respondents taking the Spanish courses, as the number of students taking the courses was limited.

VARIABLES OF STUDY

There is evidence that suggests that evaluation of satisfaction should involve a curvilinear or higher order form as well as an interaction effect (Taylor and Baker, 1997; Ting, 2004). This was confirmed by Oliva, Oliver and MacMillan (1992) who stated that the satisfaction function should not be in the linear form. A study by Basadur and Head (2001) suggested that a non-linear relationship might exist for satisfaction where they looked at the effectiveness of teamwork in relation to organizational success. Hence, these findings more or less falsified the methods used in past research studies, that were the normal regression based analyses.

From the academic point of view, students’ assessments of professors and courses and the interpretations of the statistical analyses used in the past researches had long interested many educators (Mehdizadeh, 1990). A major problem with previous works was the analysis technique, namely, the widely used regression analysis. More recent studies in education have taken into consideration the deficiencies of normal regression or the ordinary least squares models and employed the logit models. In comparison to the loglinear models, logit models are easier to formulate, but they do not incorporate the most general interaction terms among the independent variables. In a sense, logit models disregard the complex structural relationships that may exist among the independent variables. Hence, Mehdizadeh (1990) has introduced the usefulness of the loglinear models to analyse the students’ course evaluations.

There have been many studies on the possible factors influencing students’ evaluation of teaching effectiveness (Dilts, 1980; Seiver, 1983) and students’ course evaluations (Kelly, 1972). According to Seiver (1983), expected grade on the last day of class could be a good indicator of a students’ course evaluation. Fizel and Johnson (1986) stated that the current GPA would serve as an indicator of a student’s attitude and academic performance and it was expected to have a positive effect on a student’s attitude. On top of that, the SERVQUAL model was also included as discussed in the literature review.

Each of the variables was included because their expected effects upon students course evaluation had already been established (Mehdizadeh, 1991). This would help to validate the use of loglinear models.

QUESTIONNAIRES

A set of questionnaires developed by Parasuraman et al. (1988, 1994) was used to carry out the research. The questionnaire employed consisted of four parts as follows:

- Part A: 5 questions on the background of respondents
- Part B: 22 questions on expectation
- Part C: 22 questions on performance
- Part D: 2 open-ended questions

RESPONDENTS BACKGROUND

Table 1 below shows the respondents' background in this study. The total number of respondents who took part in this study was 71 students.

Table 1. Background of respondents

| | | Frequency | Percentage |
|------------------------|--------------------|-----------|------------|
| Sex | Male | 12 | 16.9 |
| | Female | 59 | 83.1 |
| Race | Malay | 25 | 35.2 |
| | Chinese | 29 | 40.9 |
| | Indians | 13 | 18.3 |
| | Others | 4 | 5.6 |
| Semester | 1 | 1 | 1.4 |
| | 2 | 2 | 2.8 |
| | 3 | 10 | 14.1 |
| | 4 | 1 | 1.4 |
| | 5 | 46 | 64.8 |
| | 6 | 3 | 4.2 |
| | 7 | 8 | 11.3 |
| Class Obtained* | First Class | 2 | 2.8 |
| | Second Class Upper | 41 | 57.8 |
| | Second Class Lower | 28 | 39.4 |
| Entry | Matriculation | 8 | 11.3 |
| | STPM | 62 | 87.3 |
| | Diploma | 1 | 1.4 |
| Total | | 71 | 100.00 |

* Class obtained is their previous semester's CGPA where 3.67 – 4.00 falls into first class, 3.00 – 3.66 falls into second class upper and 2.99 and below falls into second class lower.

Most of the respondents are female students. This scenario corresponds to UUM situation where most of the students are females. They comprise 83 per cent of the total respondents, while the male respondents are only 17 per cent. Most of the respondents are Chinese (41%) followed by Malays (35%), Indians (18%) and others (6%).

Most of the students are in their fifth semester that is 65 per cent of the total respondents. This is followed by respondents from Semester 3 (14%). The lowest number of respondents who took part in this study are respondents from Semester 1 (1%).

The respondents were asked to indicate the class that they obtained during their previous semester. Though they had yet to graduate, the class they obtained was important as it was used as one of the variables in this study. The majority of the respondents obtained second class upper (58%), while a large number managed to obtain second class lower (39%). Only two respondents obtained a first class degree.

The entry qualification of the respondents was from STPM (87%) and Matriculation (11%). There was only one respondent with a diploma.

EMPIRICAL TESTING USING REGRESSION ANALYSIS

The first step in this analysis is to test the usefulness of normal regression analysis on the variables under study. In general terms, from the data collected the overall course evaluation is regressed on the independent variables (class, tangible, reliability, responsiveness, assurance and empathy). Table 2 reports the results obtained.

From Table 2, only two out of six parameters (including the constant term) are significant at $p < 0.01$ level while the rest are non-significant. The R^2 obtained is only 0.399 which shows that

only 40 per cent of the variance of the overall course evaluation can be explained by the independent variables (tangible, reliability, responsiveness, assurance and empathy), while 60 per cent is not explained by the model. The \bar{R}^2 value obtained is only 0.396 after taken into consideration the number of parameters in the study. Hence, the normal regression analysis results show that the model is not very useful in explaining the overall course evaluation of students.

Table 2. Empirical results from regression analysis

| | b | Std. Error | R² | \bar{R}^2 |
|----------------|----------|-------------------|----------------------|-------------------------------|
| (Constant) | 2.58** | 0.95 | 0.399 | 0.396 |
| Class | -0.25 | 0.22 | | |
| Tangible | -0.01 | 0.15 | | |
| Reliability | 0.02 | 0.24 | | |
| Responsiveness | -0.19 | 0.26 | | |
| Assurance | 0.76** | 0.21 | | |
| Empathy | 0.02 | 0.13 | | |

** significant at $p < 0.01$ level

The data were then transformed into categorical variables so that the loglinear regression analysis could be performed.

TRANSFORMING THE VARIABLES INTO CATEGORICAL VARIABLES

In order to perform the loglinear model, all the variables were transformed into categorical variables as is seen in Table 3 which is denoted by value 1 and value 2 respectively. Since the Likert scale ranges from 1 to 7, the responses were condensed to average or below (scales that ranged from 1 to 4) and above average (scales that ranged from 5 to 7).

Table 3. Collapsing of the categories into condensed classes

| | | Value | Frequency | Percent |
|----------------|-----------------------------|--------------|------------------|----------------|
| Y | Overall | | | |
| | Average or Below | 1.0 | 16 | 22.54 |
| | Above Average | 2.0 | 55 | 77.46 |
| X ₁ | Class | | | |
| | Second Class Lower | 1.0 | 29 | 40.85 |
| | First of Second Class Upper | 2.0 | 42 | 59.15 |
| X ₂ | Tangible | | | |
| | Average or Below | 1.0 | 13 | 18.31 |
| | Above Average | 2.0 | 58 | 81.69 |
| X ₃ | Reliability | | | |
| | Average or Below | 1.0 | 7 | 9.86 |
| | Above Average | 2.0 | 64 | 90.14 |
| X ₄ | Responsiveness | | | |
| | Average or Below | 1.0 | 5 | 7.04 |
| | Above Average | 2.0 | 66 | 92.96 |
| X ₅ | Assurance | | | |
| | Average or Below | 1.0 | 9 | 12.68 |
| | Above Average | 2.0 | 62 | 87.32 |
| X ₆ | Empathy | | | |
| | Average or Below | 1.0 | 9 | 12.68 |
| | Above Average | 2.0 | 62 | 87.32 |
| Total | | 71 | 71 | 100.00 |

From the table above, a large majority of the respondents agreed that the Spanish courses conducted were good. This was because most of them said that the lowest percentage value was 55 per cent and the highest percentage value was 66 per cent and that the courses conducted were above average.

LOGLINEAR MODEL

Loglinear analysis of categorical data is not a new technique in data analyses Mehdizadeh (1990). It is not commonly used compared to the normal regression analysis. In a loglinear model, the number of hierarchical models that can be fitted into the model increases as the number of independent variables increases. Hence this makes the identification of a well-fitting unsaturated model more difficult (an unsaturated model contains fewer than all possible interactions of the dependent variables).

The concepts of loglinear modelling can be introduced in a more systematic way. The simplest model is a two-dimensional contingency table of Y to X₁. In a loglinear model of y to x₁, the number of cases in each cell can be expressed as the function of Y, X₁ and the interaction terms of Y*X₁. In order to obtain the loglinear model, the natural logs of the estimated cell frequencies are used. In general the expression of a loglinear model is as follow:

$$\text{Ln } f_{ij} = \alpha_i^y + \alpha_j^x + \alpha_{i*j}^{y*x} + \varepsilon$$

Loglinear models allow researchers to investigate the interrelation among many variables with complex structures by using the conditional independence. Thus, all effects of independent variable upon a response variable are revealed rather than just the marginal effect of each independent variable.

The t-tests are used to test the significant value of the lambdas. If the test of interdependence of Y and X₁ is of interest, then the independence model $\text{Ln } f_{ij} = u + \lambda_i^y + \lambda_j^x$ can be examined. The model does not incorporate the interaction term, where the f_{ij} is no longer the observed frequency in the (i, j)th cell but the expected frequency based on the model. An iterative algorithm is used to obtain the estimates of the lambda parameters.

In order to obtain a linear model, the natural logs of the estimated expected frequencies rather than the actual counts are used. The observed frequencies and the estimated expected frequencies for fitting the independence model to the cross-classification of students' course evaluations and their expected grades and the natural logs of the estimated expected cell frequencies are shown in Table 4.

The two dimensional marginal table (Table 4) with a two-dimensional cross-classification have been examined.

From Table 4, the values obtained were then calculated in order to find the estimated λ parameters for students' overall course evaluations and the class obtained.

Table 5 contains the estimates of the λ parameters for the main effects and their interactions for all cells of Table 5. The interpretations of the obtained λ values are simple and it is similar to the interpretations of the main effects and interaction effects in a usual analysis.

In order to examine whether the loglinear model (the interaction effects) plays a significant role, the interaction effects and the main effects are compared as in Table 5. Since in general, the interaction effects are greater than the main effects, hence further analysis is conducted.

Further analysis was carried out in order to estimate the Pearson chi-square and the likelihood ratio chi-square statistics for each model (Table 6). The first model is the simplest model with no interactions. The second model includes the interaction between y and x₀ because a student's overall service quality evaluations and his or her expected grade seem to be interrelated- (Y) (X₀) (X₁) (X₂) (X₃) (X₄) (X₅) (YX₀). All the models seem to be significant at $p < 0.001$.

Table 4. Observed frequencies, estimated expected frequencies and the natural logs of the estimated cell frequencies for independence model of students' overall course evaluations and class

| Students' Overall Course Evaluations | Class | | Total (Averages) |
|---|--|-------------------------------|--------------------------|
| | Second Lower | First and Second class upper | |
| ≤ average | 10 ^a (6.4) ^b 2.3026 (1.8563) | 6 (3.6) 1.7918 (1.2809) | 16 (1.5686) ^e |
| > average | 18 ^c (21.6) ^d 2.8904 (3.0727) | 36 (32.40) 3.5835 (3.4782) | 54 (3.2754) |
| Total (Averages) | 28 (2.4645) ^e | 42 (2.3796) | 70 (2.4220) |

^a The observed frequencies

^b The estimated frequencies under the independence model

^c The natural logs of the observed frequencies

^d The natural logs of the estimated frequencies

^e The averages of the natural logs of the estimated frequencies

Note: To estimate the expected frequency of each cell under the model of independence of row and column variables and under the model of binomial proportions (homogeneity of proportions) in the two-dimensional tables, one may use the following formula:

$$\hat{m}_{ij} = \frac{x_{i.} x_{.j}}{N} \text{ where } i = 1, 2 \text{ and } j = 1, 2$$

where $x_{i.}$ and $x_{.j}$ are the sums of row and column frequencies, N is the sample size in the table, and \hat{m} is the estimated expected frequency of the cell under the independence model.

Table 5. Estimated of λ parameters for students' overall course evaluations and their class

| | |
|-------------------------|---|
| λ_1^y | $= 1.5686 - 2.4220 = -0.8534$ |
| λ_2^y | $= 3.2754 - 2.4220 = 0.8534$ |
| $\lambda_1^{x_1}$ | $= 2.4645 - 2.4220 = 0.0425$ |
| $\lambda_1^{x_2}$ | $= 2.3796 - 2.4220 = -0.0424$ |
| $\lambda_{1*1}^{y*x_1}$ | $= 2.3026 - (2.4220 - 0.8534 + 0.0425) = 0.6915$ |
| $\lambda_{2*1}^{y*x_1}$ | $= 2.8904 - (2.4220 + 0.8534 + 0.0425) = -0.4275$ |
| $\lambda_{1*2}^{y*x_1}$ | $= 1.7918 - (2.4220 - 0.8534 - 0.0424) = 0.2656$ |
| $\lambda_{2*2}^{y*x_1}$ | $= 3.5835 - (2.4220 + 0.8534 - 0.0424) = 0.3505$ |

In order to test the difference in the G^2 when new interaction terms are included, the final table (Table 6) is produced.

Based on the final results obtained in Table 7, the best model is:

$$(Y)(YX_0)(YX_1)(YX_2)(YX_3)(YX_4)(YX_5)(X_0X_1), \text{ where the } G^2 \text{ is } 0.727.$$

Though the G^2 keeps on increasing after the inclusion of other interaction terms, but the significant change showed a non-significant value at $p < 0.05$ after that. Furthermore, the G^2 change is too small (only differs by 0.015 from its subsequent model) and not worthwhile to include further terms in the model as the additional contribution can be omitted. From the comparison between the normal regression based analyses as in Table 2, the variation explained for normal regression analysis was only 40 per cent compared to 73 per cent using the loglinear model. Hence, this study supports the claim that the loglinear model is superior to the normal based regression analysis.

Table 6. Values of the Chi Square Goodness-of-Fit Statistics, χ^2 and G^2 for various Loglinear Models Concerning Students Overall Course Evaluations

| Model | df | χ^2 | p | G^2 | p |
|---|-----|----------|-------|---------|-------|
| (Y) (X ₀) (X ₁) (X ₂) (X ₃) (X ₄) (X ₅) | 57 | 594.848 | 0.000 | 83.605 | 0.000 |
| (YX ₀) | 124 | 762.593 | 0.000 | 302.242 | 0.000 |
| (YX ₁) | 124 | 271.587 | 0.000 | 494.380 | 0.000 |
| (YX ₂) | 124 | 476.881 | 0.000 | 257.526 | 0.000 |
| (YX ₃) | 124 | 463.748 | 0.000 | 249.040 | 0.000 |
| (YX ₄) | 124 | 495.087 | 0.000 | 260.545 | 0.000 |
| (YX ₅) | 124 | 459.840 | 0.000 | 259.994 | 0.000 |
| (X ₅ X ₀) | 124 | 587.515 | 0.000 | 277.798 | 0.000 |
| (X ₅ X ₁) | 124 | 372.905 | 0.000 | 243.883 | 0.000 |
| (X ₅ X ₂) | 124 | 362.848 | 0.000 | 227.202 | 0.000 |
| (X ₅ X ₃) | 124 | 356.738 | 0.000 | 212.430 | 0.000 |
| (X ₅ X ₄) | 124 | 369.948 | 0.000 | 233.020 | 0.000 |
| (X ₄ X ₀) | 124 | 624.000 | 0.000 | 282.542 | 0.000 |
| (X ₄ X ₁) | 124 | 400.912 | 0.000 | 243.858 | 0.000 |
| (X ₄ X ₂) | 124 | 372.134 | 0.000 | 217.353 | 0.000 |
| (X ₄ X ₃) | 124 | 370.842 | 0.000 | 218.087 | 0.000 |
| (X ₃ X ₀) | 124 | 585.094 | 0.000 | 265.361 | 0.000 |
| (X ₃ X ₁) | 124 | 382.814 | 0.000 | 234.979 | 0.000 |
| (X ₃ X ₂) | 124 | 360.549 | 0.000 | 211.931 | 0.000 |
| (X ₂ X ₀) | 124 | 597.564 | 0.000 | 272.449 | 0.000 |
| (X ₂ X ₁) | 124 | 377.868 | 0.000 | 234.426 | 0.000 |
| (X ₁ X ₀) | 124 | 639.279 | 0.000 | 291.007 | 0.000 |
| (YX ₅ X ₄) | 120 | 285.083 | 0.000 | 208.960 | 0.000 |
| (YX ₅ X ₃) | 120 | 264.902 | 0.000 | 193.452 | 0.000 |
| (YX ₅ X ₂) | 120 | 281.883 | 0.000 | 207.600 | 0.000 |
| (YX ₅ X ₁) | 120 | 279.200 | 0.000 | 219.478 | 0.000 |
| (YX ₅ X ₀) | 120 | 438.254 | 0.000 | 253.887 | 0.000 |
| (YX ₄ X ₃) | 120 | 283.555 | 0.000 | 198.069 | 0.000 |
| (YX ₄ X ₂) | 120 | 273.055 | 0.000 | 194.593 | 0.000 |
| (YX ₄ X ₁) | 120 | 298.768 | 0.000 | 215.473 | 0.000 |
| (YX ₄ X ₀) | 120 | 461.182 | 0.000 | 196.212 | 0.000 |
| (YX ₃ X ₂) | 120 | 286.600 | 0.000 | 196.212 | 0.000 |
| (YX ₃ X ₁) | 120 | 291.390 | 0.000 | 211.964 | 0.000 |
| (YX ₃ X ₀) | 120 | 448.058 | 0.000 | 245.330 | 0.000 |
| (YX ₂ X ₁) | 120 | 291.473 | 0.000 | 213.791 | 0.000 |
| (YX ₂ X ₀) | 120 | 442.825 | 0.000 | 248.883 | 0.000 |
| (YX ₁ X ₀) | 120 | 471.495 | 0.000 | 264.327 | 0.000 |

Note: G^2 is the chi-square likelihood ratio.

y = overall Students' Course Evaluations;

X₀ = class; X₁ = tangible; X₂ = reliability; X₃ = responsive; X₄ = assurance; X₅ = empathy

LIMITATIONS

The first limitation appears when different individuals foresee qualities from different aspects. This is because service qualities are very subjective. What is perceived as good quality by one individual may not be good for another individual.

The second limitation is other students who have taken the subject earlier may influence the perceptions of service quality and satisfaction of the present students. This is because some students have the tendency to ask their seniors about the subject or course and the information given by them may have a significant impact on their perceptions.

Table7. Partitioning of the Likelihood Ratio Statistics for Partial-Association Test

| Model | G ² | ΔG ² | Sig. |
|--|----------------|-----------------|-------|
| (YX ₀) | 0.352 | 0.352 | 0.000 |
| (YX ₀)(YX ₁) | 0.563 | 0.210 | 0.000 |
| (YX ₀)(YX ₁)(YX ₂) | 0.602 | 0.039 | 0.013 |
| (YX ₀)(YX ₁)(YX ₂)(YX ₃) | 0.652 | 0.050 | 0.003 |
| (YX ₀)(YX ₁)(YX ₂)(YX ₃)(YX ₄) | 0.653 | 0.002 | 0.591 |
| (YX ₀)(YX ₁)(YX ₂)(YX ₃)(YX ₄)(YX ₅) | 0.655 | 0.002 | 0.570 |
| (YX ₀)(YX ₁)(YX ₂)(YX ₃)(YX ₄)(YX ₅)(X ₀ X ₁) | 0.727 | 0.072 | 0.000 |
| (YX ₀)(YX ₁)(YX ₂)(YX ₃)(YX ₄)(YX ₅)(X ₀ X ₁)(X ₀ X ₂) | 0.742 | 0.015 | 0.061 |
| (YX ₀)(YX ₁)(YX ₂)(YX ₃)(YX ₄)(YX ₅)(X ₀ X ₁)(X ₀ X ₂)(X ₀ X ₃) | 0.754 | 0.012 | 0.084 |
| (X ₀ X ₃)(YX ₁)(YX ₅)(YX ₂)(YX ₀)(YX ₃)(YX ₄)(X ₀ X ₁)(X ₀ X ₂)(X ₀ X ₄) | 0.757 | 0.003 | 0.462 |
| (X ₀ X ₃)(YX ₁)(YX ₅)(YX ₂)(YX ₀)(YX ₃)(YX ₄)(X ₀ X ₁)(X ₀ X ₂)(X ₀ X ₄)(X ₀ X ₅) | 0.762 | 0.002 | 0.462 |
| (X ₀ X ₃)(YX ₁)(YX ₅)(YX ₂)(YX ₀)(YX ₃)(YX ₄)(X ₀ X ₁)(X ₀ X ₂)(X ₀ X ₄)(X ₀ X ₅)(X ₁ X ₂) | 0.762 | 0.000 | 0.787 |
| (X ₀ X ₃)(YX ₁)(YX ₅)(YX ₂)(YX ₀)(YX ₃)(YX ₄)(X ₀ X ₁)(X ₀ X ₂)(X ₀ X ₄)(X ₀ X ₅)(X ₁ X ₂)(X ₁ X ₃) | 0.762 | 0.000 | 0.734 |
| (X ₀ X ₃)(YX ₁)(YX ₅)(YX ₂)(YX ₀)(YX ₃)(YX ₄)(X ₀ X ₁)(X ₀ X ₂)(X ₀ X ₄)(X ₀ X ₅)(X ₁ X ₂)(X ₁ X ₃)(X ₁ X ₄) | 0.764 | 0.002 | 0.500 |
| (X ₀ X ₃)(YX ₁)(YX ₅)(YX ₂)(YX ₀)(YX ₃)(YX ₄)(X ₀ X ₁)(X ₀ X ₂)(X ₀ X ₄)(X ₀ X ₅)(X ₁ X ₂)(X ₁ X ₃)(X ₁ X ₄)(X ₁ X ₅) | 0.765 | 0.001 | 0.731 |
| (X ₁ X ₅)(X ₀ X ₃)(YX ₄)(YX ₅)(YX ₁)(X ₀ X ₂)(X ₀ X ₅)(YX ₀)(X ₁ X ₂)(X ₀ X ₁)(X ₁ X ₄)(X ₁ X ₃)(X ₀ X ₄)(YX ₃)(YX ₂)(X ₂ X ₃) | 0.775 | 0.012 | 0.090 |
| (X ₁ X ₅)(X ₀ X ₃)(YX ₄)(YX ₅)(YX ₁)(X ₀ X ₂)(X ₀ X ₅)(YX ₀)(X ₁ X ₂)(X ₀ X ₁)(X ₁ X ₄)(X ₁ X ₃)(X ₀ X ₄)(YX ₃)(YX ₂)(X ₂ X ₃)(X ₂ X ₅) | 0.786 | 0.009 | 0.144 |
| (X ₁ X ₅)(X ₀ X ₃)(YX ₄)(YX ₅)(YX ₁)(X ₀ X ₂)(X ₀ X ₅)(YX ₀)(X ₁ X ₂)(X ₀ X ₁)(X ₁ X ₄)(X ₁ X ₃)(X ₀ X ₄)(YX ₃)(YX ₂)(X ₂ X ₃)(X ₂ X ₅)(X ₃ X ₄) | 0.788 | 0.002 | 0.456 |

Y = Overall Students' Course Evaluation
 X₀ = Class Obtained
 X₁ = Tangible
 X₂ = Reliability
 X₃ = Responsive
 X₄ = Assurance
 X₅ = Empathy

DIRECTION FOR FUTURE RESEARCH

In this research analysis, there is the view that the loglinear model is able to provide greater predictive power for the data under study when compared with the regression-based analysis. Hence, further studies need to be done in order to support this view and the findings in other settings.

Furthermore, future research studies need also to look for other factors that may contribute to the variations in the course evaluations such as the duration of contact, the quality of the text-book used, assignments related to the course and the applicability of the contents of the course under study.

CONCLUSIONS

This article shows the usefulness of loglinear models to analyse categorical variables when compared to the normal regression analysis. The approach involves fitting a general hierarchical model to a data set drawn from student overall course evaluations. The findings from this analysis show that students' class, tangibles, reliability, responsiveness, assurance and empathy tend to interact with each other, contributing to a higher G^2 value. Hence the usage of the loglinear model that captures the interaction terms can be said to explain students' course evaluation better than the ordinary regression analysis. Through this research, it is hoped that new insights can be gathered in order to serve better the students in the coming semesters and the areas that need to be focused on, while conducting the Spanish classes in UUM.

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APPENDIX: SERVQUAL¹

| | |
|---|---|
| Tangibles | Assurance |
| Having modern-equipment equipment/up-to-date equipment | Instill confidence in students |
| Visually appealing facilities | Feel safe with the lecturers |
| Appearance of lecturer | Consistently courteous with students |
| Visually appealing materials associated with the course | Knowledge to answer students' questions |
| Reliability | Empathy |
| Keeping promise to do something by a certain time | Give students individual attention |
| Sincere interests in solving students' problems | Consultation hours convenient to all their students |
| Teach correctly the first time | Give students personal attention |
| Provide their services at the time they promised to do so | Have the students' best interest at heart |
| Insist on error- free records | Understand the specific needs of their students |
| Responsiveness | Overall Course Evaluation² |
| Tell students when services will be performed | My feelings towards the overall course can be best as |
| Give prompt services to students | |
| Always willing to help students | |
| Respond to students' requests | |

¹ Responses were obtained on seven-point scales ranging from "strongly disagree" to "strongly agree"

² Responses were obtained on seven-point scales ranging from "very dissatisfied" to "very satisfied"

Telling his or her story through reflective journals

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This study examined the reflective journal entries of 42 trainee teachers who underwent teaching practicum in schools in Malaysia. The study investigated the types of reflections, strategies or stance used, and perceptions of the trainees toward reflective journal writing. The findings of the study indicated that the trainee teachers were engaged in Descriptive Reflection (DR), Dialogic Reflection (DIAR), Descriptive Writing (DW) and Critical Reflection (CR), respectively. In their summary of the journal writing experience, approximately 77 per cent of the trainees stated that the task assisted them in evaluating their teaching methods, strengths and weaknesses, awareness of their own teaching, problems in teaching, and identifying materials and aids for their teaching. An implication of the study is to provide explicit training of the use of reflective journals in teacher training. In addition, practising teachers should be encouraged to use reflective journal writing as part of their daily professional teaching experience.

teacher trainee, reflective journals, reflective writing, strategies, reflection

INTRODUCTION

Education has never been more challenging and pertinent than in today's global world. It is considered as one of the most important factors in the development of a nation (Cobb, Darling-Hammond, and Murangi, 1995). Therefore, the education and preparation of teachers is a critical issue in national development. The demand for quality teachers has become the goal of teacher preparation programs around the world (Cobb, 1999). Attributes of quality teachers include possessing "pedagogical knowledge, subject content knowledge, skills, and attitudes necessary for effective teaching, strong understanding of human growth and child development, effective communication skills, strong sense of ethics, and capacity for renewal and ongoing learning" (Cobb, 1999, p. 1). In light of these developments, there is a revival of interest in teacher preparation programs to foster and develop perspectives and practise focusing on reflective practice (Boud and Walker, 1998; Hatton and Smith, 1995; Schon, 1987).

Reflective practice as defined by Richards and Lockhart (1997) refers to an approach to teaching where "teachers and student teachers collect data about teaching, examine their attitudes, beliefs, assumptions, and teaching practices" (p. 1) and the data are then used further to reflect critically about teaching. In addition, they point out that to explore teaching, novice and experienced teachers must have techniques and strategies with the following underlying assumptions about teacher development.

1. An informed teacher has an extensive knowledge base about teaching.
2. Much can be learned about teaching through self-inquiry.
3. Much of what happens in teaching is unknown to the teacher.
4. Experience is insufficient as a basis for development.
5. Critical reflection can trigger a deeper understanding of teaching.

Schon (1987) in his AERA address “Educating the Reflective Practitioner”, construes reflective practice as a process of “refining one’s artistry or craft in a specific discipline” (Ferraro, 1999, p. 1). He suggested that reflective practice should be used to assist novices in a discipline to see parallels between their own practices and that of experts. Schon defined reflective practice as thinking through one’s own experiences putting knowledge to practice while under the supervision of experienced experts in the field (cited in Ferraro, 1999). Reflective practice engaged teachers in a recurring “cycle of thought and action based on professional experience” (Wellington, 1991, p.4). Thus, reflective practice could be seen as teaching which involved constant inquiry about one’s own teaching and then attempting to take a more systematic approach to practices and to work with others who had such common interests and questions as yours (Pickett, 1999).

Schon (1987) differentiates between **reflection-in-action** and **reflection-on-action**. Reflection-in-action is when a practitioner, who is often already an expert, learns to think on his or her feet and is able to improvise with new incoming information and is able to deal with the unexpected. An example Schon provides is that of people playing jazz music or of people having a good conversation. Both require spontaneity and unpredictability. Reflection-on-action involves the practitioner reflecting and contemplating on the underlying, implied understandings and assumptions that he or she has and further analyses them consciously in order to arrive at a deeper understanding of roles of the teacher and student, the motivations and behaviours in the learning context (Pickett, 1999). Schon believes that teachers’ learning is the result of the actions and reflections of daily problems. He includes critical awareness as pertinent in teacher reflections. Hatton and Smith (1995) provides a succinct explication of the two types of reflection and a brief review of the various conceptions of reflection as used in a teacher education context.

In most teacher training and preparation programs, reflective practice is used at both the pre-service and in-service stages of teaching. Reflection-promoting techniques include reflective journals comprising dialog journals, peer reflection, diaries, learning logs and audio-video recordings and others (Pickett, 1999; Richards and Lockhart, 1997). Strategies that seem to help foster reflection are (a) action research projects, (b) case studies and ethnographic studies of students, teachers, classrooms and schools, (c) microteaching and other supervised practicum experiences, and (d) structured curriculum tasks (Hatton and Smith, 1995, p. 4). Bailey (1997) explored the notion of reflective teaching through her own “story” of her teaching experience. Through her vignettes of incidences in her classrooms, she saw teaching as “part of a bigger pattern, a reflection of a wider world” (Bailey, 1997, p. 7). Through her unfolding “story” the reader could share the authentic experiences of the teacher as she taught in her classroom.

This article focuses on the use of reflective journals in teaching practice of a group of teacher trainees at the Faculty of Education, Universiti Kebangsaan Malaysia. The aim of the article and study is to examine the nature of teacher-trainees or novice teachers’ journal writing and their conceptions of journal writing. The questions driving the study include (a) What are the types of reflection as evidenced in trainees writing, (b) What are the strategies or stance used by the trainees in “telling their stories”? (c) What seems to be a common type of reflection among the trainees?, and (d) What are the trainee teachers’ perceptions and understandings of reflective journal writing?

WHAT IS REFLECTION?

Perspectives on reflective thinking include ideas derived from the domains of psychology, education, philosophy, and the arts. Early philosophers and thinkers such as Plato, Aristotle and Locke contemplated and discussed the ideas on reflection or the idea of metacognition or thinking about one’s thinking. The act of reflecting on one’s reflection allows one to be aware of one’s knowledge or cognitive strategies. Dewey (1910 cited in Shermis, 1999) proposes that we engage in reflection when we are faced with problems which do not have clear answers, or when no

authority possesses an answer, or when no answers are correct and when problems cannot be solved through mere logic. The process of reflection, according to Dewey, produces improved learning. In addition, engaging in thinking about one's practice and contemplating on thinking requires critical thinking and higher-order thinking skills. In fact, some researchers into thinking skills consider reflection as involving all levels of Bloom's Taxonomy - Cognitive Domain (Lambright, 1995 cited in Shermis, 1999). Evidently, reflection requires the "acquisition of facts, understanding of ideas, application of principles, analysis, synthesis and evaluation" (Shermis, 1999, p. 3). In education, for instance, reflection allows the teacher to learn from daily experiences by asking questions that relate to the how, why, what of teaching and learning. Reflection, therefore, is a process of thinking back about what one has done and looking for systematic ways to consciously be aware of past actions in order to amend or correct the actions for the future. In reflecting back on what the teacher has done, the teacher cannot avoid but to "tell his or her stories". As Freeman aptly points out, "To refer to what teachers know in order to teach as "stories" is not to trivialise it. In fact, much recent work in education has focused on...narrative ways of knowing..." (Freeman, 1996, p. 90, cited in Bailey, 1997, p. 2). Freeman wrote about teachers' knowledge of practice as "stories" and state that teachers know their "stories" well, but often do not know how to tell them because they have not been asked to do so or because they do not have the chance or opportunity to tell their stories. Researchers, curriculum developers, and policy makers, according to Freeman, are experts at "telling certain things about classrooms; however, they often miss the central stories that are there..." (Freeman, 1996, p. 90 cited in Bailey, 1997, p. 2). And these central stories are often precisely told by the teachers in the classrooms through their reflection on their teaching.

WHAT IS A REFLECTIVE JOURNAL?

Writing journals is a common practice within education in various fields. A reflective journal is an individual activity in that teachers commit ideas, thoughts, reflections and feelings to paper in various learning contexts (Gilmore, 1996). Reflections are also conducted orally and not transferred into written form (Farrell, 1999). And they can be either done individually or in groups. However, by nature, most reflections are done as an individual activity, and thus it requires a certain amount of self-discipline. Teachers need to set aside some time to sit back and mull over the incidents and activities which had occurred in the classroom and in the school. In writing regularly, the writers will soon discover new perspectives of particular experiences and begin to create ideas about what actions can be taken. A concise definition of reflection and of a reflective journal is not consistent in the literature (Farrell, 1999; Ferraro, 1999; Gilmore, 2001; Hatton and Smith, 1996). Some writers and researchers refer to journals as either learning logs, diaries, dialogue journals or personal narratives. Some use the terms interchangeably, however, an agreed upon characteristic of reflection is that it allows critical and in-depth analysis of what a teacher does in his or her teaching and enables him/her to decide on future corrective steps to improving practice.

The benefits of journal writing are reported in many publications and research. A common consensus on journal writing is that it offers important insights into the patterns of behaviours of the teacher and others. Journals act as windows to experiences and are learning tools which assist teachers in making sense of his or her own teaching, discover attitudes, management skills and ethical implications of teaching (Kerka, 1996; Wilhelm et.al cited in Ferraro, 1999, p. 4). Effective teaching has been found to be related to "inquiry, reflection, and continuous professional growth" (Harris, 1998 cited in Ferraro, 1999, p. 4). The various forms of journals have been employed in studies examining reflection in teacher education. Dialogue journals and diaries are the more common techniques used to foster reflection (Bean and Zulich, 1989; Thorpe, 1994). However, more recently reflective journals are used in research on teacher education in the attempt to promote reflective thinking in teaching (Bailey, 1997; Gilmore, 1996; Janisek, 1999).

RESEARCH ON THE USE OF JOURNALS

Research using reflective journals include the use of journals for teaching or training purposes. Various studies on the use of journals in teaching students particular content or skills show the positive potential of using journals (Arredondo and Rucinski, 1994; Bray and Harsch, 1996; Cothorn, 1991, McNamara and Deane, 1995; Smith and Pape, 1990; Sparks-Langer, Simmons, Pasch, Colton and Starko, 1990; among others).

For instance, Bray and Harsch (1996) used a reflection or review journal with their Japanese students whereby the students were asked to write down their thoughts about the class lesson. The students filled in their entries onto a worksheet, which had specific, guiding questions to help them recall on what they did, what new vocabulary they learned, and what was difficult for them in the lesson. The benefits of the journal were for both teacher and the students. The teacher found it to be a useful tool for corrective feedback, to evaluate students' progress, to improve rapport with students, and as a means of conducting action research. The learners became more aware of their role as language learners and were able to play a more active, autonomous part in developing their language learning skills (Nunan, 1988). A study by Arredondo and Rucinski (1994) incorporated reflective journals in a workshop approach for graduate and undergraduate education students at university. One of the strategies used in the workshop approach was journal writing. A total of 69 students in five classes participated in the study. The findings indicated that students had used metacognitive thinking and that the journals helped foster thinking in-depth about what and how they learned or did not learn in the lessons. Students were highly involved in their reflecting and were aware of the motivational aspects of the approach.

Studies on the use of journal writing involving reflection are not many, but those that do focus on journals found various positive effects that were of considerable potential for teacher development. Hammrich (1990) examined the differences between expert and novice teacher journal writing and found that expert teachers had more comments about the underlying elements of a lesson and the principles of instruction. Their journal entries also showed that they drew upon a richer prior knowledge base when they reflected on their lesson and teaching. The study suggested that reflective and critical self-analysis of teaching might be difficult for trainee teachers who have had little experience in the classroom. The implication to using journals as a tool in teacher education was that novice teachers should be prepared and assisted in how to reflect on their teaching.

Cook et al. (1989) investigated the effect of training in reflection on the pedagogical thinking of preservice teachers. One group was trained to conduct systematic and structured thinking on reflection whereas the other group engaged in reflection without any particular guided approach or strategy. The Taxonomy of Teacher Reflective Thinking Rating Scale was used as pretest and posttest measurements. Results, however, showed that the training alone did not cause any gain in the post-test. The structured reflective training did not seem to have a significant effect on changing the trainee teachers' pedagogical thinking.

Hatton and Smith (1995) conducted research on the use of reflective journals by 60 teacher education students (1991 and 1992 cohorts) at the University of Sydney. The study examined the effect of structured strategies and tasks students were exposed to during two coursework in the teacher education program. The coursework contained tasks and activities which could assist the student teachers with their reflection. The study investigated the types and patterns of student reflection, the fundamental nature of reflection, whether the nature of the data or evidence is affected by the types of reflection and in particular, which strategies in the courses facilitated reflection. The study cited a number of related studies that examined the effectiveness of different approaches to foster reflection in teacher education.

Reflection in the study was defined as "deliberate thinking about action with a view to its improvement" (Hatton and Smith, 1995, p.8). The study identified four types of reflective writing:

(a) descriptive writing, (b) descriptive reflection, (c) dialogic reflection, and (d) critical reflection. The first type is described as mere reporting of events or literature and is not considered reflective. The second type refers to writing which contains some form of rationale or reasons based on some evaluation or judgement. The third form is defined as writing that reflects a dialogue with the self and shows evidence of the attempt to explore possible reasons. It suggests a form of thinking aloud on paper. The fourth form is writing which involves providing reasons or justifying for "decisions or events...takes account of the broader historical, social and/or political contexts." (Hatton and Smith, 1995, p. 9).

The study found that 60 to 70 per cent of the journal writings belonged to the descriptive reflection type. The last form, critical reflection, was found to be present only in eight reports of the two cohorts of student teachers. Dialogic reflection was found to be the highest in the 1992 cohort making up 30 per cent. Another finding was that there were over-lapping types or embedded forms of reflection in the journals. For example, a student might begin with a descriptive type of reflection which later evolved into a dialogic reflection. According to the researchers, the descriptive phase acted as a preliminary attempt to establish context for what had taken place and as a starting point to set the writer's stance for a tentative, further exploration of ideas and reasons. The study also found the strategy of using so-called 'critical friend' dyads as a significant strategy that assisted students' reflective writing. The strategy allowed a student to talk, question, and discuss ideas openly in planning, implementing and evaluating one's teaching. The students in the study significantly drew upon the experience of a 'critical friend' dyad which facilitated their reflection. The study was an example of Schon's idea of 'reflection-on-action' in that deliberation on ideas and actions were conducted after the events have taken place. This finding was also supported in a study by Kettle and Sellers (1996) who found that third year teacher trainees reflection was facilitated through the use of peer reflective groups.

Gilmore (1996) conducted research on the conceptions of written journals of six lecturers who taught a teacher education course at Christchurch College of Education, New Zealand. The course required student teachers to keep a journal as a form of fostering reflection. The lecturers were asked the following questions in a half-hour interview (Gilmore, 1996, p. 3):

- What do you consider a journal to be?
- Have you ever undertaken a journal?
- What do you see as the role of journaling in teacher education?
- How do you implement journal keeping with your class?
- How do you go about evaluating your journals?

The overall results of the study showed that a majority of the lecturers concurred that journaling enabled the learners to research their own learning and practice. In addition, a salient point was that the journals revealed what and how trainee students have learnt and they enabled the students to connect theory to practice. Few studies, other than that conducted by Hatton and Smith (1995), examined the types of reflection and strategies used by trainee teachers when they wrote to reflect on their teaching. Therefore, the study we conducted on trainee teachers investigated the nature of the trainee teachers' journal writing and examined their perception of journal as used in teaching practice.

A survey conducted on the conception, perception, and practice of reflective thinking of 108 trainee teachers in the Diploma of Education program and 133 trainee teachers from the Bachelor of Education program found that there is a weak understanding of the practice of reflection among the students (Rahman, Mohd Jelas, and Osman, 1999). In addition, the practice of reflective thinking was found to be minimal and the students had inadequate exposure on reflective thinking. The results also showed a positive linear relationship between factors such as knowledge, perception and the roles of teaching practice supervisors and the practice of reflective thinking. The study suggested explicit awareness-raising of what, how, and when reflection

should be conducted prior to teaching practice; providing clear guidelines and structured tasks to student teachers, and emphasising the active participation and crucial roles of the practicum supervisors in encouraging students to reflect on teaching.

BACKGROUND

The study on the use of reflective journals in teaching practice was conducted involving 42 students (37 Female; 5 Male) who underwent teaching practice in schools in East Malaysia. The students comprised those who were in the Diploma of Education program (28 students) and the Bachelor of Education program (14 students) of the Faculty of Education at Universiti Kebangsaan Malaysia. Students in the Diploma of Education program, an eight-month training program, were in the majority, former teachers who had some teaching experience in secondary or elementary schools. The students who enrolled in the three-year Bachelors or degree program had little or no teaching experience before joining the program. Within the two programs, the students' areas of specialisation ranged from Science, Mathematics, Physical Education to Teaching English, or Arabic, or Bahasa Malaysia as a second language. The two researchers were directly involved in the supervision of the 42 students.

PROCEDURES

The students were requested to keep a reflective journal and to write their entries as often as they could. This was conveyed to them in the first week of the practicum. There was no deliberate attempt to provide any form of guidelines or strategies for the students to adhere to. They were only instructed to write in the journals about their daily teaching experiences in the classrooms and their experiences in the school they were teaching in as a whole. They were informed about the purpose of writing a journal which was deliberately to "think about action with a view to its improvement" (Hatton and Smith, 1995, p. 8), a definition of reflection that the researchers had adopted for the study. The researchers were interested to find out about the nature and pattern of students' reflection and therefore decided to allow the students to reflect on their teaching as they perceived appropriate. Furthermore, the students were exposed to the idea of reflection, although it was dealt with only briefly and indirectly, both in a course they took in the previous semester entitled "Curriculum and Pedagogy" and in other skills courses in some programs such as Teaching English as a Second Language whereby they were introduced to the idea of "Self-Evaluation" or "*Penilaian Kendiri*" (in Bahasa Malaysia). In addition, the idea of reflection was introduced to the students during the students' micro-teaching and macro-teaching classes that they had in the previous semesters throughout their program of study at the faculty. Thus, the idea of reflection was not a wholly new and alien concept to the students as they entered schools for their teaching practice.

The duration of the teaching practice was approximately 10 weeks for each program. The Diploma Program began from 29 January 2001 to 2 March 2001 for the first phase of the practicum and from 5 March 2001 to 6 April 2001 for the second phase. The Bachelor of Education students began their practice teaching from 19 March 2001 to 13 April 2001 for the first phase and from 16 April to 11 May 2001 for the second phase of the practicum. Both researchers were involved either in the first or second phase of the practicum. In the event that the researchers completed their phases of supervision, the students were requested to continue writing their journals until they completed their practicum and handed in the journal to the researcher at the end of the 10-week practice teaching. Only 30 journals were analysed because some students did not submit their journals on time and there were those who wrote very few entries which had scant information. Furthermore, with the 30 journals there was a total of 875 entries analysed. In writing their journals, the students were given the choice of writing either in Bahasa Malaysia, the national language of the country, or in English, to avoid the problem of language proficiency deterring reflection when they wrote in their journals.

In order to examine the students' perception of journal writing, they were given a 26-question open-ended questionnaire that asked for their opinion and ideas on journal writing. The questions were constructed based on Richards and Lockhart (1997, pp 16-17) guidelines on reflection questions and which mainly focused on events that took place during a lesson. The purpose of the questions was to elicit as much information as possible on students' conception of reflection and of reflective journals.

RESULTS

The 30 journals were divided at random into two piles and each researcher analysed the entries based on the categorisation or types of reflective writing according to Hatton and Smith's identification of types of reflection (see preceding section under Research on the use of journals). The researcher exchanged readings of the journal entries upon completion of the initial group of journals. Each researcher took between 4 to 5 weeks to complete the content analysis of the journal for the different types of writing. All students wrote in Bahasa Malaysia except three students from the Bachelor of Education (TESL) and a student from the Diploma in Education (TESL) who wrote entries in English. The two researchers are bilinguals and teach education courses in Bahasa Malaysia and English and are proficient in both languages. Therefore, both researchers were able to analyse the contents of the journals which were written in either one of the two languages. Initially, the researchers analysed three journals written in Bahasa Malaysia and three in English to determine inter-rater agreement. Because the categorisation followed that of Hatton and Smith's (1995), categorisation was somewhat unproblematic and any differences in perception of categorisation between the researchers was easily resolved through discussion. Each entry in the journals were read and were labelled either as DW (descriptive writing), DR (descriptive reflection), DIAR (dialogic reflection) or CR (critical reflection) based on the characteristics of the different types of reflection as described by Hatton and Smith. There was some overlap in some entries. For instance, an entry for a particular lesson might begin with descriptive writing whereby the writer merely reported the events of the day or the class and later shifted into descriptive reflection and provided rationales or supporting ideas for some events. Some students even moved into dialogic reflection after the initial descriptive writing (See Appendix I for a sample of the different types of reflection).

WHAT ARE THE TYPES OF REFLECTION AS EVIDENCED IN TRAINEES WRITING?

The results of the analysis (see Appendix II) showed that a majority of the entries were of the Descriptive Reflection type (DR), which made up approximately 34 per cent followed by Dialogic Reflection (31%), Descriptive Writing (28%) and finally, Critical Reflection (7%). In the trainees' descriptive reflection, the common focus and concern was on teaching techniques, teaching aids, and classroom management. For instance, a student pointed to the need for her to use a variety of teaching methods because the one she used was not effective and that students differed in learning styles and ability. In another entry, the student stated that because of the lack of laboratory apparatus for Science experiments, students were unable to perform the experiments which could demotivate the students. He rationalised by commenting on the importance of ensuring active participation of students and to create interest in spite of inadequate Science materials. In looking at the entries of the DR type, it seemed that students were merely identifying and stating a problem or an event and consequently providing reasons and rationales to support them. This type of reflection did not provide an in-depth picture of the situation or event although it went a step further than basic reporting of events as in DW.

In our analysis, we found the DIAR type to be rich and revealing of not just of events unfolding in the classroom or school situation, but also of the teacher's awareness of herself or himself as a teacher. In one entry, the trainee lamented on her students' inability to answer the examination

questions because they lacked study skills and were never exposed to test taking strategies. She therefore *mengajar mereka teknik-teknik bagaimana menjawab soalan esei* [taught them techniques to answer essay questions]. Another trainee reflected on her experience during the 10-week practicum: A teacher's

job is not just to teach ,but more than that. What I have learned during the whole period of the 10 -week practicum is precious to me. As a teacher, I must have the strength and resilience to assist my students to succeed academically and morally.

In one entry, a trainee consciously made a comparison between her past teaching experience as a temporary teacher at a lower secondary school and her present situation teaching at a secondary or high school:

Back then, there was no set induction, but now there is... it was teacher-centred, now it is student-centred. Back then I was dealing with Form I students, now I am dealing with Form Four students who are almost as big as I am. Can I do it?

Similar to Hatton and Smith's finding, students' entries showed limited reflection of the CR type. The main focus of the CR writings is on the events in school and less so on general, out-of-school social issues. In their reflection, the trainees show the attempt to rationalise and to justify issues and actions which demonstrates their awareness of how certain events and behaviours are influenced directly by the school culture and indirectly by society in general. A trainee reflected on the increasing truancy problems in the school and stressed the importance of collaboration between school and parents.

Skipping school is a major disciplinary problem. Occurrence of truancy is increasing especially in urban schools. To solve this problem, schools should not be made the only responsible party. Cooperation from parents is crucial for students to spend more time at home and parents are the ones who really understand their children.

In another entry, the student began with dialogic reflection wherein she mentioned the visit of officials from the District Education Department and observed how this affected the teachers. The teachers were making extra effort to prepare their lessons and had come to school with various teaching aids. And she wrote:

Today I can see that all the teachers enter their classrooms confident and well-equipped...all sorts of AVA were brought into the classes...usually we (teacher trainees) were the only ones doing this...For a teacher to be an effective teacher, preparation before class should be of importance...not only for certain situations...This is because careful preparation determines the smoothness of the process of teaching and learning and at the same time shows the excellent quality of teachers in the eyes of students.

The trainee's colleague at the same school reflected on the same issue.

Today the Director of the Education Department (district) and a number of school heads visited the school. I could see all the teachers were busy at their tasks...scared of being observed (I suppose)...the school seems to be more orderly... not as usual....

In another entry, a trainee observed how the school environment lacked certain elements she thought were conducive to learning.

The conditions and surroundings of school are among factors that the school administration should be concerned with...The positive ambience of school will be able to motivate students to learn in the school. At least, students will be proud to study in a school that is well-known for its beautiful and cheerful surroundings...Indirectly, this factor could influence the students and instil in them the love for their school, which fits the school motto *My School, My Heaven*.

The limited number of CR type of reflection is similar to that found in Hatton and Smith's study. The trainees seemed to have a tendency to write in the other types of reflection and not reflecting critically. As mentioned by Hatton and Smith, it could be that this type of reflection was more demanding and required knowledge and experience and the awareness of the interplay of various factors that resulted in a particular situation or event. This type of reflection could possibly develop through trainee's teaching experience over time.

WHAT ARE THE STRATEGIES OR STANCES USED BY THE TRAINEES IN WRITING THEIR REFLECTION?

In writing their reflections, the trainees used different stances or writing strategy . A majority of the teacher trainees used the formal personal pronoun 'I' or 'saya' in Bahasa Malaysia (10 trainees) and some used the informal 'I' or 'aku' in Bahasa Malaysia (5 trainees). The four TESL trainees used the English personal pronoun 'I' whereas the rest of the students used the third person 'teacher' or 'guru' in Bahasa Malaysia. Examples of these are as follows.

1. *Pelajar kurang mengingatnya (bahagian anggota badan) dalam bahasa Arab. Jadi saya fikir pelajar perlu di beri peluang masa untuk mengingat.*

(The students could not recall "the parts of the body" in Arabic. Therefore **I** think students need to be given some time to recall.)

2. *Aku lihat, pelajar-pelajar memberi komitmen cuma ada beberapa orang pelajar yang agak nakal tidak mahu membuat perbincangan. Jadi aku telah memarahi dan memberi denda....*

(**I** see that the students are committed except there were a few students who were rather mischievous who refused to discuss/get into the discussion. So **I** scolded them and punished them.)

3. *Guru berasa yakin untuk mengajar pada hari ini.*

(The **teacher** feels confident to teach today.)

Dengan itu, guru akan mengubah teknik itu agar pelajar dapat memahami petikan...

(The **teacher** will change the technique so that the student will understand the excerpt....)

In addition, the trainees who wrote from the first person point of view and those who used the third person 'teacher' or 'guru' in Bahasa Malaysia seemed to have a formal quality to their writing. In particular, trainees who wrote using the third person 'teacher' or 'guru' implied an objective and critical-of-the-self type of writing. Their writing seem to include more criticisms of their lesson implementation. These trainees had more DW and DR types of reflection. Whereas those who wrote their reflections using the informal 'I' in Bahasa Malaysia (*aku*) showed writing which is more personal and dialogic. These mixed writing styles or strategies can have resulted from the trainees' perceptions of the task of reflection. Although there was no attempt on the researchers' part deliberately to instruct the students to write as an academic purpose (to be evaluated), somehow some of the trainees perceived the reflective journals as an academic task. Hatton and Smith, in their research pointed to the idea of dialogic reflection as a possible form of a genre of reflection which could affect the styles of writing. However, in general, whether the students had taken a formal or informal stance to their writing of their reflections, their reflections revealed an in-depth exploration of their classroom practice. Even for those who first began their entries in the DW or descriptive writing type or the DR type, many eventually moved into the DR or DIAR types of reflection as they continued their reflection.

In the overall reflective writings, the main concern of the students seem to be on teaching techniques, in particular, the kinds of teaching aid appropriate for each lesson and classroom management strategies such as coping with disciplinary problems. In addition, increasing the motivation levels of students and low proficiency (especially, in language classes) is a recurring

concern. Problems of feelings of ambivalence and awe of the school culture and administration are also frequently mentioned. In their reflection, the students include writings on the collegial atmosphere or lack of between the school teachers and the trainees, facilities and infrastructure of the schools, the approach to disciplinary problems of students in the schools, and their own proficiency and skills in teaching.

WHAT ARE THE TRAINEES' PERCEPTIONS AND UNDERSTANDINGS OF REFLECTIVE JOURNAL WRITING?

The 30 trainee teachers were also requested to respond to a 26-question survey on their thinking of reflective journal writing (See Appendix III for the questions on the questionnaire). In general, the students provided a positive response to reflective journal writing. An overwhelming majority (90.3%) of the students state that they liked writing a journal. A common response was that reflecting in writing assisted them in evaluating their teaching, in terms of their strengths and weaknesses in conducting lessons in class. Only 9.10 per cent of the trainees said that they disliked journal writing. The reasons included not knowing how to write a journal and that writing it was done only for self-fulfilment. A majority admitted that writing a reflective journal helped them in their teaching and learning process and that it assisted them in identifying mistakes or weaknesses in their teaching. The trainees considered writing their thoughts on paper about their teaching and the school, to a large extent, as facilitative in

- (a) fulfilling the teaching objectives of a lesson,
- (b) reflecting on the theories they learnt and the applicability and relationship of these theories to actual practice,
- (c) evaluating the teaching aids and methods used,
- (d) evaluating the activities used,
- (e) evaluating teacher-student relationships,
- (f) identifying problems in their teaching,
- (g) solving some problems identified in teaching,
- (h) identifying the successful or unsuccessful aspects of teaching,
- (i) identifying changes that needed to be made in teaching,
- (j) evaluating their approach to the diverse needs of their students,
- (k) improving themselves as a teacher,
- (l) understanding of the teaching and learning process and the curriculum, and
- (m) identifying the characteristics of a good, interesting, creative, and effective teacher.

However, when asked whether reflection helped them in evaluating the decisions they made in their teaching and learning process, only 65 per cent said it did and the remainder either pointed to the rationale that daily lesson plans differed and thus each requires the best of their efforts or some students refrained to comment. Approximately 68 per cent of the students stated that journal writing assisted them in identifying new aspects in their teaching whereas the rest of the students either said they had no comment or were uncertain or that journal writing did not help this part of their teaching. When asked to summarise their experiences and opinion on journal writing, 77 per cent of the students' responses had the following common themes.

1. Helps in the evaluation of teaching methods used -- to determine which is suitable.
2. Assists teachers in identifying their strengths and weaknesses in the process of developing as a teacher.

3. Trains the mind to think before, during and after the teaching and learning process.
4. Helps in identifying problems and solutions related to teaching.
5. Facilitates the process of identifying interesting teaching techniques and activities which could attract students' attention and motivate learning.

The remainder of the students did not respond to the question.

CONCLUSIONS AND IMPLICATIONS FOR TEACHER EDUCATION

This descriptive study found that in absence of explicit and deliberate instructions of how to write a reflective journal, the majority of the 30 trainee teachers who participated in the study produced journal reflections of the DR, DIAR, DW and CR types of reflection respectively. In writing their reflections, there was a mixed style of writing or of approach to writing. Many of the students wrote using a formal, first person stance using the more formal Bahasa Malaysia 'saya' (I) or the third person 'Guru' (the teacher) rather than the more informal Bahasa Malaysia 'aku' (I). The strategy they used seems to have affected their overall writing of their reflections in that those who used the formal style had more reflection of the DW and DR types in comparison to those who wrote using the informal 'I' (*aku*) who had more of the DIAR type of reflection. This was supported by Hatton and Smith (1995) who stated that DIAR type, for instance, could entail a specific genre of reflective writing.

Based on the responses on a 26-question questionnaire, the study shows that the 30 trainees found reflective journal writing to be beneficial to teacher development. In general, the consensus is that reflective journal writing assists the novice teacher in evaluating his or her teaching and learning and helps to identify strengths and weaknesses in teaching, which in turn, assists the teacher in discovering a means of correcting and improving his or her teaching.

An implication for teacher education includes the explicit training or development of skills to assist trainee teachers in reflecting upon their practice. Teacher trainees can be exposed to the writing of reflective journals during their coursework at university and to discuss with their peers and lecturers authentic samples of journal entries or reflective journals that they write during their micro or macro teaching courses. Another suggestion is for the trainees to keep a reflective journal during their teaching practice. It can also be in the form of a dialogue journal whereby the supervisor can respond to some entries in the journal.

Another important suggestion is to encourage the use of these journals written during teaching practice in the post-practicum seminars conducted after the teaching practice. At the Faculty of Education, Universiti Kebangsaan Malaysia, for instance, trainee teachers enrol for a post-practicum seminar once teaching practice is completed in the preceding semester. However, discussion and deliberation are based only on the trainee teachers' record books which contain a section '*Penilaian Kendiri*' (self evaluation) within each daily lesson plan. However, this self-evaluation is often a brief, superficial account of a particular lesson. Reflection and discussion in the seminar is based on this brief document and on the daily lesson plans. The focus thus inevitably is on the technical parts of teaching and thus focuses on the "efficiency and effectiveness of means to achieve certain ends" (Habermas, 1973 cited in Hatton and Smith, 1995, p. 3).

Teaching can be considered a "profession of conscience". The teacher is accountable not only to his or her students, but also to society in general. It is thus crucial that the teacher is made aware of his or her ways of teaching, strengths and weaknesses and of exploring ways and means to better his or her teaching and learning because one of the important factors to successful teaching is our awareness of our teaching and learning (Freeman, 1989). In telling their stories, the teachers are taking a step towards discovering themselves and of the potential of their teaching and learning. In reflecting on teaching, it "allows us to situate our stories" (Bailey, 1997, p. 2) and

as stated by Freeman (1996, cited in Bailey, 1997, p. 9) "if teaching involves the continual interplay of interpretation and the environment, then its story is complex and subtle, and it is quite complicated to tell." And only teachers, the arbiters of change, can tell the true, complicated story of teaching.

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APPENDIX I: TYPES OF REFLECTION

| 1. Descriptive Writing (DR) | | |
|-----------------------------|------------|--|
| Journal No. | Entry Date | Journal Excerpt |
| 027 | 27-3-01 | I finished all the activity that I wanted to do with the students plus yesterday's activity... I also collected the work that they are supposed to pass up today. They were also given homework...to send in ...on Thursday. |
| 004 | 12-3-01 | Teacher feels confident to teach today and careful preparations have been made.. . This type of activity is able to involve students in learning and teaching. The students cooperated well and the teacher is satisfied with the teaching and learning. |
| 037 | 2-2-01 | Today I took the chance to discuss with Ustazah Aminah about the time-table clashes. She is a dynamic lady. My problem with the time-table was solved. |
| 005 | 28-3-01 | Students were able to get a rough idea/ picture of the teaching content to be discussed in today's lesson through the teacher's set induction. Teacher showed pictures of various occupations to the students. The students were able to relate to the topic which is how individuals generate income. |
| 010 | 28-3-01 | The teaching and learning (TandL) process was not able to be conducted because the students were all involved in the special assembly in conjunction with the Prize-giving ceremony for the co-curricular activities. TandL is postponed to another time. |
| 002 | 14-3-01 | The teaching method used using questions and discussion was good and effective and the teaching objectives planned were achieved. At the end of the lesson, students were able to differentiate between the Ifrad Haj, Tamattuk and Qiran and to explain again how each is carried out and including the procedures. |

2. Descriptive Reflection

| Journal No. | Entry Date | Journal Excerpt |
|-------------|-------------------------------|--|
| 006 | 8-3-01 | In this class, there are students who are active and those are passive. To encourage participation of the passive students, the teacher instructed all students to stand and is only allowed to sit when they answer questions asked of them. This strategy seems effective in getting passive students to participate. |
| 011 | 5-2-01 | During the teaching and learning process, some students were cooperative, especially during question and answer session, and when the teacher showed them pictures and charts. A few students were however rather passive. The teacher had to call out their names and to encourage them to answer and gave them low-level questions (knowledge) so that they will have the confidence and the chance to answer some questions.. |
| 027 | 20-3-01 (entry in English) | Today, all of us were assigned to be in charge of the students are sitting for the exams...They were so noisy after the test was over. Thank God I was only there during the test and before the test. Jee...I hate kids!! The first class was also noisy, and they were like circling around me... |
| 018 | 12-3-01 | The creative, critical thinking skills (CCTS) brainstorming and identifying ideas as planned could not be carried out fully. Many of the students waited for answers from the teacher or other students. The teacher needs to add more questions from various cognitive levels to attract students' interest to answer the questions asked and for them to provide substantive ideas. |
| 026 | 21-3-01 | Today the teacher used a game for class activity -- a crossword puzzle to test the previous lesson. Students enjoyed the activity. They could solve all the problems on the crossword puzzle. The teacher could see that through such activities, not only are the students interested, but the teacher could also find out the extent of their understanding of the previous lessons. |
| 007 | 3-4-01 | Today the students are taught a new topic " The role of Faith in Life". As a set induction, the teacher related the topic to the problems of today's youths. The students looked interested and volunteered ideas on problems faced by adolescents and how they are closely related to a person's strength of Faith. All in all, the TandL process proceeded smoothly. |

3. Dialogic Reflection (DIAR)

| Journal No. | Entry Date | Journal Excerpt |
|-------------|-------------------------------|---|
| 010 | 7-2-01 | Teaching 4MS1 Malay Literature. A male student was not attentive while I (<i>aku</i>) teaching. I asked the student why he was not paying attention when I was teaching. His reply was "bored of learning Literature". I was shocked to hear his answer. I retorted "If you are bored why didn't you join the Science class ". According to the student, he had to because he's not eligible for the Science class. I tried to advise him, to give him the will to go on and the realization that Malay Literature is important. However, he seemed uninterested. I am determined to change this student... to like Malay Literature in the duration of my practicum. |
| 024 | 2-2-01 | I (<i>aku</i>) believe that a stern teacher is not the only one who can control a class. It does not mean that students are afraid of us who have a "fierce" character. I know this is my weakness. I am unable to behave in that manner. Maybe that is not my style. Maybe I am more comfortable with an "open" attitude, but at the same time students respect me...It seems... it befits lower secondary students to be treated seriously (stern manner) or firmly if compared to the higher secondary students. We need to be smart...to be able to win their hearts that is enough. If we could get to know them individually. Sometimes I feel it's a lot easier for me to remember the names of those are naughty compared to those who are passive. |
| 030 | 22-2-01 (entry in English) | They had a monthly test today. Lesson started late because they had a seminar at Multimedia University. Some students answered the questions in a short time. Maybe it's too easy for them... maybe its too difficult too, only they know. One big mistake... I didn't put the poem together with the questions...next time don't do it again! |
| 018 | 27-2-01 | The use of the AVA today is less effective and unsatisfactory because the writing was too small and the students at the back of the class could not read the (mahjong paper). Teacher had to read over the writings and to repeat so that the students could write and copy them down. There was also material in the teaching content that was not stated in the teaching objectives. |

| 016 | 25-2-01 | The TandL process today went well. However, it didn't go all too smoothly because the teacher was a bit late to class. This is a situation that should not occur in the teaching profession. The trainee teacher should be more aware and to arrive on time in the future. This should not be repeated. |
|------------------------------------|------------|---|
| 4. Critical Reflection (CR) | | |
| Journal No. | Entry Date | Journal Excerpt |
| 001 | 25-2-01 | ...students' attendance is unsatisfactory. A number of students were involved in the parade practice at the school field in conjunction with preparations for the Sports Champion Day SMKTT 2001. The parade practice is disruptive...students could not be attentive in class (the noise). I (<i>saya</i>) warned the students that if they are not interested to study, they can leave the class. Seems after that they gave their attention. I distributed handouts as a teaching aid. |
| 028 | 8-5-01 | Today's lesson is unsatisfactory. There are still students who do not wear sports attire for physical education class. They wasted time lingering in class even though the bell went much earlier. In my opinion, there is no change in attitude for the past 8 weeks. Maybe too little time for me to change their attitudes... their behaviours...of doing whatever they like is difficult for me to change during so short a time I'm here. My hope is that the physical education teachers at this school are able to change their methods/approaches of teaching... and to allow the students to play any PJ games they like. With this attitude change in the teachers, it could help the students to learn a little about what physical education really is. |
| 040 | 6-2-01 | The ratio of Malay and Chinese students in this school is approximately equal. Despite that, the school makes an effort to foster feelings of love for one's country through <i>Malaysia Berjaya</i> (patriotic song). It's uncommon for schools to adopt the song as an official school song for the school assembly. This is very good. |
| 025 | 9-2-01 | Today I found out that there are students among 4ML who do not know how to read and write although they are already in Form 4. Why? The country is so proud of its citizens and moving towards a highly advanced information system. Studies should be conducted and solutions sought, the administrators and teachers are the ones who should be involved in this action research. To assist in the evaluation and reflection of the study, the cooperation of all sectors...the surrounding society is much needed. |
| 030 | 30-4-01 | When entered Form 4A3, the first thing I asked them was how far have they gone in preparing for the exams. I was shocked to hear that they have yet to begin revising for the exams not just for Economics, but for all other subjects. I could recall during my schooldays, I had to begin revision work the latest 2 weeks before the paper (exam). What seems to be the problem with students these days? Is it the school environment, education system, or teachers the cause of this situation? Or is it because they are "labelled" 4A3 that causes them to feel inferior and thus refuse to make an effort for success because success seems impossible for them. Whatever the reason, I am still going to help them during and after school hours. I encourage students to come in groups or individually if they have any problems related to the subject (Economy) |

APPENDIX II: PERCENTAGES OF TYPES OF REFLECTION

| Type of Reflection | Frequency of Type of Reflection | Percentage |
|--------------------|---------------------------------|------------|
| (a) DW | 244 | 28% |
| (b) DR | 299 | 34% |
| (c) DIAR | 273 | 35% |
| (d) CR | 59 | 7% |
| TOTAL | 875 | 100% |

APPENDIX III: SAMPLE QUESTIONS ON THE QUESTIONNAIRE

- Q1: Do you like writing this journal?
- Q2: Does journal writing help in the teaching and learning process?
- Q3: Does journal writing help in improving/upgrading/developing yourself as a teacher?
- Q4: Why do you write a reflective journal apart from writing as an assignment?

Q5: Does journal writing help in:

- (a) identifying what is to be taught?
- (b) fulfilling your teaching objectives?
- (c) assessing what you have learnt and practiced?
- (d) evaluating the teaching aids you used?
- (e) evaluating the teaching methods that you used?
- (f) evaluating the activities that you have chosen?
- (g) evaluating your teacher-student relationship?
- (h) identifying any problems in your teaching?
- (i) evaluating the problem-solving method you used in the teaching and learning process?
- (j) evaluating the decision-making in the teaching and learning process?
- (k) identifying the successful aspects in your teaching?
- (l) identifying the unsuccessful aspects of your teaching?
- (m) identifying new aspects in your teaching?
- (n) identifying changes that you need to make in your teaching?
- (o) evaluating your way of meeting different student needs?

Q6: Does journal writing help you in:

- (a) improving/developing yourself as a teacher?
- (b) identifying your strengths/positive attributes as a teacher?
- (c) identifying your weaknesses as a teacher?
- (d) determining how far you have succeeded as a teacher?
- (e) developing your understanding/philosophy of teaching and learning processes and of the curriculum?
- (f) identifying the characteristics of a good, interesting, creative and effective teacher?

Q7: Summarize your experience and opinion on journal writing.

Self-regulated learning and academic achievement in Malaysian undergraduates

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This study is an investigation of the ability of self-regulated learning (SRL) as measured by the Motivated Strategies for Learning Questionnaires (MSLQ) to predict academic achievement among undergraduates in Malaysia. A total of 460 second-year engineering undergraduates from the Universiti Teknologi Malaysia participated in the study. Academic achievement was measured by the students' grade point average. The results show that the MSLQ is a reliable tool and SRL is a significant predictor of Malaysian undergraduates' academic achievement. Significant relationships between SRL and academic achievement were found, nevertheless differences in the composition of significant predictor sub-scales are also found between achievement groups.

Self-regulated learning, academic achievement, higher education,
metacognitive learning strategies, Malaysia

INTRODUCTION

Self-regulated learning (SRL) is an important area of research in college learning and teaching (Pintrich, 1995), and has gained more attention in higher educational research. Zimmerman (1989) defined self-regulated learning strategies as "actions and processes directed at acquiring information or skill that involve agency, purpose, and instrumentality perceptions by learners" (p. 329). Self-regulated learning involves the use of motivational and learning strategies to the degree that students are motivationally, meta-cognitively, and behaviourally active participants in their own learning processes (Zimmerman, 1989; Pintrich, 1995). Students learn self-regulation through experience and self-reflection (Pintrich, 1995). Therefore, self-regulated learning is a good target for student intervention since students are able to learn to become self-regulated learners.

In Pintrich and his colleagues' (Garcia and Pintrich, 1994; Pintrich and DeGroot, 1990) model, there were essentially two important aspects of self-regulated learning, namely, motivational strategies and learning strategies. The motivational strategies were those strategies students used to cope with stress and emotions that are sometimes generated when they tried to overcome failures and become good learners (Garcia, 1995), while the learning strategies were methods that students used to improve their understanding, integration, and retention of new information in the learning process (Cross and Steadman, 1996). A self-report measure called the Motivated Strategies for Learning Questionnaires (MSLQ) was developed (Pintrich, et al., 1986) to tap three motivational strategy components (value, expectancy and affective) and two learning strategy components (cognitive and metacognitive strategies, and resource management strategies).

Research investigating the relationship between self-regulated learning and academic achievement has generally found self-regulated learning to be positively related to academic achievement across education levels and subject areas (e.g. Lindner and Harris, 1992; Van Den Hurk, 2006). The positive role of self-regulated learning has been demonstrated in various studies

for both the motivational as well as the learning strategy aspects of self-regulated learning. Research into the motivational aspect of self-regulated learning normally has shown that academic achievement was associated with internal motivation (Pintrich, Smith, Garcia and McKeachie, 1993), self-efficacy (Bong, 2001), internal locus of control (individual's beliefs that the outcomes of their actions were dependent on what they did) (Haidt and Rodin, 1999), and low levels of test anxiety (Musch and Broder, 1999). Positive relationships between academic achievement and cognitive and metacognitive strategies (Rebovich, Brooks and Peterson, 1998), environment management (Zimmerman and Martinez-Pons, 1986), time management (Britton and Tessor, 1991), effort regulation (Chen, 2002), and help seeking (Rebovich, Brooks and Peterson, 1998) have also been found.

This study investigated the ability of SRL as measured by the MSLQ to predict academic achievement among undergraduates in Malaysia. Results from this study could indicate the suitability of the MSLQ for intervention purposes in Malaysian universities. Although the instrument had been widely used in investigating students' motivation and learning strategies in the United States as well as many other countries such as Australia (Fuller, 1999) and Hong Kong (Rao, Moely, and Sachs, 2000) little was known about its reliability and ability to predict university students' academic achievement in Malaysia. Similar to most findings, SRL as measured by the MSLQ was expected to be able to predict Malaysian university students' academic achievement. This study also looked at the differences of SRL in predicting academic achievement between high and low achievers. SRL was expected to predict academic achievement in both groups.

METHOD

Participants

In order to avoid extraneous variables due to variances in courses as well as experience in higher education, this study was done by focusing on a specific group of students from the same degree program. A total of 460 second-year electrical engineering students from a major University in Malaysia (Universiti Teknologi Malaysia) were involved in the study. The participants were between 18 to 21 years old, in which 315 (68.5%) were males and 145 (31.5%) were females. The Malay and Chinese students were the majority.

Measures

Academic achievement was measured on the basis of the students' grade point average (GPA) scores for the semester in which the study was carried out. Students' self-regulated learning was measured by the Motivated Strategies for Learning Questionnaire (MSLQ) (McKeachie, Pintrich, Lin, and Smith, 1991). It is a self-report instrument designed to assess college students' motivational orientations and their use of different learning strategies. Students rated themselves on a seven point Likert scale from 'not at all true of me' to 'very true of me'. The internal consistency reliability indexes for the 15 sub-scales based on data gathered from a sample of 380 Midwestern college students in the United States (Pintrich, 1996), ranged from 0.52 to 0.93. The questionnaire was translated into the Malay language.

Procedure

Data collection took place three weeks after the opening of semester in the academic year 2001/2002. The questionnaire was administered to complete classes during tutorial hours. Participants' grade point average (GPA) for that semester was obtained before the start of the following semester.

RESULTS

The internal consistency reliability coefficients for the MSLQ (Malay version) sub-scales varied, ranged from 0.19 to 0.91 (Table 1). In order to get robust variables, only sub-scales with reliability indexes above or close to 0.7 were used. The cognitive and metacognitive component was divided into two sub-scales: cognitive ($\alpha = 0.87$) and metacognitive sub-scales ($\alpha = 0.78$); and the resource management strategies component ($\alpha = 0.80$) was used in the analyses instead of its sub-scales, due to lack of internal consistency in the sub-scales. Although the reliability indexes for control of learning behaviour ($\alpha = 0.50$) and test anxiety ($\alpha = 0.63$) sub-scales were low, they were retained. The lack of internal consistency in these sub-scales could be because this study was carried out at the beginning of a semester, and the participants were not yet familiar with the semester's courses.

Table 1. Internal consistency reliability coefficients of the MSLQ (Malay version) sub-scales

| Subscale | α | α (Pintrich et al., 1991) |
|--|----------|----------------------------------|
| Motivation scale | | |
| <i>1. Value Component</i> | | |
| Intrinsic Goal Orientation | 0.66 | 0.74 |
| Extrinsic Goal Orientation | 0.72 | 0.62 |
| Task Value | 0.77 | 0.90 |
| <i>2. Expectancy Component</i> | | |
| Control of learning behaviour | 0.50 | 0.68 |
| Self-efficacy for learning and performance | 0.91 | 0.93 |
| <i>3. Affective Component: Test Anxiety</i> | | |
| | 0.63 | 0.80 |
| Learning strategies | | |
| <i>1. Cognitive and Metacognitive Strategies</i> | | |
| Rehearsal | 0.55 | 0.69 |
| Elaboration | 0.71 | 0.76 |
| Organisation | 0.62 | 0.64 |
| Critical Thinking | 0.73 | 0.80 |
| Metacognitive Self-Regulation | 0.78 | 0.79 |
| <i>2. Resource Management Strategies</i> | | |
| Time and Study Environment | 0.67 | 0.76 |
| Effort Regulation | 0.48 | 0.69 |
| Peer Learning | 0.41 | 0.76 |
| Help Seeking | 0.41 | 0.52 |

Pooled as well as split data were analysed. The data were split by achievement level to obtain high and low achieving student groups by splitting the cumulative grade point average CGPA scores at the median (3.01). The lower achievement group consisted of 249 participants while the higher achievement group consisted of 248 participants.

ARGUMENT TO SUPPORT THE MEDIAN SPLIT TECHNIQUE

The median split technique is a common technique in research to create two groups. Although there are arguments against the median split method, criticisms are aimed mainly at dichotomising continuous predictor variables in one-way or factorial designs, where two groups are formed and then compared on some dependent variables. This is because doing a median split reduces statistical power, primarily due to the reduction in the inherent variability of the predictor. Cohen (1983) stated that breaking subjects into two groups leads to the loss of 1/5 to 2/3 of the variance accounted for by the original variables.

In the present study, the median split technique is done to split the first year cumulative grade point average in order to form two achievement groups. The main objective is to investigate whether the predictor variables relate to academic achievement in the same manner between the two achievement groups. Although the size of sample in each group is reduced, the sample sizes

are still large. The technique results in two groups of equal size, making comparison between the two groups more statistically appropriate.

Participants with CGPA scores equal and above the median score are classified as higher achievers or upper division students while participants with CGPA scores below the median score are classified as lower achievers or lower division students. The median point is in fact, close to the Universiti Teknologi Malaysia's (UTM) distinction marking (CGPA = 3.00) between upper division level (first class and second upper class) and lower division level (second lower class and below). Findings may be very helpful in understanding the variables that can predict academic achievement for each group.

DATA ANALYSES AND FINDINGS

Analyses were done on the main scales of all variables. All scores were standardised by converting them into z scores. Data were first screened prior to the main data analyses. Cases with too many missing values were dropped. Linearity of the relationships and normality of the data were also checked for both combined and split data.

The distribution of the CGPA scores for the two achievement groups were positively skewed for the high achievers and negatively skewed for the low achievers as a result of splitting the group based on the CGPA median score. However, this did not necessarily lead to skewed distributions of the predictor variables. The assumption of linearity for the relationship between predictor variables and criterion variables were met for all variables in combined as well as split data. Most of the variables for the combined data were normally distributed or close to normal. Although some variables were either negatively skewed, especially for the split data, this did not pose great concern since in a large sample, a variable with statistically significant degree of skew often did not deviate enough from normality to make a substantive difference in the analysis. The impact of departure from zero kurtosis also diminished (Tabachnick and Fidell, 2001).

Mean values for all MSLQ sub-scales for the two achievement groups were calculated, followed by t-tests. The results presented in Table 2, show that the mean values for the high achieving group are higher for all sub-scales. These differences are all statistically significant (p value at least <0.05), except for test anxiety and external goal orientation.

Table 2. Mean values of all MSLQ sub-scales for high and low achievers, significant differences and t values

| MSLQ sub-scale | Mean value | | t | p |
|-----------------------------------|----------------|---------------|-------|------|
| | High achievers | Low achievers | | |
| Internal goal orientation | 17.81 | 16.15 | -6.46 | 0.00 |
| External goal orientation | 23.17 | 22.28 | -2.27 | 0.04 |
| Task value | 34.87 | 33.14 | -3.95 | 0.00 |
| Control of learning belief | 22.96 | 21.82 | -3.51 | 0.00 |
| Self-efficacy | 42.67 | 40.23 | -3.08 | 0.00 |
| Test anxiety | 22.64 | 21.50 | -1.88 | 0.06 |
| Cognitive learning strategies | 96.20 | 84.94 | -7.09 | 0.00 |
| Metacognitive learning strategies | 82.64 | 71.84 | -8.90 | 0.00 |
| Resource management strategies | 75.16 | 66.34 | -8.21 | 0.00 |

Multiple regression tests were employed as the main analysis method. This method of analysis was used since the study involved more than one independent variable and one dependent variable. Although correlation tests could give information about the strength and direction of the relationship between variables, it could not show the combined as well as the separate effects of the variables on the dependent variable.

A stepwise multiple regression analysis was carried out on the data to see which aspects of SRL were significant in predicting academic achievement. The results show that self-regulated

learning explains 35.2 per cent of the variance in GPA ($F=45.78$; $df=4, 326$; $p<0.0005$). Resource management strategies, test anxiety, metacognitive learning strategies and lack of self-efficacy were the significant overall predictors ($\beta = 0.40, 0.14, 0.28, \text{ and } -0.17$, $p<0.01$ respectively). The only variable which did not predict academic achievement was self-efficacy.

Separate stepwise multiple regression analyses were then carried out for each achievement group. The results show that self-regulated learning predicts GPA better for the high achievers (33.6% of the variance) compared to the low achievers (13.7% of the variance). The significant predictors were also different. Among the high achievers, control of learning behaviour and resource management strategies had significant positive effects on GPA ($\beta = 0.34$ and 0.53 , $p<0.001$), while self-efficacy had a negative effect on GPA ($\beta = -0.29$, $p<0.00$). Among the low achievers, metacognitive learning strategies and test anxiety had positive effects on GPA ($\beta = 0.38$, $p<0.001$; and 0.20 , $p<0.01$ respectively), but control of learning behaviour and task value had low negative effects on GPA ($\beta = -0.18$ and -0.17 , $p<0.05$ respectively). Using Rcompare, a program that tests the significance of a difference between two relationships developed by A.C.Downing at the University of Newcastle upon Tyne, significant differences were found for five out of nine variables compared (or five out of six cases where at least one of the two β values compared was significant) (Table 3).

Table 3. β values of all sub-scales for each achievement group and the significant differences found using Rcompare

| MSLQ sub-scales | Low achievers | High achievers | Sig. Diff. |
|--------------------------------|---------------|----------------|--------------|
| Intrinsic goal orientation | -0.07 | 0.08 | (NS) |
| Extrinsic goal orientation | -0.08 | -0.09 | (NS) |
| Task value | -0.17* | 0.07 | ($p<0.05$) |
| Control of learning belief | -0.18* | 0.34*** | ($p<0.00$) |
| Self-efficacy | 0.00 | -0.29*** | ($p<0.01$) |
| Test anxiety | 0.20** | 0.05 | (NS) |
| Cognitive strategies | 0.04 | 0.08 | (NS) |
| Metacognitive strategies | 0.38*** | 0.16 | ($p<0.05$) |
| Resource management strategies | 0.16 | 0.53*** | ($p<0.00$) |

* $p<0.05$, ** $p<0.01$, *** $p<0.001$

DISCUSSION AND CONCLUSIONS

Summary of the results

This study supported the use of the MSLQ in measuring Malaysian university students' self-regulated learning. Although not all of the reliability scores for the sub-scales were high, the internal consistency reliability values for the main components were generally high.

Self-regulated learning was found to have a significant effect on Malaysian university students' academic achievement. This study found that high achievers were better users of self-regulated learning than low achievers. When the data were analysed using the pooled data, resource management strategies, test anxiety, metacognitive learning strategies and self-efficacy were found to be the significant predictors. All these variables had a positive influence on academic achievement, except for self-efficacy. However, differences were found when analyses were done on the split data.

Among the high achievers, those who reported more control of learning belief and more use of resource management strategies, but had lower self-efficacy achieved better. Strategies in managing resources (that is, in terms of time and study environment, effort regulation, peer learning, and help seeking) seem to be a strong predictor of success among this group. Other SRL factors were not significant in distinguishing the higher achievers, perhaps because the high achievers already had the level of skills required in a learning process so much so that they did

not appear to be a significant predictor for academic achievement for the high achievers. Within the low achievement group, those who reported more use of metacognitive learning strategies, higher test anxiety, low internal attribution of control over learning as well as low task value achieved better.

The metacognitive learning strategies would appear to be more important for the low achievers compared to the high achievers. The lower level of metacognitive strategies reported by the low achievers as compared to the high achievers indicated that the low achievers were not using metacognitive strategies enough in their studies, thus, those with better metacognitive strategies achieved better. Although findings about the effect of test anxiety on academic achievement were inconsistent and sometimes contradicting, this affective learning variable has normally been found in previous research to be detrimental. In this study, it was found to have a low positive correlation with the low achievers' academic achievement, but was not a significant predictor among the high achievers. Moreover, the influence of control of learning belief on academic achievement was found to be positive among high achievers but was found to be negative among the low achievers. This indicated that among the low achievers, they achieved better when they were slightly more worried about their examinations, thought that they had less control over their learning, and valued the learning task less than their peers within the same achievement group. Perhaps these factors made them more motivated to work harder. The differences in the relationship between the self-regulated learning variables in predicting academic achievement need to be investigated further.

This study found that self-regulated learning could explain the GPA variance better for the high achievers compared to the low achievers. SRL predicted 33.6 per cent of the variance in GPA among the high achievers, but only 13.7 per cent among the low achievers. Perhaps academic achievement could be predicted by self-regulation in learning, but other confounding factors could be more or equally important in predicting students' success, especially among the low achievement group. Various factors were interwoven and complementing each other in explaining human behaviours and outcomes. Although these factors were of a different nature, in general, high achievers were found to be on the more advantaged side, while the low achievers normally had the opposite characteristics. It was possible that the factors that were associated with academic achievement were supporting and making SRL possible. Meanwhile, the opposing factors that were normally associated with academic problems had adverse effects by interfering with students' acquisition and use of SRL skills. Moreover, the effects of the adverse factors such as family or personal problems, could be more intense, possibly strong enough to suppress the importance of SRL in predicting academic achievement. Further research needs to be done to look into these matters.

Although this study has found support to the influence of self-regulated learning (SRL) on university academic achievement as well as the MSLQ as a tool to measure self-regulated learning, a word of caution should be given when generalising the findings. These findings were based on responses made by undergraduates from an engineering course at the Universiti Teknologi Malaysia (UTM). The majority of the sample was from the Malay and Chinese ethnicity, and more than half of them were males (68.5%). Further studies should be done using a wider sample of the Malaysian undergraduate population in order to generalise the findings.

IMPLICATIONS FOR PRACTICE

Even when the results were based on UTM second-year electrical engineering students, results were consistent with most other studies done elsewhere. The findings could be used as evidence of the importance of self-regulation in the learning process. Efforts should be taken to identify and help students, especially those who were at risk of low achievement or failure by focusing on their self-regulated learning behaviour. Consequently, the MSLQ can be used to identify students

who are at risk and can also be used in general to make students aware of their learning behaviour, so that students can identify their strengths and work on their weaknesses.

Results from the separate investigations for the different achievement groups have shown the need to look at the different needs of these groups. In this study, the aspects of SRL that are important in explaining the different groups' academic success differ. One important finding that needs to be highlighted from this study is that metacognitive strategies are found to be important in influencing low achievers' achievement but such a finding is not found among the high achievers. It is assumed that metacognitive strategies are particularly important in explaining academic performance as metacognitive skills help to govern students' ability to plan, monitor and evaluate their performance. The lack of metacognitive skills may hamper students' ability to judge their potential as well as performance, thus hindering them from making effective planning and actions.

The grouping of the participants in this study may be arbitrary, and findings may only apply to the particular group of students at one university in Malaysia. Nevertheless, the findings suggest that efforts need to be made to help students, especially low achieving or high risk students to improve their use of metacognitive strategies.

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Short-term international experiences and teacher language awareness

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This research study had as its focus the impact of a short-term international experience on teacher language awareness (TLA). In-country intensive immersion experiences were considered beneficial for language teacher professional development. This project examined the Australian teachers' perceptions of their teaching and home-stay experiences during a three week short-term international teaching and homestay experience in South Korea. Findings suggested that teacher language awareness was indeed heightened through the extra metalinguistic awareness gained through systematic reflection on teaching and learning events.

Short-term international experiences; teacher language awareness (TLA); teacher reflection, homestay experience, South Korea

INTRODUCTION

Reported in this article are findings from a research project conducted in Seoul, South Korea by the Australian researcher in late 2005 (see also Harbon, 2006, for more general findings of the project). The research study had as its focus the impact of a short-term international experience for language teachers and their learners. Twelve Australian preservice teachers participated in a teaching, home-stay and cross-cultural experience at Myongji College, in Seoul, South Korea, for a three-week period in November and December 2005. Myongji College invited the participation of the Australian teachers with the guidelines that teachers conducted a conversational English program within an informal *English Camp* scenario. The idea was that the College English students would participate in these non-compulsory English language sessions, specifically to practise listening and speaking.

BACKGROUND CONTEXT AND RESEARCH QUESTION

The teachers from Australia, all in their final years of their teaching degree programs at the University of Sydney, considered themselves native speakers of Australian English. All were preparing to become language teachers in future primary or secondary teacher positions. The listening and speaking sessions focused on the theme of *Getting to know Sydney*. The twelve teachers prepared teaching materials for their adult learners with authentic listening and viewing materials from Australian film, television, radio, internet and news media.

The study examined a research question concerning the perceived value of a short-term international language teaching experience for Australian teachers' professional development, particularly their teacher language awareness (TLA) and knowledge about language teaching.

THE RESEARCH LITERATURE

Research on short-term international experiences can be said to sit within the 'study abroad' literature more generally. Participants in study abroad may not be language teachers, however

they are often, in a similar way to language teachers, individuals who are keen to develop language proficiency and awareness. Although careful to say that there is “no one-to-one direct link between SA [study abroad] and superior linguistic gain” (Freed, 2005), Freed cites research (much of it her own) that study abroad has a positive impact on participants’ acquisition of fluency, accuracy, lexis, phonology, sociolinguistics, cognitive skills and literacy skills.

Research undertaken in the area of short-term international experiences for language teachers is not extensive, first recognisable as a discrete research area in the research literature around the beginning of the 1990s (for example, Wilson, 1993). In his literature review for the encyclopaedia entry on the topic, Byram (2000, pp. 211-212) noted the value of in-country programs for language teacher development:

exchanges... study abroad programmes of up to a year, and short study visits of a few days, have come to be central phases in the process of language and culture learning since the late nineteenth century... [and] are not only profitable for students, but also for teachers in pre- and in-service training.

Bodycott and Crew’s (2000; 2001) publications focused on English as a Second Language (ESL) teachers in Hong Kong. ESL preservice teachers in Hong Kong undertake short-term overseas language immersion programs (called STOLIP at that time) in English speaking countries, in the belief of the benefits and positive results of language and cultural immersion during their teacher preparation degree programs.

Also reporting on Hong Kong students who were completing a short-term international experience in both Australia and New Zealand, Barkhuizen and Feryok (2006) have contributed to the research literature. Their research findings focused on (a) the participants’ experiences, (b) the importance of suitable organisation on the part of the coordinators, and (c) the successful (or otherwise) strategies by the participants to gain the most from the experience.

Harbon and Atmazaki (2002) found that although the language teachers in the short-term international experience possessed a language proficiency (all had passed two years at least of undergraduate Indonesian language units at the University of Tasmania) they were, due to what the researchers termed “cultural mismatch”, reluctant to use their language facility to solve so-called ‘problems’ during their short-term international experience in Indonesia in late 1998. McGill and Harbon (2006) found an awareness among language teachers, reported by those who participated in a short-term international teaching experience in Indonesia in early 2001, that opportunities to reflect caused new realisations of pedagogy. Teachers were stepping out of their comfort zone and forced to reflect on what they knew from experience in a new light compared to what they were learning through the overseas teaching experience.

In a consultancy report to the Ministry of Education in New Zealand during the time that New Zealand prepared to fund short-term international experiences for the preservice and inservice preparation of their language teachers, Harbon (2005) found no conclusive evidence about the success or otherwise of short-term international experiences on language teacher language awareness or on subsequent student learning outcomes. Harbon’s (2005) conclusion was that despite the dearth of research, the study-abroad research literature (Freed, 1995; Kaufmann, Martin, Weaver and Weaver, 1992) indicated that such short-term international experiences had a positive impact on participants’ personal and professional development. With high level financial support in Australia (Department of Education, Science and Training, 2006) and New Zealand (see, for example, Asia New Zealand Foundation, 2006) for such programs, there is, the researcher believes, a growing amount of evidence to indicate the worth of further examination of short-term international experiences for language teacher professional development.

CONCEPTUAL UNDERPINNINGS AND RESEARCH PROCEDURES

This research on short-term international experiences for language teachers has seen opportunities afforded particularly to language teachers to reflect deeply about their developing language awareness. Underpinning this research is the exploration of teacher experience and reflective practice (Schön, 1987). Activities that can enable teachers to “reflect on action” are arguably allowing a more in-depth teacher professional development.

Adopted also for the conceptualisation of this research is what Lawless and Roth (2001) saw (as they adopted Heidegger’s idea of ‘being’ or ‘*dasein*’) as “reflection in problematic situations” being the most beneficial for teacher learning and development. Gorodetsky and Barak (2004, p. 267) called this reflection in problematic situations process “a valued representational process with potential impact on change in ways of teacher *being* in the classroom”. Gorodetsky and Barak traced teacher development as a result of teaching in different “habitats”, finding that “involving prospective teachers in diverse experiential habitats” — allowing teachers to construct meaning from problematic situations, allowing them to compare and analyse situations through reflection — helps prepare teachers for contemporary classrooms. The researcher believes that the “different habitats” experienced during short-term international experiences offered very suitable contexts upon which language teachers can reflect on or about “problematic situations”.

Alongside teacher “reflection in problematic situations” in the conceptual frame underpinning this paper sits the notions of language proficiency of teachers (knowledge **of** language) and language teacher subject-matter knowledge (knowledge **about** language) (Andrews, 2003, p. 82). Andrews uses the term “teacher language awareness” in his research in the Hong Kong context (2001; 2003). Andrews described (2001, p. 76) teacher language awareness as language teacher “subject-matter knowledge and its impact on teaching”. It was an area, according to Andrews (2001, p. 77) that was complex and where notions of “content and medium of instruction are inextricably intertwined.” Andrews (2001, p. 79) also discussed “communicative language ability” and “pedagogical content knowledge” as linked notions. He theorised that a language teacher’s language (and metalinguistic) awareness could “filter” classroom language input. Following on from the 2001 paper, Andrews’ 2003 project examined subject-matter knowledge and focused also on teacher language awareness as “encompassing an awareness of language from the learner perspective” (Andrews, 2003, p. 81). Figure 1 describes the relationships between these notions as adapted from Andrews (2001) and Gorodetsky and Barak (2004).

This conceptual frame (see Figure 1) attempts to depict the broader scope of language teacher reflection due to the teachers’ vantage point for reflection from another “habitat” or international teaching context. In a short-term international experience, teachers can compare their usual, ‘at home’ teaching experiences (conceived by this researcher as one **layer** of established pedagogic content knowledge and language awareness) with the ‘other habitat’ or international teaching experience. For pre-service teachers those ‘at home’ experiences have been largely very controlled and closely linked to passing or failing a teaching practicum. When afforded the opportunity to teach in a short-term international experience during their teacher preparation period (another ‘habitat’), there may be more of a freedom for the teachers to gain teaching experience and build on their language awareness without assessment pressure. In a short-term international experience there are always points of comparison: at least two habitats, including two languages, two cultures, two sets of customs, two sets of teacher and learner behaviours. That is, existing teacher awareness from previous ‘at home’ experiences form one layer of awareness, and the international experiences form another layer superimposed on top create the possibility of teachers becoming more aware of language, learning and other educational issues.

In late November and the first two weeks of December 2005, these Australian teachers participated in a home-stay, teaching and cross-cultural experience at Myongji College in Seoul. The teachers were placed with families in the Myongji community, living in apartments and

houses anywhere between 20 minutes and two hours from campus. The agreement was that in exchange for full bed and board for the Australian teachers, the Korean families would have a native-English speaker in the household for the family's English practice for a three-week period. The Australian teachers reported cross-cultural communication becoming a focus in their daily living.

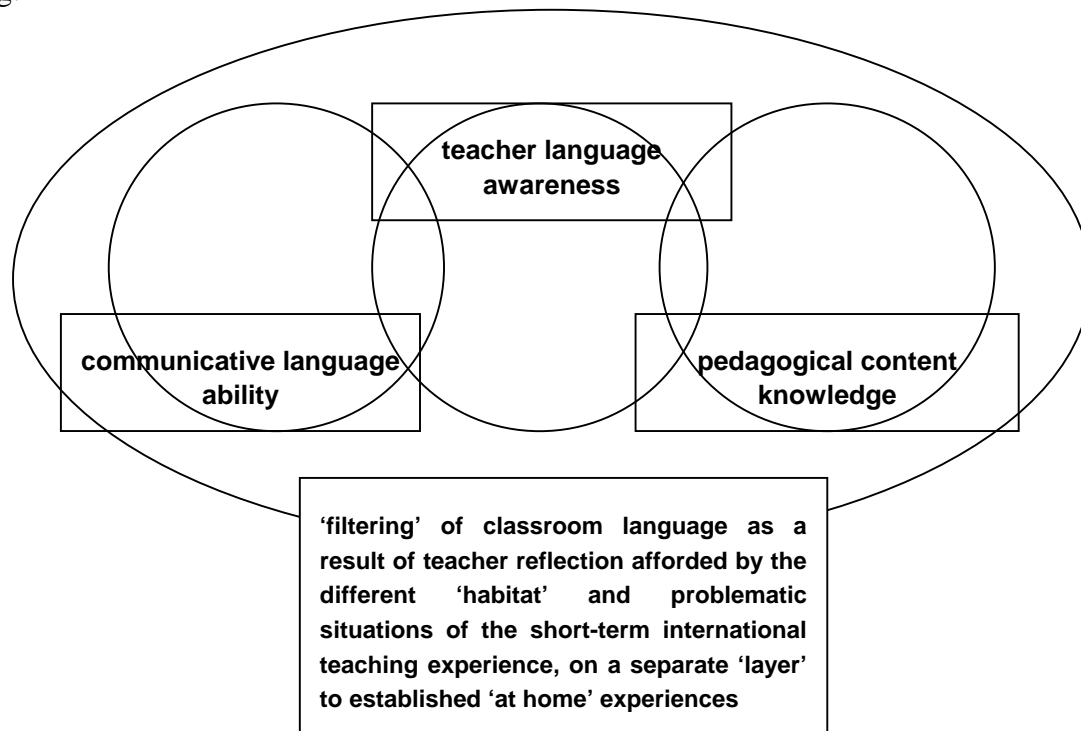


Figure 1. Teacher language awareness filtering classroom language due to reflection afforded through experience and reflection on problems in “other habitats” (adapted from Andrews, 2001 and Gorodetsky and Barak, 2004)

Learners in the *English Camp* classrooms were College English students who wanted to gain listening and speaking skills in this short-term, non-test based, conversational English program. The group of Australian teachers prepared games (physical movement games, board games), listening and viewing tasks (CD, radio, TV, DVD, film), songs, food tasting, role plays, dance step instructions, as well as the plan for a Final Presentation Night performance, eventually scripted by the College English students themselves and presented in English. The opportunity existed for Korean students to listen to Australian English, different in many ways to the American English that dominated Seoul's English classrooms, textbook materials and television media.

The researcher, who had completed research on short-term international experiences in the Indonesian context (Harbon, 2002; Harbon and Atmazaki, 2002; McGill and Harbon, 2006), chose to base the Korean program on the premise that teacher learning about language and language teaching will occur when teachers participate in, and are given the opportunity to reflect, during international experiences: that is, when taken out of their familiar environment, placed in another “habitat”, and required to systematically reflect on the meaning of all events, including problematic ones (Gorodetsky and Barak, 2004), teachers develop a “versatile repertoire of ways of ‘being’”.

The guiding questions for the teachers in the front page of their data collection journals were “What do you know you know about language?” and “What do you know you know now about language that you didn't know prior to this overseas teaching experience?” Answers to the research question (the value of the teaching program for teachers' developing knowledge about

language) are reported in the data below. A case method included data collected (a) in written reflective journals of the 12 participants; and (b) during a post-program Focus Group with the 12 participants. There was subsequent thematic content analysis of comments made by teachers. The teachers' names below are pseudonyms to protect their anonymity.

THE PERCEIVED VALUE OF SHORT-TERM INTERNATIONAL LANGUAGE TEACHING EXPERIENCES FOR AUSTRALIAN TEACHERS

Data were gathered from the examination and analysis of the teachers' reflective journals and Focus Group reports as teachers commented particularly on their developing teacher language awareness (TLA) and knowledge about language teaching resulting from their short-term international experience.

Teacher Language Awareness (TLA)

The teachers reported a development in their language awareness, and also about dimensions of language, for example about language as meaning-making; about English; and about the language-culture link.

Teacher awareness about language as meaning-making

By participating in the research and writing a journal, the teachers were afforded the opportunity to reflect on language in general. The teachers realised that language was a social practice and a process of making meaning. Kara expressed her awareness of the way languages expressed meanings, saying "My host father said 'How about your family?' and he meant, 'Who is in your family?' I find myself thinking more and more about why certain things are said in certain ways." Veronica said:

So I guess that was the first thing I realised that I knew about language – extensive language is not necessary when you can communicate your thoughts and feelings through another means, such as body language and facial expression. A simple "Hi!" which both parties can understand can still give you the ability to communicate to each other and convey the sense of welcoming.

Melody linked her reflections on language to her language teaching:

I think... learning English is a social process. Most of our students had a reasonable English vocab but little reason to use the words that they knew. They all knew how to write English but few had had much experience at using English to communicate verbally. I now realise that language teaching must first be about interaction, with systematic teaching of grammar and vocabulary as a support to these interactions. I hope that my students realise that too! There is no point in knowing a lot about English if you cannot use it. So basically I hope that my students are keen to keep learning English, but even more so, that they're keen to **use** English.

That so much meaning is conveyed in the way language is delivered came as a new understanding for one teacher. Sandra said:

I am so amazed at how I am able to follow a conversation even when that conversation is in another language. Over the last three weeks I have gradually come to recognise how a change in pitch, tone or body language is so important to language. Words only make up the tiniest part of language. I have watched many Korean documentaries and game shows quite happily without understanding a single word spoken. I now know that language and language teaching involves so many elements such as the written word, but more so what is not written, eg. image, body gesture, eye contact, tone, pitch.

The teachers had the opportunity to reflect on the idiomatic and colloquial language they used to make meaning. Rachel said that she realised she spoke “so much in idiom and colloquial language.” Melody mentioned that the experience gave her a reason to think about how much idiom existed in her everyday language use.

The second reflection today is about idioms. They are everywhere in our language! And they don't always translate well. It took me until the third lesson to realise that not all students understand the phrase “Take a break”, and now that I think about it, why should Koreans understand that? It's a fairly abstract use of the verb “take”; and the word “break” has many meanings. Since realising how commonly I use idioms when I speak, I keep noticing myself as I say them. It's difficult and frustrating to constantly change your sentences half way through! Some common ones I say include “That's gold!” and “A piece of cake” and “I'll give you a hand.”

Teacher comments about English

The teachers reported how during the short-term international experience they had the chance to think about English *per se* and the different Englishes that exist in the world. Emma said:

One thing I didn't expect was that the students' English would be based on American English! Spelling is therefore sometimes an issue and they get confused if we write a word on the board that is not spelled how they were shown. Words like ‘biscuits’ are met with blank faces, as the American word is ‘cookie’.

Teachers realised the respected position of the English language outside English-speaking countries. Kara noted, “English is so highly valued here. There is at least one tv channel totally devoted to foreign language learning... the Korean Herald is translated into English. English is so revered.”

For one teacher, examining the issue of the status of English was significant for her as she took her reflection to a deeper level. Melody linked the status of English to the issue of power and said (perhaps not liking what she saw), “I almost feel like a cultural imperialist -- **you** have to learn **my** language.”

Written English in commercial publications for English learning and displayed around the Seoul city-scape became a source for concern for the Australian teachers. Sandra noticed, “Some of the English in the textbooks we've seen is very bizarre.” Similarly Anna commented:

We have looked at the kinds of English that are in the Seoul environment, in shops, in songs, on game shows. Much is American. Some of the t-shirt language is ridiculous. And these are models that these students might follow.

Jane gave an example of some English that made her realise that all publicly displayed English might not be grammatically correct, yet still represented ‘meaning-making: “Yes, like ‘No use flash’ to mean ‘No flash photography’.” Another teacher, Julie, reported to be quite dismayed at having found this example: “... ‘Not do the cheat’ or ‘Not cunning’ to mean ‘No student cheating allowed’ ...” as she wondered about the origins of the phrase.

Teacher comments about the language-culture link

Purely by being in South Korea, teachers had an immediate point of comparison of languages, cultures, customs and traditions. Jane examined her language and culture awareness as she was able to reflect on different cultural understandings through experiencing the foods brought in to lessons.

[T]he students responded well to guessing the taste of the foods. Of course the students didn't like the Vegemite but did like the Anzac biscuits. Being able to taste

Vegemite and Anzac biscuits and discuss whether they liked it or not and why, worked very well. One of the students, Adrian told us that he would bring some Korean biscuits in that they used to send to the men in the Armed Forces.

Merely by producing Anzac biscuits that had a link to Australian cultural history, the students and teachers seized the opportunity not only to compare the Korean biscuits but to continue their discussions by comparing war traditions.

Understandably there were teacher comments about how culture was inextricably linked to language. Suzette said, “Concepts are so different across cultures ... one word has many meanings. Literal translations don’t help.”

Jane became aware of her growing knowledge of, and awareness about, Australian culture, because she could compare it with Korea’s. She wrote, “[T]he students have also learnt quite a bit about Australia and I have learnt more about Australian culture. I have also learnt about Korean culture from staying with my host family.”

The 12 teachers shared this new awareness about language and the English language as they evaluated the teaching experience at the Focus Group at the close of the program. Emma’s comments on the issue were insightful.

A lot of my understandings of language teaching and learning have not actually come from classroom interactions. Being immersed in the culture of a country is the best way to understand how language is best taught. From a trip to the post office to interactions with host families, I have had to think of ways to express myself and to also teach English.

Melody realised what she now knows about the language-culture nexus:

I’ve just flipped through the pages of my journal and realised I haven’t written about the most obvious thing I’m learning about language and language teaching – cultural exchange! Language is the way we learn about and interact with and are influenced by our culture... When Koreans learn English, they don’t only learn English but also Western values and life experiences. When I teach English, I don’t only practise my teaching skills, but I learn about Korea and especially how it is different from Australia... When we share language we necessarily share cultures.

Concerning teacher language awareness, it would appear that the short-term international teaching experience provided the teachers with opportunities to reflect on language generally, which the teachers wholeheartedly endorsed as a valuable part of the program. There were also perceptions among the teachers that there were new understandings of language teaching as is explored below.

Language Teacher Knowledge about Language Teaching

On the question of whether the Australian teachers perceive that they gain knowledge about language teaching, their comments can be summarised into five separate areas: (a) about language teacher best practice, (b) about teacher roles and characteristics, (c) about learner needs and characteristics, (d) about the relationship between teachers and learners, and (e) about language teaching generally.

Teacher perceptions about best practice language teaching

The teachers variously commented on what strategies, methods and materials they knew to work well for their teaching in Seoul. Some teachers’ knowledge about language teaching was such that they could provide labels for those aspects. Other teachers could not define those aspects with labels.

Peer teaching and utilising mixed-ability group strategies worked well for them. Veronica said, “It was interesting for us to mix the ability levels, say, putting a competent speaker with a less competent speaker. Students gained a lot from that I think.” Similarly, Emma’s comments showed her growth in understanding of the peer teaching strategy, when she wrote, “We had an ‘English only’ rule at first. Then we realised that if we did allow some Korean, they could help each other understand. There was peer teaching and learning going on.”

A trusted strategy shared among all the 12 teachers by the end of the Camp was to make more use of non-verbal communication. Emma said, “I go through every variation of a word until one registers (with the other person) as familiar. For example: ‘messy’ = dirty; unclean; untidy; not neat; not tidy, etc.”

In mentioning how she conveyed the meaning of ‘messy’ to her students (dirty, unclean etc), Emma is clearly referring to her ‘strategic competence’ (Canale and Swain, 1980; Dörnyei and Thurrell, 1991). This issue is taken up later in this article.

Scaffolding was a label that the teachers were able to use to define their strategies. Melody said:

EFL techniques and primary techniques overlap quite a lot. You have simple and defined objectives for each lesson, you plan a variety of activities for students to practise the skills you want them to develop, you scaffold, scaffold, scaffold, and you make sure the activities are meaningful (in a real context) and incorporate a lot of fun.

In a similar comment Anna said:

Another factor in our classes is trying to encourage the students to speak, and to speak in full sentences. Some of our students are very shy and are very hesitant to speak. When they do speak, it is in such a quiet voice that we can’t hear them. We are trying to encourage the students through different means of scaffolding: giving prompts, both written and spoken; working with the “think, pair, share” system where a student is to think of ideas alone, then discuss and share with a partner, then for the partners to share with another group of two, then whole class discussion. We also make time to hear every student talk and contribute, not to embarrass them but to build up their confidence without threatening them.

Another label the teachers used for their strategy choice was “use of authentic materials”. The teachers took with them to Seoul a wealth of teaching resources and learning materials and found that they used these resources in some way during the three week Camp. Suzette found the materials she took to be useful and said:

I also found that the use of visuals and authentic materials is effective in language teaching. These resources help students understand and grasp concepts which may be difficult to comprehend. Therefore, these proved to be extremely helpful in my language teaching.

Engaging learning materials and meaningful learning were two further labels the teachers used to discuss best practice and their choices. Veronica commented on the importance to her of materials being engaging, commenting, “[v]isuals are so important in teaching language, especially on topics that are unfamiliar to the students because of cultural differences. They also serve as a stimulus for discussion, and are often engaging.”

Kara links good teacher use of materials to good student learning, saying:

In order to move past the language barrier I have found that visual aids have been extremely useful. By using visuals, students are able to link words/ideas with pictures making it easier to understand them (and remember them). I think this also makes learning more meaningful to them.

Teachers labelled non-verbal communication, in this case use of body language to express meaning, as important as a focus for both teaching and learning. Veronica said: “I have realised that I use body language more often to teach English. I will use my hands to gesture and to create a picture for them in order to get my meaning across.” Emma commented on her strategy too: “I also use gestures and whatever visual cues are on hand to express myself. Explaining something is almost like a process of elimination!”

Kara recounted her own foreign language learning at school.

Unlike when I was learning German at school, we cannot communicate to our students in Korean (their first language) to help clarify ideas. In my German class, my teacher would speak in German to us, but could switch to English when we needed help. In Korea we do not have this luxury.

The Australian teachers did not share a common first language with their Korean students and the teachers had to ponder what strategies they needed to engage in order to communicate.

The teachers chose games or practical activities to engage their learners and considered this approach best practice. Teachers spoke positively of their experiences in doing “practical” language tasks with their classes to make lessons more meaningful. Veronica said:

The practical activities were the ones that engaged the students and they were fun as well as beneficial for their language development. It was also a good way to break up the reading and writing activities that required a lot of thought and concentration. Games were enjoyable and also beneficial for their English because they had to interact with each other in conversation...I’ve learned how much the ‘practical’ is important. Such as games. These tasks “break the ice”, but students are learning.

For Jane, best practice included games. She stated, “Starting each day with warm-up games been good. Increases students’ confidence, breaks the ice and gets them into the mindset of speaking English again.”

During the Focus Group, the Australian teachers agreed that best practice was not only scaffolding, use of visuals, and setting practical activities, but also “pacing” lessons, and allowing “silent” periods. Rachel commented, “We don’t like ‘silence’ in our Australian classrooms, but students need this processing time.” On the topic of pace, Melody said, “To accommodate the linguistic barrier, you need to slow down. You need to slow down and allow them time to process the language.”

For the teachers, best practice was based on doing practical tasks, stress-free games, with well-paced sessions, broken with regular breaks, punctuated by silent periods for learner thinking time. The teachers also commented on the teacher’s key role in the process of language teaching and made some fresh realisations as are outlined below.

Teacher comments about teacher roles and characteristics

Interestingly the teachers commented on their own weaknesses. They noticed that they spoke louder when learners did not understand. They found they completed the learners’ sentences for them by jumping in with responses. Jane reported that she realised that she, “... tended to speak louder when they didn’t understand.”

Sandra reported having to stop herself from her habit of using telegraphic speech (the form of speech found in young children’s language development where, for example, conjunctions or articles were left out).

When teaching yesterday, it occurred to me that I was simplifying my sentences in order to help the students understand eg. “Where you go on weekend?”. This

simplification is detrimental to their language learning but I could not help doing it... I had to pull myself up and speak proper English.

She reflected that language teaching:

...takes a lot of patience. It is so easy to butt in and help the Korean students with their sentences. So I often find myself finishing their sentences because I want to keep the flow – I realised that it may not be helpful to continue to do this. I need to wait and give the student time to articulate what they are thinking.

In fact, Sandra observed that among her colleagues:

It appears that we are not good listeners; we are so worried about keeping the conversation flowing that we don't stop to listen. I find that I need to physically hold myself back from speaking for my Korean students.

Commenting on the same habit, Emma commented:

I often put words in the mouths of my students and Korean people I'm having a conversation with. While they are trying to find the right words or sayings, I often jump in and try to fill in the blanks for them. I've found that non-English speakers learn a lot more when they find the correct words themselves. It's a lot more meaningful if they make connections themselves.

Kara labelled this style as impatience, saying:

I have found that I often start to become impatient and help the students too much. When teaching a language I think it is important to be patient and provide the students with plenty of time, in order to comprehend what we are saying.

For Sandra, "...finding the students' strengths and weaknesses and building on this" is important. She stated: "[Language teaching] involves intense listening on the teacher's behalf. There is also a lot of patience involved..."

The teachers made summary statements about good language teacher characteristics, and the examples they gave to illustrate their points showed that they were engaging with the notions during the short-term international experience in South Korea. The teachers also reflected on the needs and characteristics of their learners.

Teacher comments about learner needs and characteristics

All teachers reported being aware at the start that their learners were frightened of making mistakes. Louise said:

Today in class students were asking their partner questions about transport. One student... got very flustered trying to answer a question. Many students have seemed to get very nervous and anxious when answering questions, no matter how much we try and emphasise how OK it is to make mistakes. They are scared to give the wrong answer.

Teachers reported to have become aware during the teaching experience in Seoul that their learners were real people, with needs and fears like them. Teachers reported to have realised that their adult learners were intelligent adults. Emma said that the realisation came as quite a shock to her.

I have noticed that a language barrier often makes you jump to conclusions about their intellect. Because you are constantly simplifying things and speaking slowly, you subconsciously start to think your students are not as smart as they actually are. That got driven home when I saw the Actuarial Studies questions one student had. I realised

they are all smarter than me because I only speak English, but they will have two languages! So I've found out that you must never underestimate your students abilities to learn. Activities we plan we sometimes say "this will be too hard" and then the students do it in around 5 minutes! I've now learnt to respect the intellect and dedication of Korean students and never underestimate them... It's sometimes easy to forget that when we are using relatively "baby" language with them. These students are highly intelligent and capable of more than baby talking.

The Australian teachers became aware that their students have full lives outside their English learning. Veronica said:

Even though students aren't always able to express themselves well in English, it doesn't mean that they are not intelligent. They can come up with the most interesting and well-thought up questions and we sometimes overlook that they are college students who are intelligent but are held back by the language barrier.

Teachers variously commented on the English learners.

Molly, from an Australo-Chinese heritage family background in Sydney commented on how she engaged with her learners by exploring similarities and differences between cultural practices:

This opportunity to participate in this Korea program has helped me to understand not only differences between Australian-Korean culture and Chinese-Korean culture, but also to get a feel of what it is like teaching English in an EFL environment where the predominant culture is not an English one.

Melody mentioned that one way to engage the students was to teach empathically. She said:

I do not speak any other languages, so I cannot sympathise with their exhaustion, but I think I understand it a little. I guess the students have to hear the English words, translate them in their minds (some words are probably automatic and some require more thought), think about their response, then translate it into English with the appropriate grammar.

Teachers responded by giving more breaks during lessons. Jane implied that she had developed an empathy when she said, "It's exhausting for me here communicating across to the Koreans in my house and in school. This must be the same for my English learners, and I'll know that now." Without the empathy with their learners, teachers might not have taken this step.

Learners' needs were apparent to the Australian teachers as they observed their learners. One further aspect realised during the reflective processes was about themselves and their relationship with their learners as is described below.

Teacher comments on the importance of the relationship between teachers and learners

Seeing themselves as learners who made mistakes and who found language learning difficult and exhausting, and conveying that to their students, was a strategy that they became aware of. Jane said:

We've found that our poor attempts at speaking Korean and finding the Korean term for English words they don't understand makes them feel more at ease and more willing to try speaking in English. It communicates that learning a new language is hard and we all make mistakes but that's normal and okay.

The teachers' reflective journal writing allowed them to become aware of their relationship with their learners. The teachers realised that learners would often respond to the hard work and efforts

of their teachers. Kara said, “I also realised that students were more comfortable speaking English to us, if we tried Korean.” Veronica wrote that effort was needed from both teachers and learners.

[W]hat I’ve learnt about language learning today is that it is an ongoing process that takes effort from both parties, and when each of us makes the effort to learn each other’s language, we can all appreciate each other and strengthen that bond between us.

Anna commented:

I am aware of the difficulties the learners experience when learning English. This is more real to me as I notice my difficulty in learning Korean. Even the smallest of phrases seem so hard to remember, even after I have heard it or had someone tell it to me 5 or 10 times!

Jane’s strategy was to share some of her personal story with her students.

I then showed photos of my family and where I live... Sharing personal things communicates closely with students and helps them connect in their learning, while also providing insight into families, homes and culture in Australia.

As can be seen from the quotations cited above, there was a large amount of learning and explicit awareness raised by the teachers’ reflection about their relationship with their students.

Learning about Language as a Result of the International Experience

Whether these realisations would have occurred anyway, or are directly attributable to the teachers being in an overseas context outside their own cultural context, was a theme discussed by some of the teachers.

There were teacher comments that specifically noted learning due to being in another context, for example, Gorodetsky and Barak’s (2004) “other habitat”. One teacher said that she was now more explicitly aware of the differences between languages, because this experience in South Korea had given her a basis for comparison. Jane said that she learned generally about, “... languages related in families. That because Korean is so totally different in the language family tree to English, I cannot have guessed anything... unlike French, or Italian or German.”

Sandra concluded her journaling by saying:

It is only through the complete immersion in a foreign language that I am able to recognise the multi-faceted nature of language and language teaching. I know that I will carry these new ideas into my classrooms. I am looking forward to it! ...These understandings will definitely carry on with my teaching back in Sydney.

Kara summed up her thoughts:

I think that I’m learning a lot more teaching English as a second language in Korea than what I would in Australia. Being immersed in a different culture and experiencing what it is like to be restricted by a different language has made me realise just how difficult it must be for our students...I have learnt so much whilst I have been here and its hard to explain exactly what, but I know this whole experience has been beneficial.

For one teacher, the opportunity arose to link her knowledge of theory to practice. Jane linked her previous textbook knowledge of theory to the learning she was doing in Korean classroom, saying “Lots of this I’ve learnt through TESOL course and reading Pauline Gibbons’ works, but this is enabling me to see evidence of theory...first hand.” She added:

This experience which has given me a big idea about the prime importance of an education, and the hard work ethic, will let me understand the parent aspect back home in my Australian classrooms... We can understand how new arrivals might feel as regards having no language. You really feel quite desperate. So we might have an empathy for our new arrival learners.

Changes in Teachers as a Result of the International Experiences

Two teachers reported personal change as a result their participation in the short-term international experience. Kara explained, "The way that I speak English has definitely changed a little bit. And I look at what I want to say from all different ways." For Suzette, the three-week teaching and home-stay experience has resulted in a questioning of her identity and a decision to move to Seoul. Born in Australia to Korean parents, and only ever having travelled back to Korea for a short holiday during her early teens, Suzette stated, "This is an experience I will never forget and it has surely made a huge difference in my life and career!" Suzette has since graduated and taken up a full time teaching position, living in Seoul.

DISCUSSION AND SIGNIFICANCE

The Australian teachers seemed to adapt easily to the notion of semi-regular written reflection in their journals as the requirement for participation in the research. The practice of systematic reflection was part of the pre-service teacher professional development process, especially emphasised during school experience practicum periods. It was pleasing to note that the reflections were being written even though there was no assessed grade attached to the teaching tasks.

The study abroad literature had reported findings from participants who were mainly focused on the learning **of** the target language. But it was still clear that study abroad participants learnt **about** the target language during the international experience (Freed, 2005). In the same way as the study abroad participants, the teachers in this international experience were developing a language awareness about certain aspects of language and language teaching.

Certainly it might be said that the teachers' developing awareness about language and language teaching might have been made in **any** context, not just because they were in Korea. However, sufficient comment was made by the teachers to indicate that it was due to the fact that there were so many more points of comparison in the short-term international experience than existed in their usual 'at home' teaching contexts, that the systematic reflection did underpin their developing awareness.

The Australian teachers wrote journal entries on what they considered were "problematic situations" (Lawless and Roth, 2001). The developing awareness the teachers reported did actually change their 'being' in the classroom (Gorodetsky and Barak, 2004). The short-term international experience became the different "habitat" teachers needed to be able to compare their understandings from their existing 'at home' level of awareness, to the international experience.

Andrews (2001) had noted the links between teacher language awareness, pedagogical content knowledge and communicative language ability in language teachers. The language awareness, and inherent metalinguistic awareness language teachers demonstrate, Andrews suggested that language could be "filtered" in the language classroom. It would appear that the Australian teachers were developing a language awareness and demonstrating it through the reflective processes required for participation in the research project. They demonstrated subject matter knowledge: knowledge about language as meaning making, about English, and about the language-culture link. They demonstrated subject matter knowledge in other aspects of language teaching too: about best language teaching practice, about teaching, about learning and about the

relationship between teachers and learners. Moreover, within this teaching context, they were undertaking this reflection in another ‘habitat’, some teachers stating definitively that the points of comparison (the two groups of people, the two languages, the two cultures with their inherent customs and traditions) enabled a type of reflection that was not afforded before in their lives. It would appear that the teachers’ metalinguistic awareness was further heightened by being stimulated in the superimposed layer of the international context.

Some of the 12 teachers could explicitly label their understandings and developing awareness. Others described their developing awareness in their journal entries or Focus Group responses, and it has been the researcher who has been able to categorise and label these notions. For example, Emma was one teacher who seemed to be aware of her strategy in attempting to find other words for ‘messy’. Teachers and students in second language contexts need to call upon “verbal and non-verbal communication strategies... to compensate for breakdowns in communication due to performance variables or to insufficient competence” (Canale and Swain, 1980, p. 30). Strategic competence, is, as Dornyei and Thurrell noted, the need of language users to have an ability to express themselves “in the face of difficulties or limited language knowledge” (1991, p. 16). In order to communicate better with her students and make herself understood, Emma needed to have found synonyms for her word, and to have paraphrased its meaning in as many different ways as could be said to ‘make meaning’ for her students. Although she could not explicitly label her understanding as strategic competence, reflection on her teaching enabled her to realise her strategy.

CONCLUSIONS

In sum, the data indicated that the Australian teachers perceived their own growth in language awareness and knowledge about language teaching, some attributing their knowledge directly to the overseas experience and the meaningful contexts that were presented to them through the teaching and reflection.

The teachers were not undertaking this practicum experience as a supervised assessed practicum and the teachers did not have a mentor teacher prescribing how the teaching was to be implemented as had been their experience in the school experience practicum periods during their years of teacher training prior to them being in South Korea. There was therefore the opportunity to experiment a little. The only guidelines from the Myongji College was that the English Camp program was to emphasise speaking and listening to Australian English. With fewer pressures on them in the international ‘habitat’, if compared to their previous ‘at home’ teaching experiences, the Australian teachers were free to plan, to choose resources and texts, and to strategise.

As meaningful as the findings of this research may appear to be however, it must be acknowledged that the project is only a small-scale study, and the claims are based on perceptions. The next step will be to conduct further research on further programs to attempt to make clear links between the teaching program and the student learning outcomes.

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Children's judgments of parental fairness: An Indian perspective

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The study examined children's moral reasoning with specific reference to adult interventions, across age and gender. Seventy-two children from the age groups 6-8 years and 10-12 years respectively were presented with two hypothetical vignettes pertaining to Piaget's justice framework of moral reasoning. Chi-square analysis and descriptive analysis of the moral reasoning in terms of frequencies and percentages were performed. The results indicated that age was significantly related with moral judgment and reasoning in the justice vignettes. However, Piaget's contention about children's authority orientation in moral judgment did not find complete support. No gender differences were found.

Moral judgment, moral reasoning, justice, middle childhood, potential fairness, India

INTRODUCTION

The field of moral development has been dominated by the cognitive-developmental approach for several decades. Jean Piaget was one of the earliest proponents of children's moral development. Piaget's theory of cognitive and moral development focused on the reciprocal interactions as the basis of children's development, which led to the understanding of experiences. According to Piaget (1965) it was through peer relations that children learnt a sense of right and wrong for themselves. Children's moral development, according to Piaget, was influenced by a variety of experiences including emotional reactions, relationships with adults and other children. The differences in the ways children related to adults and to other children formed the basis for Piaget's explanations of the development of moral judgments.

Role of Parents in Moral Development

The child's moral development in the early years is influenced by the role of adults (the parents or the caregivers). Parents not only provide the child with protection, support and basic material needs, in most cases parents also act as the principal figures who enforce moral and other rules. The social learning theories put forth the view that children gain a sense of morality from significant others, particularly the parents, through social conditioning (Bandura, 1991). Parents serve as models that the child tends to imitate and thereby internalises the moral judgment and behaviour of adults. Parents also act as reinforcement agents for the child to learn morally appropriate behaviours (Leman, 2001).

Piaget (1965) defined two ideal types of morality – heteronomous and autonomous. Younger children, in general, reasoned in a way that Piaget described as 'heteronomous'. The heteronomous type of moral reasoning was characterised by moral realism. Moral realism was

associated with objective features of reality. This accounted for the reason why young children were more concerned about the outcome of actions rather than the intentions of the person doing the act. With age, however, the child's thinking transformed to autonomous, which enabled the child to view relationships from a broader perspective.

Because relationships with other children are more equal than with adults, they engage in reciprocal relations and thereby judge in terms of equality, fairness, and co-operation (Turiel, 1983). The autonomous type of equality and respect established at 10 to 12 years of age is characterised by the ability to consider rules critically and apply these rules based on a goal of mutual respect and co-operation. Therefore, children can judge the intentions and the motives of the actor as well as the consequences of the actions.

Piaget also examined how children thought about justice. Young reasoners equate justice with retribution, that is, children believed in immanent justice – that doing wrong inevitably led to punishment. Older children, and more autonomous reasoners, on the other hand, did not view bad acts to be inevitably punished as they thought in terms of reciprocity. Older children believed that punishment should be rationally related to the offence. However a study examining just-world reasoning in children's immanent justice revealed that children of all ages demonstrated their use of the just-world belief to make immanent justice responses (Jose, 1990).

Authority Orientation

Authority is a social relation that is fostered by differential social power between persons and that calls for obedience to the person with greater social power (Damon cited in Kim, 1998). The traditional view of children's authority concepts comes from the work of Piaget (1965), who believed that the basis of moral obligation was children's acceptance of commands from persons whom they respected.

Piaget described three qualitatively different levels in the child's acceptance of moral rules; in each of these levels, the child also formed a perception of the authority. At Level one, the very young child (aged two to five years) existed in an essentially premoral state. During these years, children showed little consideration for the rules that governed behaviour and thereby less obligation toward authority. At the second level, when the feeling of obligation towards rules arose (at approximately five years of age), the child had entered the stage of heteronomous morality, which was characterised by a rigid acceptance of adult rules as being permanent, unchangeable, and absolute. Parents, as authority figures, tended to act as a source of moral knowledge for heteronomous reasoners. Thereby, children at this stage did not make moral judgments that were independent of authority (Laupa, Turiel, and Cowan, 1995).

The third and the final level was that of autonomy in which the obligatory nature of rules arose out of the respect that the child held for the group, of which he or she was an equal and participating member. Older children did not see morality as determined by authority figures, and therefore they no longer regarded unquestioning obedience to adults as a basis for moral action. As peers held importance for the older children, they incorporated the principles of mutual respect and co-operation.

Piaget's claim that heteronomous reasoners saw adults as infallible authority figures has been critiqued by researchers as being incorrect. A series of studies, conducted in the United States and Korea, have shown that young children's moral judgments were not formed by respect for authority and that they had a better understanding of the roles and jurisdiction of adults and peers in such positions (Braine, Pomerantz, Lorber, and Krantz, 1991; Kim, 1998; Laupa, 1991; Laupa and Turiel, 1986, 1993; Tisak, 1986; Tisak, Crane-Ross, Tisak, and Maynard, 2000). It has been consistently found that children did not regard adults as the only source of legitimate authority. Further, they did not believe that when justice was in conflict with authority, that authority was right and justice wrong.

In evaluating and judging the commands of authorities, children took into account several features of the situation and attributes of the persons issuing the commands such as the command type, authority status, knowledge, social position, and social context (Laupa, Turiel, and Cowan, 1995).

Children's judgments of authority actions were particularly interesting to study in the Indian context which was characterised by hierarchical family relationships, especially between parents and children. Independent of developmental patterns, children's socialisation was governed by conforming to parental authority and abiding by their rules (Krishnan, 1999). Given the significance of family values such as obedience to and respect for parents, Indian children would be more inclined to endorse parental authority. Hence we expected that the moral judgments of children in both the age groups (6-8 years and 10-12 years) would be in line with the judgments of parents, irrespective of the nature of the intention.

METHOD

Subjects

A stratified random sample was identified from a school in Vadodara city. The sample comprised 72 children in the age groups of 6-8 years and 10-12 years, respectively, from Indian-Hindu families.

Measures

The measures for the study included a form for demographics and two hypothetical vignettes. The demographics form included items related to the background information of the study group.

The hypothetical vignettes, presented in a story form, were used to assess the moral reasoning of children. The vignettes were based on the justice based moral orientation.

A brief description of the two vignettes is given below:

In the Good intention – Bad outcome vignette, the child (actor) goes and helps a younger child who is facing difficulty in climbing the swing. The mother of the actor child watches him or her helping the other. However, the child accidentally drops the younger child and as a result the child cries. Later, the mother of the actor child scolds him or her.

In the Bad intention – Good outcome vignette, the child (actor) gets angry at his or her friend for not playing catch with him or her. The mother of the child (actor) notices that the child is angry. Later, when the actor child sees the friend riding a bicycle on the road, he or she decides to push him or her in a puddle. Later, the mother praises the actor child for saving the friend from a passing car.

The probe questions for the two vignettes were as follows:

Do you think the child was fair or unfair? Why? (Moral judgment and Moral reasoning)

Do you think the mother was fair or unfair? Why? (Moral judgment and Moral reasoning)

Procedure

The vignettes were presented in a story form individually to each child, in a random order to counterbalance the carry-over effects. The vignettes were presented in the language preferred by the child (Hindi or Gujarati). In each of the three vignettes, the gender of the actor matched the gender of the child to whom the stories were presented. The vignettes were presented with the help of illustrations to facilitate the children's understanding.

Thus, there were two sets of vignettes and two sets of corresponding illustrations, one with girl characters and the other with boy characters. The content and details were essentially the same. A warm-up story was also presented first to familiarise the child with the procedure.

The children's responses were tape-recorded. These were later transcribed and then translated into English for the coding and analysis.

In order to ensure reliability, a co-rater independently coded the responses of the participants. Inter-rater agreement for the moral judgment of the two justice vignettes was 100 per cent. Agreement in coding for the moral reasoning as well as the justification categories was 95 per cent and 80 per cent respectively.

RESULTS

The results for the justice vignettes are categorised as follows.

- a) Moral judgment of the mother's action with respect to age and gender.
- b) Moral reasoning in terms of intention or outcome with respect to age and gender.
- c) Types of intention or outcome based reasons by age and gender.

Vignette I (Good intention – Bad outcome: Mother disapproves)

Moral judgment of the mother's action

The relationship of age and gender with respect to the moral judgment was examined through the chi-square test. Table 1 shows the relationship of age with moral judgment.

Table 1. Relationship between age and moral judgment of the mother's action (Vignette I)

| Groups | Fair | | Unfair | | Total | |
|----------------|-------|------|--------|------|-------|-------|
| | Freq. | % | Freq. | % | Freq. | % |
| Young children | 22 | 61.1 | 14 | 38.9 | 36 | 100.0 |
| Older children | 3 | 8.3 | 33 | 91.7 | 36 | 100.0 |

$$\chi^2 (1) = 22.1, p < .001$$

Table 1 indicates that more young children (61.1%) judged the mother's act as fair whereas only few older children (8.3%) saw the act as fair. Age was significantly related with moral judgment of the mother's action [$\chi^2 (1) = 22.12, p < 0.001$].

Thus, across the age groups, higher percentages of older children disapproved the mother's act as compared to younger children. This indicates that young children tend to regard parental authority in making moral judgments, whereas older children do not comply with parental authority.

Gender does not relate significantly to moral judgment [$\chi^2 (1) = 0.55, p > 0.45$]. However, the percentage trend indicates that irrespective of age, a majority of the girls (69.4%) disapprove of the mother's act, whereas more boys (38.9%) judge the mother's act as fair.

Moral reasoning with reference to intention or outcome

The intention or outcome based reasoning with respect to age is presented in Table 2.

Table 2 shows that a higher percentage (91.7%) of older children recognised the intention behind the act, whereas younger children (52.8%) focus on the outcome of the act. This implies that older children are able to recognise the good intention of the actor child, despite the mother's disapproval of the same. With respect to the moral reasoning attributed to the mother, significant age differences are recorded [$\chi^2 (2) = 20.38, p < 0.001$].

Table 2. Relationship between age and intention or outcome based reasoning (Vignette I)

| Groups | Intention | | Outcome | | Ambiguous | | Total | |
|----------------|-----------|------|---------|------|-----------|-----|-------|-------|
| | Freq. | % | Freq. | % | Freq. | % | Freq. | % |
| Young children | 15 | 41.7 | 19 | 52.8 | 2 | 5.6 | 36 | 100.0 |
| Older children | 33 | 91.7 | 3 | 8.3 | --- | --- | 36 | 100.0 |

$\chi^2(2) = 20.4, p < 0.001$

Note. The 'Ambiguous' category included a few responses which could not be categorised as either intention or outcome based reasons. A very small percentage of young children stated such reasons. For example, "Her (Rina's) mother did the right thing by scolding her because her mother explained to her that she should never pick up small children" (eight year old girl)

No significant association between gender and moral reasoning is recorded [$\chi^2(2) = 2.81, p > .24$]. However, the percentage distribution indicates that irrespective of age, more girls than boys reason in terms of the intention.

Children's reasoning was further analysed in terms of the qualitative responses that emerged in reference to intention and outcome. The responses were calculated in terms of frequencies and percentages. Figure 1 presents the types of intention based reasoning by age and gender.

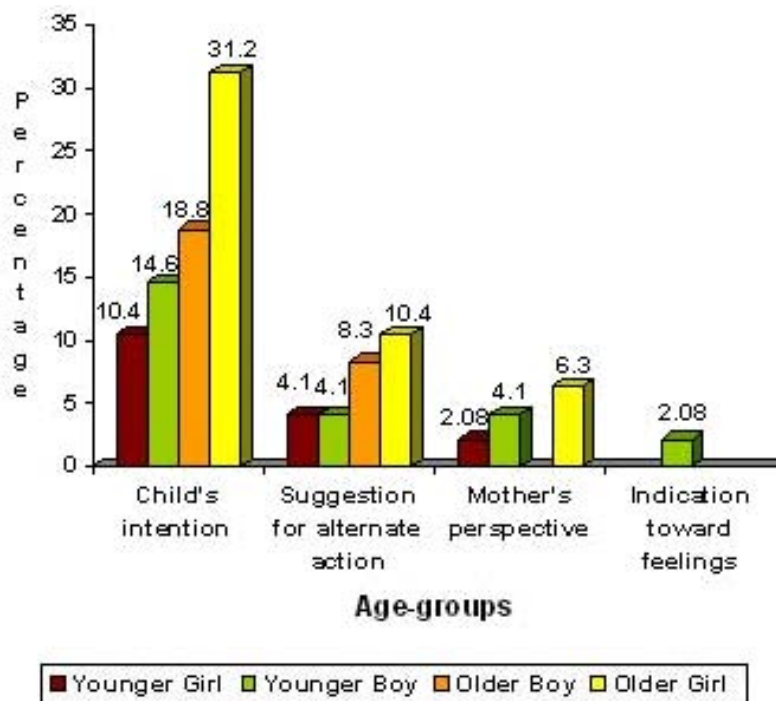


Figure 1. Types of intention based social and moral reasoning by age and gender (n=48)

As Figure 1 indicates, a higher percentage of responses, especially from older children, focus on direct reference to intention. Gender differences were also evident with older girls focusing more on the intention. For example, a ten-year-old girl said, "Mother did the wrong thing because Rina was only helping Neha, and she (Rina) slipped by accident".

Interestingly, in addition to focusing on the intention, children also referred to other aspects of the context, which indicated greater complexity in their thinking. Some children even offered suggestions for the mother in terms of an alternate behaviour or corrective action. For example, "When Rina's mother saw that Neha is near the swing, she should have told Neha's mother to place Neha on the swing because Neha can fall from Rina's grip, but Neha's mother would not let her fall" (ten year old girl).

Children also articulated reasons related to the mother's perspective. More older girls stated this reason. For example, an 11 year old girl said, "Rina's mother did the wrong thing because she was unaware of the truth and therefore she scolded her (Rina) without even thinking".

Further, there was one response indicating the consequences of the act (that is, the feelings) on the third person.

For example “Sunil’s mother did the wrong thing by scolding him. He was helping Rohit. So, Rohit’s mother would have felt bad that Sunil’s mother scolded him” (seven year old boy).

Outcome based social and moral reasoning

Figure 2 presents the type of outcome-based reasons.

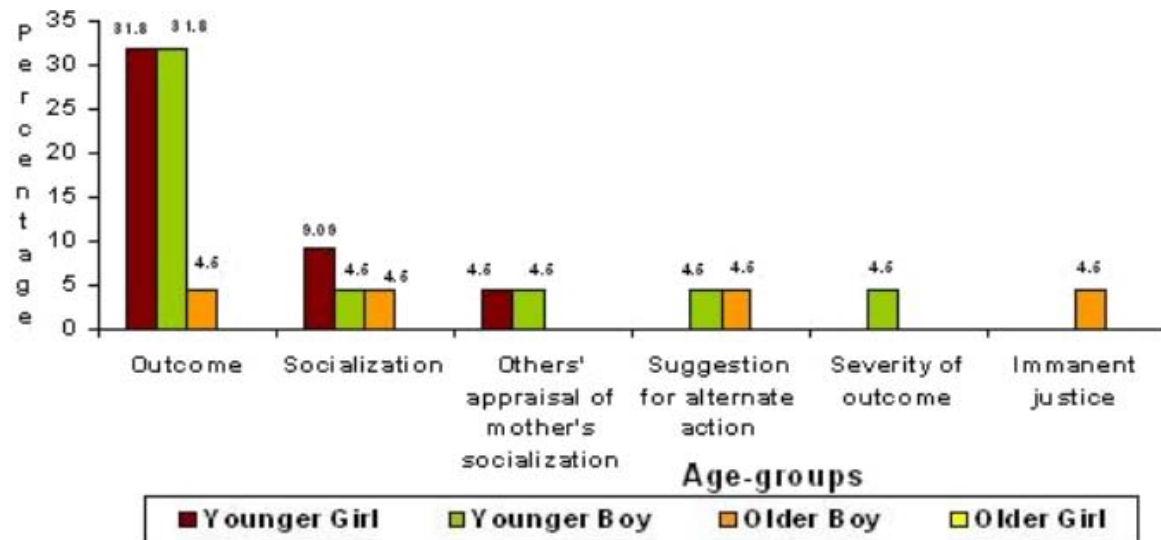


Figure 2. Types of outcome based social and moral reasoning by age and gender (n=22)

More responses focused (68.1%) on direct reference to outcome; young children reasoned more in terms of reference to the outcome. However, children also gave further reasons. Few young children were more inclined toward giving responses based on the socialisation aspect. For example, in a seven year old girl’s words, “mother did the right thing by scolding so that Rina learns not to do such a thing”. A response from a seven year old boy indicated the others’ appraisal of mother’s socialisation.

“If Rohit got stitches, then people would point a finger at Sunil’s mother and say, your son has done it, your son has done it...” Interestingly, an older boy centred his response on ‘immanent justice’. For example, “Mother did the right thing because whoever does anything wrong with a small child, he or she should be punished. He or she has to undergo punishment” (12 year old boy).

Vignette II (Bad intention – Good outcome: Mother approves)

Moral judgment of the mother’s action

Similar to Vignette I, the relationship of age and gender with respect to the moral judgment of the mother’s act was analysed. Table 3 presents the relationship of age with moral judgment of the mother’s action and demonstrates no significant difference between the younger and older children.

Table 3. Relationship between age and moral judgment of the mother’s action (Vignette II)

| Groups | Fair | | Unfair | | Total | |
|----------------|-------|------|--------|------|-------|-----|
| | Freq. | % | Freq. | % | Freq. | % |
| Young children | 27 | 75 | 9 | 25 | 36 | 100 |
| Older children | 20 | 55.6 | 16 | 44.4 | 36 | 100 |

$\chi^2(1) = 3.00, p > 0.08$

An unexpected finding that emerges is the approval of the mother’s act by higher percentages of both younger and older children, across the age groups. However, as can be expected, more older children compared to younger children evaluate the parental act as unfair.

With reference to gender, no significant relationship with the moral judgment was observed [$\chi^2(1) = 0.06, p > 0.80$]. Interestingly, more girls (66.7%) were in favour of the mother’s act, whereas more boys (36.1%) than girls were against the mother’s act of approval.

Moral reasoning with reference to intention or outcome

Similar to Vignette 1, the relationship of age and gender with respect to moral reasoning was examined. Table 4 presents the relationship between age and moral reasoning.

Table 4. Relationship between age and intention or outcome based moral reasoning (Vignette II)

| Groups | Intention | | Outcome | | Total | |
|----------------|-----------|------|---------|------|-------|-----|
| | Freq. | % | Freq. | % | Freq. | % |
| Young children | 9 | 25 | 27 | 75 | 36 | 100 |
| Older children | 21 | 58.3 | 15 | 41.7 | 36 | 100 |

$\chi^2(1) = 8.2, p < 0.004$

As the Table 4 indicates, a significant percentage of young children (75%) judge the act based on the outcome, whereas a majority of the older children emphasise the intention behind the act.

This reflects the expected pattern wherein older children give preference to the intention behind the act, whereas younger children consider the outcome of the act.

The chi-square for gender and moral reasoning is not significant [$\chi^2(1) = 0.00, p > 1.00$].

Intention based social and moral reasoning

With reference to Vignette I, similar categories of reasons emerge. The categories for intention based reasons are presented in Figure 3.

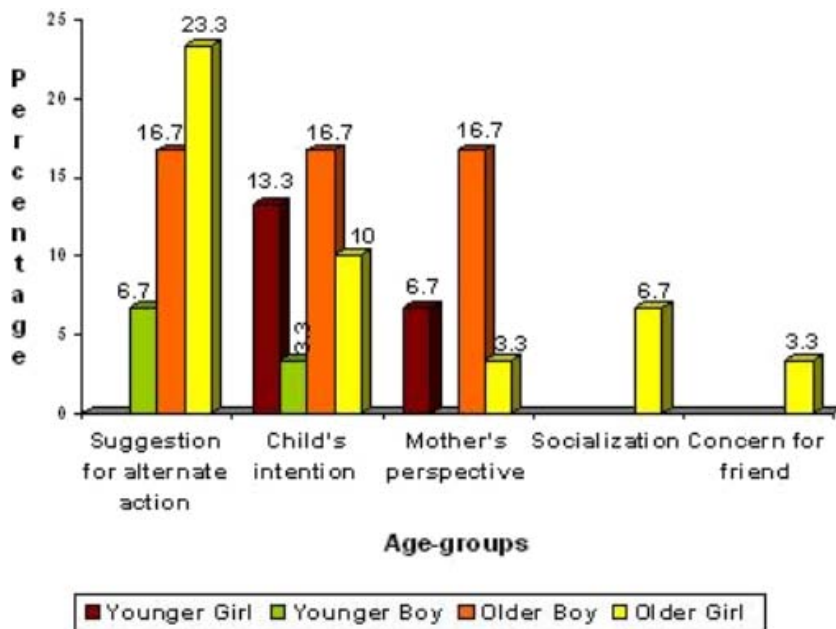


Figure 3. Types of intention based social and moral reasoning by age and gender (n=30)

Figure 3 demonstrates that a majority of the responses (46.7%) focus on the suggestion of an alternate action for the mother, followed by an emphasis on the direct reference to the child’s intention (43.3%). Older children focus more on these responses as compared to a very small

percentage of young children. Gender differences are observed in terms of older girls giving more preference to this category. An example of a suggestion of alternate action is evident in the response of a ten year old girl, “*Mother did the wrong thing. She should have said to her (Anita) why did you do this? It is wrong*” (ten year old girl).

In terms of reference to mother’s perspective, a significant percentage of responses were given by older boys. For example, one boy said, “*She (the mother) did not know that he (Rahul) was angry and therefore was pushing him (Manoj). She thought he (Rahul) pushed him on seeing the approaching car*”.

Concern for the friend also emerged as a response by an older girl. In her words, “*Anita pushed her (Ria) into the puddle, and her mother said thank you, it was not fair. She (Anita) did not know how much it would hurt her friend.... If she (Ria) did not want to play, then she should not have played. It is her (Ria’s) life. She can live her life the way she wants to...*” (11 year old girl).

Outcome based social and moral reasoning

Figure 4 shows the outcome based social and moral reasoning by age and gender.

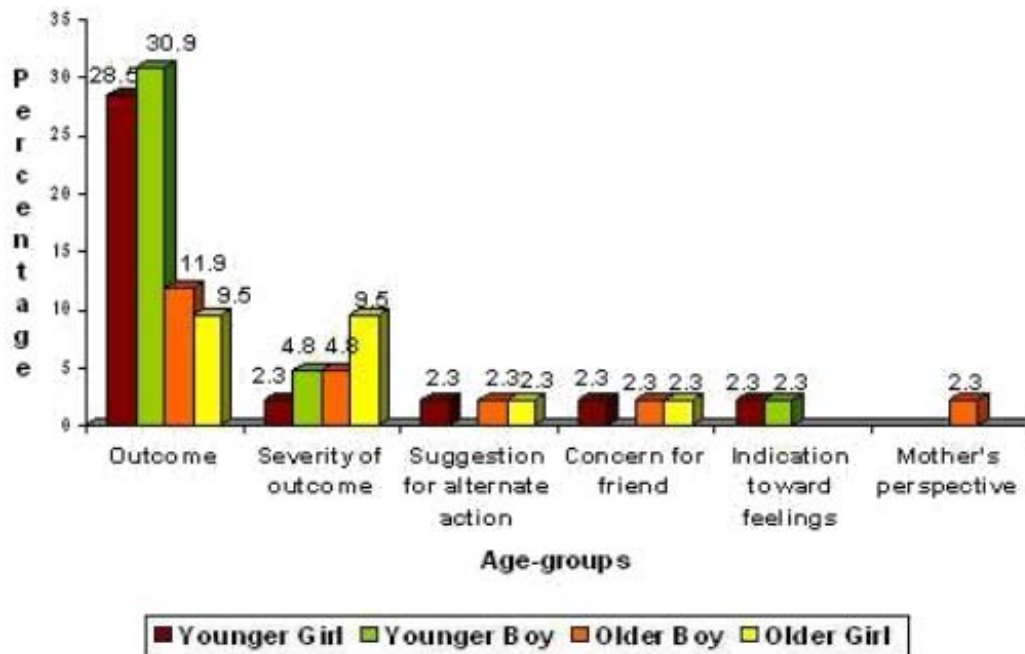


Figure 4. Types of outcome based social and moral reasoning by age and gender (n=42)

As younger children tended to focus more on the outcome of the act, the reasons stated by them also indicated a clear reference to outcome (28.5% to 30.9%). Interestingly, a greater number of responses (9.5%) indicating the severity of outcome were given by older girls, followed by an equal percentage of responses (4.8%) by younger boys and older boys. For example, an 11 year old girl said, “*Mother was right, because had it been an accident, then she (Ria) would have had to spend a month in a hospital and even undergo an operation. And it would have cost a lot of money*”.

Concern for the friend as a response also emerged from older children. However, the percentage was small in comparison to other reasons. For example, “*Anita’s mother did the right thing by saying thank you because if she (Anita) had not pushed her (Ria), then the car would have come and a big accident could have taken place, and as a friend, she (Anita) always wants to think good for her friend*” (11 year old girl).

For the reasons attributed to both intention as well as outcome, older girls especially referred to concern for friend. There were very few responses related to the suggestion of an alternate action

for the mother, reference to the mother's perspective, and focus on the consequences of the act on the other person.

DISCUSSION

The results of this study bear on two important areas: (a) authority orientation and (b) complexity in children's reasoning.

With respect to authority orientation, the present study examined parental intervention in the justice vignettes. As the results demonstrated, developmental differences were obtained in terms of younger children being in favour of the mother's act and the older children disapproving the mother's act. Piaget held that older children tended to question authority, which has also been supported in the present study. Further, older children used their own ideas of right and wrong against which to evaluate parental discipline.

With respect to young children, Piaget viewed young children as belonging to the heteronomous stage characterised by moral realism, where they based their moral judgments on unilateral respect for authority. The present findings did not yield a complete support for this unilateral respect. Earlier studies had also shown that children did not always have deferential and compliant attitudes towards authority and that they most often did not equate moral obligations with reference to authority (Turiel and Smetana, 1998). This trend was evident in the results obtained from the older children, thereby lending support to Piaget's view that older children tended to question authority. In the Indian context where parental authority was more firmly embedded in a hierarchical structure, it would be expected that children conformed to authority. This finding also questions the view of children being passively compliant to parents in traditional collectivist cultures such as India, and calls for a closer examination of the dynamics of parent-child relationships in such contexts.

With reference to the complexity in children's thinking it is interesting to see children thinking beyond the approval or disapproval of the mother. Apart from perceiving the parental act as fair or unfair, younger children also focus on other aspects, namely, nature of interpersonal relationships, reference to harm to persons, and welfare. This is evident in the reasoning expressed by the children and indicates complexity in their reasoning.

This is in contrast to Piaget's view, which has underestimated young children's ability to reason about moral events (Turiel and Smetana, 1998). In the vignette I (good intention-bad outcome vignette) for example, on the one hand, more young children stated reasons focusing solely on the outcome of the act, and on the other hand, they also gave reasons which justified the mother's act of disapproval, which might indicate the authority orientation.

However, in Vignette II (bad intention-good outcome), although children approved the mother's act and also focused on the outcome, an issue of relevance is whether children agree with the mother's act because of an authority orientation or because of the likely severity of the outcome which involves saving the child from the passing car. This complexity may be attributed to children's ability to consider more features of the intention or consequence information when making moral evaluations, that is, it is likely that children may refer to the differentiated aspects of the information rather than deciding to place an emphasis on either type of information, a perspective that has not been adequately addressed in research in the area of moral development (Grueneich, 1982). This also has implications for the construction of vignettes in such research studies, especially in terms of ensuring equivalence of intention and outcome.

CONCLUSIONS

The present study aimed to examine the developmental and gender differences in children's moral reasoning with reference to Piaget's justice based framework. The results support Piaget's

theoretical views on moral development within the cognitive perspective, to a certain extent. As anticipated, developmental patterns were observed in children's heteronomous and autonomous moral thinking. However, with reference to the authority orientation, unilateral respect for authority was not revealed completely. No significant gender differences were observed in the children's moral judgments or moral reasoning.

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Interethnic relations: A case study of senior students at an Australian high school¹

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This article provides a case study of the relevance of ethnicity in senior student's social interactions at an Australian high school where over 90 per cent of the students speak a language other than English (LOTE) at home. Drawing on ethnographic methods it explores students' own views on the role of ethnic background in shaping who they are friends with, and how these relate to their observed behaviour. It shows that several major peer groups in the school divide on broadly ethnic lines, but that shared orientation toward language and cultural maintenance, rather than common ethnic background are the glue that holds these groups together. The study also finds that relations between ethnic groups at this school are remarkably cordial and closes by reflecting on the possible reasons for this, and the steps schools can take to mitigate inter-ethnic hostility and promote a climate of tolerance and inclusion.

Interethnic relations, Multiethnic schools, identity, friendship, adolescents

INTRODUCTION

It is lunchtime at Ferndale Secondary College. As local students unwrap sandwiches or head off to the canteen for hot dogs, pies and instant noodles, a crowd of Chinese international students gather around the two microwaves in the senior student common room, pushing and joking in Mandarin, in a mock race to be the first to heat up their takeaway container of meat and rice. Their meals fetched, the Chinese international students sit in groups of four or five at tables on the left hand side of the open-plan common room, while on the right-hand side a highly multiethnic group of the most popular girls in Year 12 drape themselves over the large industrial heating vent and chatter with the popular boys who eat their lunch at (or more correctly sitting on) the neighbouring table. In bad weather, the students often remain at their tables for the entire lunchbreak, but more often the boys head off to play sport – the Chinese international students commandeering a basketball court for a game in Mandarin and the local boys fluctuating between basketball, soccer and Australian Rules Football. Meanwhile, regardless of the weather, a small group of Sudanese boys stand in a tight circle under an awning, talking in Arabic as they finish their lunch before adjourning to the library to do work or, more commonly, to the basketball courts, where they join in games with the local students.

The above description raises a number of questions about the ongoing relevance of ethnicity to friendship group formation in the senior high school years. On the one hand, the divisions into Chinese international students (who speak Mandarin with each other), Sudanese refugees (who

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speak Arabic together) and a multiethnic group of so-called local students² (who use English almost exclusively at school) might seem to be a clear-cut case of language or ethnicity determining who one is friends with. Yet social life is not that simple at Ferndale, as we have already seen that on the basketball court the distinction between the Sudanese and local student groups falls away, while the Chinese international students maintain their own court. Knowing that many of the local students are actually of Chinese background (and speak Chinese languages at home) further complicates matters, while we shall see that the extent to which ethnicity remains relevant in local students' peer group formation also remains a hotly debated topic.

In exploring the role of ethnicity in this complex social environment, this article adds to our understanding of the ongoing relevance (or lack thereof) of their ethnic heritage in the lives of these teenagers. Drawing on interview data and ethnographic observations spanning a two year period (2004-05), it explores participants' often changing evaluations of whether and why it is easier to befriend people from one's own ethnic group, and how well these statements match their observed interaction patterns at school. Since few groups are made up exclusively of people from the same ethno-linguistic group, it further investigates how and why students re-draw ethnic boundaries in the Australian context to include those from different backgrounds while often excluding others who would traditionally be thought of as sharing their heritage. It concludes by exploring possible reasons for the relatively high levels of inter-ethnic social interaction at Ferndale Secondary College, and the steps other schools might take to foster a climate of tolerance and inclusion.

ETHNICITY AND FRIENDSHIP IN SCHOOLS

Teachers and students in Australian schools often express the sentiment that students from similar backgrounds tend to befriend each other and stick together. In some schools, this may result in a student body clearly divided into hostile ethnic camps (such as 'the wogs' 'the Asians' and 'the skips'), however more commonly it seems to be experienced as a vague impression that students from similar backgrounds are more likely to befriend each other because they can better understand each others' languages, cultures and experience of juggling the competing demands of the ethnic heritage and contemporary Australian youth culture (Martino and Pallotta-Chiarolli 1999, Miller 2003, Noble et al 1999).

Few Australian studies have given detailed attention to the salience of ethnicity for peer group formation, however, the limited evidence to date suggests the interplay is much more complicated than the characterisation given above would suggest. While friendship groups are often perceived as being ethnically homogenous, in reality most groups accept at least one or two members who are not of the 'correct' ethnicity but share the broad interests and attitudes of group members (Noble et al 1999, Tertilt 1996, Walker 1988). Conversely, students who do not share the appropriate interests and attitudes are likely to find themselves excluded from the group regardless of their background (Fordham 1996, Martino and Pallotta 1999, Walker 1988). Clearly then, ethnicity is not the only relevant social identity for peer group formation: sexual or gendered identities, sub-culture membership, and orientation towards academic achievement are often just as important, if not more so, and have been shown to interact with ethnicity in highly interesting and novel ways (Cf. Auer and Dirim 2003, Collins et al 2000, Hall 1995).

Considering the degree to which schools divide on ethnic lines is important not just because of what it can tell us about the meaning students ascribe to their ethnic backgrounds, but also because these divisions can have a significant impact on students' educational performance. A

² While the Victorian government defines all citizens, permanent residents and holders of temporary protection visas as local students, students and staff at Ferndale tended to use the term colloquially to refer to student who had lived in Australia for some time, thereby excluding the most recent migrants from this category.

number of studies of recent migrants demonstrate the importance of coethnic peer groups for helping students understand their school work and the workings of the school system more generally (Goldstein 2003, Miller 2003, Zhou and Bankston 1998). Ethnically based groups can also help migrant students build a peer culture that values achievement in school systems where the majority of students are rebellious or disengaged (Harklau 1994, Olsen 1997). Yet on the whole, stark divisions on ethnic lines are viewed as problematic. Not only do they limit the opportunities recent migrants have to practise the language of the host society in social interaction with native speakers, but a lack of interaction between groups tends to breed prejudice and conflict between groups and squanders the opportunity for students in multiethnic schools to gain insights into each others' cultures.

There is mounting evidence that suggests ethnic divisions are themselves symptomatic of these groups feeling neglected and disenfranchised within the school system. A number of studies note that ethnic divisions are most common in disadvantaged schools, where few succeed and students have to compete heavily for special academic, pastoral and extra-curricular programs. Conversely, schools with high levels of inter-ethnic mixing are generally those where all students have the opportunity to take part in a range of extra-curricular activities and the results demonstrate that academic success is attainable for students of all backgrounds who are prepared to work hard (Goode, Schneider and Blanc 1992, Verma, et al 1994). Barring a massive injection of funds (which is unlikely) it may seem that there is little disadvantaged schools can do to mitigate these ethnic tensions. However, towards the end of this article Ferndale is used as a case study to examine the small steps schools can take to help meet the needs of a diverse student body and promote an environment where students of all backgrounds feel that they are respected and valued members of the school community.

CONTEXT OF THE STUDY

Ferndale Secondary College is a small but ethnically diverse Australian high school in one of Melbourne's traditional migrant reception suburbs. Classified as one of Victoria's most disadvantaged state schools, its student body has a low average socio-economic status (SES) and over 90 per cent of families use a language other than English (LOTE) at home. As Figure 1 shows, students come from a wide variety of ethnolinguistic backgrounds; with students reporting around 40 different home languages in any given year. However the majority of students come from Asian backgrounds, with Chinese, Vietnamese and Khmer speaking students accounting for over 70 per cent of the school population.

As a school of less than 300 students, Ferndale is conscious that its small enrolment (Secondary Colleges in Victoria typically have at least 700 students) makes it vulnerable to closure or amalgamation. The school has undertaken a number of measures in recent years to try to boost student enrolment and retention, however, by far the most important has been to market heavily the school to international students, particularly in China. Here it has achieved considerable success, with Chinese international students making up over 40 per cent of the VCE Public Examination cohort in 2004. As we see throughout this article, the presence of Chinese international students in such large numbers has a profound effect on the way ethnic loyalties and boundaries are perceived in the school, and consequently on the ways in which ethnicity becomes relevant to peer group formation.

This article draws on ethnographic observation and interviews conducted with 25 students in Years 10-12 in 2004 as part of a wider project exploring the relationship between language maintenance, friendship groups and identity affiliations among adolescents of migrant background (see Willoughby 2006). Twenty of the students were either born in Australia or have lived here for at least five years, four were international students from China who had been in Australia for between one and three years, and one was a Sudanese refugee who arrived in Australia a little under three years before the study commenced. Together, they represent a cross-

section of peer groups in the senior school and, had very varied views on the relevance of ethnicity to their social group formation at school.

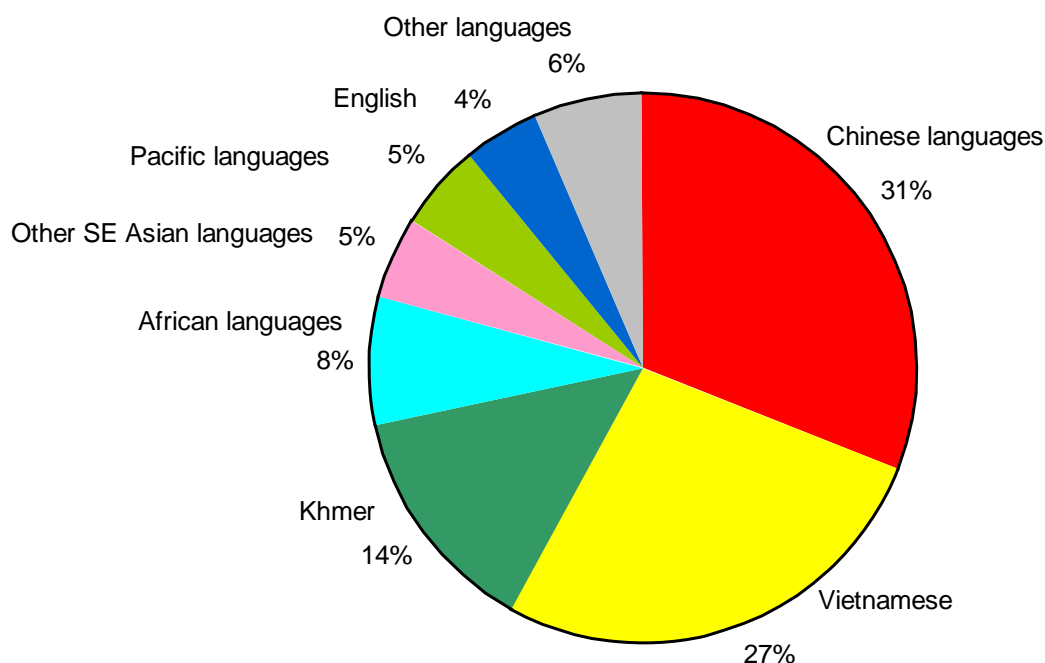


Figure 1. Student home languages

THE SCHOOL SOCIAL ENVIRONMENT

The Big Divisions: What Separates Sudanese, Chinese International and Local Students?

There was a strong tendency for Sudanese and Chinese international students to stick together in first language groups³ while at school. Local students generally viewed these groups as arising because of the combined effect of members' difficulties using English and feelings that they had much more in common with each other than they did with students who had lived in Australia for some time. Some local students went as far as to say that Sudanese and Chinese international students did not speak enough English to be able to join local peer groups.

Author: Do you think that when the international students or just generally new people come to the school do you think that they tend to move into friendship groups or do you notice...?

Cathy: Not really with internationals seeing as they can't speak English as well. I dunno we don't mix with them much.

³ One should note that both Mandarin and Arabic are actually second languages for many members of these groups. Referring to either of these groups as co-ethnic is somewhat fraught in that both China and Sudan have a highly multi-ethnic population speaking a variety of different regional languages as mother tongues. However, exposure to the national language through education has given students from these countries a common language, and it seems that faced with the many ethnic differences between themselves and other Australians, students coming from these countries put aside their ethnic differences and form groups based on common national interests. How this process works in detail is unfortunately beyond the scope of this article.

Others view Sudanese and Chinese international students as sticking together in first language groups not because they can't speak English, but because they enjoy the opportunity to express themselves freely without the constraints imposed by their more limited knowledge of English:

Author: Do the [ethnic] groups that stick together seem to still use their languages?

All three: YEAH!

Abrihet: I never hear them speak English

Author: So how much do you think it's a thing that they're not really comfortable speaking English?

Abrihet: It's not that they're not happy I think they just communicate like that.

Mei-Yee: They're just more confident with their own language.

These two views assign different degrees of agency to speakers' decisions to form first language groups. Cathy implies that Chinese international students simply don't have the English skills to mix whereas Mei-Yee, Natalia and Abrihet appear to imply that Sudanese and Chinese international students have the English skills to join local groups if they wanted to, but feel more comfortable sticking together and using their ethnic language. Although Mei-Yee, Natalia and Abrihet do not discuss this explicitly, part of the reason new arrivals seem to feel more comfortable sticking together has to do with a feeling of 'being in the same boat'. As John succinctly put it Chinese international students befriend each other because "we [sic] situation is similar", with a similar situation here including a range of issues from language difficulties, to the experience of living away from family and friends and cultural and economic differences when compared to local students. Similarity of situation can also be taken to be a driving factor in promoting co-ethnic friendships among the Sudanese boys at the school, who generally received little or no schooling in Sudan or in refugee camps and thus face a number of unique challenges adjusting to formal education and life in Australia (cf. Miller et al 2005). Under these circumstances, it is easy to understand why these students feel drawn to each other, and also why the many small ethnolinguistic differences within the Chinese international and Sudanese peer groups tend to be swept aside in a common feeling of ethnic brotherhood.

The separation between local and Chinese international students is also partly an artefact of their different cultural and interactional norms, which, as Mark contends below, can make interaction between them difficult and open to misunderstanding:

Mark: Surprisingly I'd say [the internationals are] in their own group, well not actually surprisingly because ah here we've maintained our own culture if you like, it's sort of like ethics –not ethnic but *ethics* groups – we have different morals and different ways of communicating. Like here if we go out to get lunch we'll bring our lunch, which is sort of like wrapped up, whereas these guys [the international students] will fight like vultures to get into that microwave [in the VCE centre] to heat up their rice [laughs]. So they hang out in their own group and we hang back and we watch them and we don't want to offend them by jumping in and taking the microwave and we have to be careful because these are groups we don't exactly understand them so it's slightly like having xenophobia.

As a Vietnamese-Australian, Mark is alert to the fact that the sense of difference he, and others, feel from the international students derives not so much from a clash of cultural backgrounds, but from different degrees of cultural maintenance. The Chinese international students thus are not strange because they are Chinese, but because their behaviour is still visibly and stridently Chinese in areas where established students have begun to conform to Anglo-Australian norms. Thus Mark comes to the conclusion that what we have here are "not ethnic but *ethics* groups"

based on different norms of behaviour and orientation towards the host and heritage cultures. Similar conclusions emerge from research on the formation and articulation of Asian American pan-ethnic identities, with researchers finding that “second and third generation Asian Americans often consider themselves to have more culturally in common with other American-born Asians [from different backgrounds] than they do with foreign-born compatriots” (Espiritu 1992:167). Indeed, second and latter generation Asian-Americans often show embarrassment at the strange ways and lack of knowledge of North American society displayed by recent migrants and, as at Ferndale, can be reluctant to interact with them (cf. Horton 1992, Kibria 2002, Tuan 1998).

Smaller Divisions: The Relevance of Ethnicity in Local Students’ Peer Groups

Since Ferndale is an extremely diverse school, where students come from at least 50 different ethnic backgrounds, it is not surprising that none of the local student peer groups analysed as part of this study are ethnically homogenous. While around half of all participants are members of exclusively Asian peer groups, the fact that around 75 per cent of students at the school are of Asian background means it is entirely plausible that these groups have arisen by chance.

Participants expressed a variety of views on the salience of ethnicity to their peer group formation. In the following extract the most popular girls in Year 11 debate the degree to which sharing an Asian background contributes to Asian students befriending each other.

Author: What do you think would be some of the crowds or the ways people divide themselves up here [at Ferndale]?

Katrina: I think it kinda happens automatically, you just click with some people.

Nhung: Yeah you just click.

Katrina: I dunno there’s [trails off].

Nary: What? Well I think that what I see is that people um most of them are good friends with their own nationalities and that. So um even though some are mixed but mostly it’s one main nationality. And as well there’s like interests, coz there’s the sport groups and the art people group stuff. So it depends what they’re like.

Author: Do you think that the nationalities that there are any patterns that people from this background also hang round with people from that background?

Katrina: I think its just pretty much Asians hang around each other. I dunno, coz it’s not always the case, but usually you get the Asians hanging together.

Nhung: Yeah it happens more so in big schools you have you’re Asians together and you have your Euros and then uh I dunno [trails off].

Author: What sort of things are people finding in common that Asian people hang out together – is it a values thing?

Katrina: I think it’s the way you were brought up.

Nary: Yeah the culture is similar so we can just understand each other better I suppose with cultures and what you do.

Nhung: And it’s like it’s more like, you have “oh what are you doing Chinese New Year” or “how much of your pocket money did you get” and y’know you have things that there are more things that you can talk about.

While the girls initially see friendship groups in terms of ‘just clicking’ with some people, they quickly move to seeing background as just as important, if not more so, than common interests,

such as art of sport⁴. Although they are quite keen to hedge their comments, it is clear that they feel that similarities in cultures and upbringing make it easier for them to befriend and maintain strong friendships with other Asian students. Later in the interviews, it also became apparent that a key point of common ground for these students was the arguments they had with their parents about what was acceptable behaviour in Australia in areas such as socialising outside of school, having boyfriends and academic achievement. Thus Katrina remarked:

Katrina: I reckon with all Asian parents the lectures are the same [agreement from others] I can go to Nhung “oh yeah your parents probably said that that and that” and she’ll be like “yep”.

Nhung: Yep

Katrina, Nary and Nhung (and also Robert and Mei-Yee), clearly see Asian students as united by a common attempt to craft a standard of behaviour that acknowledges their parents’ more traditional values but ultimately embraces many of the rights, freedoms and notions of gender equality typical of mainstream Australian youth culture. Yet of course not all Asian students share the girls’ view on the best way to balance competing cultural elements, with Putrea, Lan and Van providing examples of participants who crafted their own Asian peer culture where chastity and working towards exceptional academic achievement were integral group values and members were not expected to socialise with each other outside of school, except in the context of family gatherings. In both of these cases, it is clear that a common orientation towards language and cultural maintenance, modernisation and hybridisation is at least as important in bringing group members together as their common Asian background. This point is brought home by Putrea in explaining why she was friends with a large group of Vietnamese friends who shared her traditional values (such as not dating and only socialising with her family outside of school), but had dropped out of touch with friends who share her Chinese and Cambodian background because in her eyes they had become too modern:

Putrea: I used to have friends who are Chinese, Khmer and stuff too, but then like she’s more modern and she goes out and she watch movies and she goes on holidays and stuff like that. And you can’t make friends if I and her are different. You wouldn’t have common stuff. So it’s not fun staying together.

Looking at peer groups in terms of their attitudes towards language and cultural maintenance, not only gives insight into the ways in which members see their backgrounds as still relevant to their daily lives and interpersonal relationships, but also allows us to consider whether those students who claim that ethnicity is irrelevant to their friendship group are actually clustering together in peer groups that embrace mainstream Australian norms. There is some evidence that this is occurring at Ferndale: six participants who emerged from the main study showing a lower than average interest in language and cultural maintenance all claimed ethnicity was irrelevant to their peer group formation but appeared to have formed peer groups at school that were strongly orientated towards Australian youth culture (Willoughby 2006). However, this finding must be interpreted with caution since five of the six were boys, raising the question of whether gender, and not orientation towards cultural maintenance, is the key factor in determining the relevance of ethnic background to peer group formation.

The tendency of boys to form more diverse peer groups at school than girls was outlined particularly forcefully by Abrihet, who remarked:

⁴ It is important to note here that there were no subjects or school activities which were associated with students of a particular ethnic background.

Abrihet: The guys mix more than the girls. Like you'll find a bunch of guys and there'll be one Viet, one Australian, one this one that. Whereas the girls like, our groups are the only that's got difference.

Abrihet's claim that her group is the only highly diverse female friendship group needs to be qualified, as there are a number of female best-friend pairs at Ferndale where members come from very different ethnic backgrounds, for example, Nina and her Afghani best friend Nouria or two girls of Bosnian and Vietnamese heritage in Abrihet's graduating class. It is rare, however, to find a large group of girls whose members come from very different ethnic backgrounds, whereas this kind of diversity does seem more common in boys' peer groups.

A possible explanation for this variation along gender lines is that boys tend to form larger peer groups than girls in the teenage years, making their groups less intimate and more tolerant of diversity of all sorts (Erwin 1998). Because boys' groups are commonly based around certain activities (such as playing basketball together), skill in the activity, and the ability to joke around and amuse others, are often the most important criteria for gaining group membership (Dolgin and Kim 1994). Girls, by contrast tend to select a small group of close friends who share their attitudes and experiences and spend much of their time together sharing secrets and offering support and advice on personal problems (Jones 1991). Studies suggest that at larger schools boys are able to form interest based groups that still divide loosely on ethnic lines, (cf. Martino and Pallotta Chiarolli 1999, Walker 1988). We see this to an extent in the division between the Chinese international and local student basketball cliques. However, for the most part it appears that the number of boys at Ferndale is small enough that those who share common interests must club together with other like-minded students regardless of their ethnic background.

Finally, it is important to note that as much as students might talk about having more in common with people from similar backgrounds, no-one seemed to have trouble relating to people with whom they lack this common ground. Richard, Mei-Yee, Abrihet, Nina and Nohemi give particularly clear examples of students who talked in the interviews about preferring co-ethnic friends, while at the same time having highly diverse friendship groups at school, but all students reported that they maintained friendships with at least one or two people (either at school or in the wider community) who shared their interests, but not their ethnic background. In this light Nina provides perhaps the best assessment of the ambiguous role of ethnicity in friendship group formation at Ferndale.

Nina: With [school friends from other backgrounds] it's something different coz I can't really say do you go to church, coz like they're normally Buddhist or something like that. But it doesn't change, y'know like I can still be friends with them, I can still talk and do things, it doesn't really change anything.

MINIMISING ETHNIC TENSION

We have seen that some peer groups do divide on broadly ethnic lines, however, a hallmark of the Ferndale school environment is the cordial relations between the different ethnic groups. While the local Vietnamese and Cambodian communities have a long-running feud, it almost never progresses beyond light teasing or "arguments about who invented which foods" (as Nhung put it) at school. Similarly, the immersing tensions between Christians and Muslims in Melbourne's horn of Africa communities are yet to manifest themselves in the Ferndale school environment. In closing this article, this section considers some of the likely reasons for this relatively harmonious school environment, and the steps other schools can take to help promote tolerance and inclusion.

When asked why there is little ethnic tension at school, a number of students focussed on the small school size and amiable relationships between students. Trung's comments here are representative:

Trung: It's a small school and, probably just we don't have any trouble makers. Because the relationship between each year is really good. Yeah so yeah. Coz like if you take a school like XXX [neighbouring state secondary] it's really big and [trails off].

Author: So people know each other well enough here that they don't go there.

Trung: Yeah.

The importance of small school size in fostering strong relationships between students has been well noted in the United States literature (cf. Cotton 1996, Eckert 2000, Gregory and Smith 1987a, 1987b). In particular, it has found that students tend to form groups based on categories (such as 'the stoners' 'the jocks' or 'the nerds') with little social interaction between members of different categories. Under these conditions, members of different categories often stereotype each other and develop hostile relationships, whereas in small schools the fact that students generally know each other quite well as individuals mitigates against stereotyping and often leads to highly permeable peer group boundaries. Being a small school also means teachers and students can get to know each other as individuals, and strong bonds between staff and students are a hallmark of Ferndale's school culture. This in turn creates an atmosphere where students feel valued and cared for, and do not feel they have to compete with each other for staff members' attention or for places in popular extracurricular activities.

Size also plays a very practical role in mitigating the importance of ethnicity in local students' friendship group formation, simply because no one ethnic group has the numbers to form an ethnically based peer group in opposition to the large Asian presence in the school. Thus Aaron sagely notes:

Aaron: No there can't be [racial groups] because it's all mostly Asian here... but if there was a different large group, like if there was a big European group here in this school definitely they would not mix and mingle – maybe a few of them would but you're always hang round in a group – y'know.

While relationships between students were generally cordial at school it is important to note that ethnic hostilities were not necessarily absent from the school environment. Rather, the school's low tolerance of bad behaviour meant that teasing or niggling that started at school was resolved in fights that took place off campus after classes were over.

Author: But does that stuff [ethnically based fights] happen at school too?

Robert: Nup.

Roger: Nup.

Taonga: No way, only outside of school.

Roger: Yeah outside.

Author: Why do you think it doesn't happen at school?

Roger: Because they'd all be kicked-

Taonga: Suspended.

Author: Yeah? So people who get along OK at school might fight outside of school?

Roger: Yeah they start it at school and then when they get outside, like more action, way more.

This extract highlights that inter-ethnic relations at Ferndale are not quite as rosy as the previous discussion might have led us to believe. However, it should be noted that such fights were actually quite rare and seemed to involve relatively innocuous so-called 'punch-ups' rather than knife fights or gang based violence. That students choose to conduct these ethnically based fights

off campus also shows that the school has achieved great success in communicating the idea that behaviour of this type is not tolerated at school, and that Ferndale students have enough respect for these rules that they do not openly flout them. In being a very strict school, but also a very caring school, Ferndale seems to have found a formula that encourages each student to feel valued, and to value and respect their peers and teachers, but does not tolerate bad behaviour. In freely expelling students who do not adhere to the school's accepted behaviour standards, Ferndale is able to preserve its relatively harmonious environment, while its small size means both that teachers can provide individual support and mentoring to students and that students have cause to get to know all members of their year level as individuals, not category members.

CONCLUSION

In exploring why there is relatively little ethnic tension at Ferndale this article highlights the fact that stark group divisions and feelings of disenfranchisement are problematic at any school, regardless of whether or not they're ethnically based, and provides some suggestions for minimising these difference. Ferndale's status as a small school with strong pastoral care and opportunities for all students to participate in extracurricular activities is found to be instrumental to its harmonious school environment. However, equally important is its strict discipline and zero tolerance of troublemakers. While not all schools benefit from Ferndale's small size, it is possible for larger schools to reorganise themselves into sub schools, house groups or even form groups where students have certain compulsory classes together in order to help foster something of the small school sense of community. Such reorganisation can also strengthen the school's pastoral care program and help create an environment where students feel valued and cared for by both their fellow students and their teachers. No school can expect that these sorts of measures eliminate all intergroup tensions, however, the more students and staff get to know each other as individuals, the greater the likelihood that they learn to respect all members of their school community and to adopt similarly tolerant attitudes when interacting in the general community.

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After school arts program serves as real-world teaching lab

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This paper describes how an after school elementary arts program served as a teaching lab for undergraduate pre-service teachers. The program was designed and implemented by an art education faculty member as an undergraduate service-learning course and research investigation on the outcomes of an inquiry-based K-12 art curriculum. It also became a setting in which the author was able to serve as an instructional role model for her undergraduate pre-service education students. In the community-based teaching lab, the author was able to bring to life her own teaching philosophy and pedagogical approach in the presence of her students. The setting presented, as well, an opportunity for professor and students to collaborate on the creation and implementation of a classroom management system, enabling the undergraduates to build confidence in managing and leading a class.

Teacher education, service-learning, classroom management, inquiry, critical thinking

INTRODUCTION

As an Assistant Professor in an art teacher education department which graduates approximately 40 undergraduate students a year in an initial teacher licensure program, I have supervised students in both practica and student teaching placements which occurred in public schools. In each case, I have observed a student in action and then commented on their practice teaching performance, both verbally and in writing. I have also conducted classes on campus in which students presented lessons to their classmates, and to me, as though they were presenting a lesson to a Grades K-12 group of students. These classroom simulations have also served as practice teaching experiences for students.

Over three years of conducting evaluations of students in these types of clinical settings, I have often felt that there was a disconnect between my role as observer and professor, and the 'teaming with life' reality of actually delivering instruction to a Grades K-12 class. Sitting back and watching my college students teach Grades K-12 students, or their own college classmates, limited my available tools of instruction to verbal suggestions, observation and evaluation. But recently, I was able to close this gap between observation and the actual delivery of instruction through an after school arts program for elementary school children that I have organised as both an undergraduate service-learning course and a research study. The study investigates whether an inquiry-based arts curriculum delivered through the after school program impacts on critical thinking ability in both the children enrolled in the program, and the college students participating in implementing it. But there has been an additional outcome of this study in that my college class is now taking place in the field, and my students' teacher education is occurring in a setting where I am able to role model my teaching philosophy and demonstrate the methods I espouse for effectively teaching Grades K-12 students. Demonstrating how I instruct Grades K-12 children is a much richer form of pedagogy than suggesting to my students how they might teach. Additionally, with the class as a group serving as a team of instructors in the after school arts program, we have the opportunity to learn from each other and to share our observations and

reflections with one another every step of the way. This has created a valuable real world teaching lab for me and the eight undergraduate students in the course.

AN INQUIRY-BASED CURRICULUM IN ACTION

The first day of the after-school arts program began with me leading the instruction of a group of children, aged 8 to 11 years, who had enrolled in the program. The first artmaking experience these children engaged in was the creation of expressive ‘identity boxes’ which reflected each child’s unique personality (Barrett, 1997). It has been several years since I worked as a Grades K-12 art teacher, and during my delivery of instruction in the after school arts program, as I once again experienced ‘the smell of the tempera paint,’ as it were, and helped children to handle paint brushes and the application of paint and to make choices of collage materials which reflected their personalities, I noticed that the undergraduate students in the service-learning class in which this program was implemented were closely watching and listening to me. In the year-long process of planning the program, I had been focused on the creation of the inquiry-based curriculum to be delivered as a ‘treatment’ in the research study. As I actually delivered the curriculum, with my students observing my instructional methods, in anticipation of shortly taking a turn at instruction themselves, I realised the unexpected outcome resulting from this program. Not only was I delivering inquiry-based arts instruction, I was also role modelling instructional techniques that I continuously recommend that our undergraduate students use when they had the opportunity to teach. My tone of voice, the specific language I selected for my instructional dialogue, the way I looked at the children and listened to what they asked me, were a form of instruction that teacher education students rarely received from their professors. The laboratory settings of our university classrooms, or the silent observations of our students in other teacher’s Grades K-12 classrooms, can not put into practice the pedagogical theories that we teach in class as effectively as we can in our own delivery of those instructional techniques with children, in the presence of our students.

There is a strong emphasis in the inquiry-based curriculum that we are delivering through this after-school arts program on classroom discussions. Managing a classroom discussion about art is not a simple undertaking with elementary school children. I designed the program so that I would lead the first instructional sessions for the children’s identity boxes, and then the undergraduate students would work in teams to deliver the remainder of the sessions—with me present to assist every day of the program. Once the children had finished creating their identity boxes, I began a discussion with them about their work.

In this first critical inquiry session, my goal was to facilitate an open-ended talk about the childrens’ work to aid them in the development of critical and aesthetic awareness and reflective thinking. I was attempting to foster divergent thinking and encourage an atmosphere of trust, in which students felt comfortable expressing their individual opinions without any pressure to conform to my opinion or that of the other students (Stewart, 1997). I began the discussion by explaining to the children that I had all of their names on index cards in an envelope and that I would pull out one name at a time and we would talk about the work of the student whose name I had randomly selected. I did this so that I was not in a position of openly making judgments about the work and selecting one child’s work over another’s to talk about. We did not have enough time to talk about each student’s work in the first session, so my goal was to utilise a fair system of selection by randomly selecting names. I explained to the children that we would use this card system to ensure that all of them would have a chance to have their work discussed—that those selected today would not have their names in the envelope next time.

I then held up the work of the first child selected and asked the class to describe what they saw in the work, and what they felt it expressed about the student who created it. After many children had been called on to say what they saw in the identity box, I asked the child who created it to explain what she had attempted to express. During this discussion, there was some giggling at

some of the responses which were meant to be serious, and when this occurred, I reminded the children of the class rule: to please show respect for everyone in the room.

In this critique session, all children in the group showed great enthusiasm for talking about each other's work in an objective manner, and for explaining their own work when they were given the opportunity to do so. Through the discussion, a positive classroom climate was created, in which elementary aged children openly discussed their ideas about art and about what they had attempted to express about themselves in the identity boxes. Critical and aesthetic inquiry took place, and my personal teaching philosophy was observable for my teacher education students.

A TEACHING PHILOSOPHY

Through the delicate process of developing a classroom climate that enabled all children to feel safe from ridicule when sharing their ideas and feelings about their artwork and the work of others, I was able to implement an approach to teaching that would serve as a model for my students to reflect upon as they formulate their own teaching philosophies. It is my belief that each teacher is unique, and that our pre-service education students need to have the opportunity to observe many different teaching styles and philosophies as they formulate their own philosophy, based on their individual personality and on the examples they have witnessed.

The teaching philosophy I model is built upon my belief that a classroom is an important social unit in the life of a child. In the opening pages of his book, *Social Organisations*, Ahrne (1994) explains that there are

common features in basic social units such as families, enterprises, clubs or states. They are combinations of forces that make people part of social entities. We will call these entities organizations....The reality of organization is as old as mankind. The roots of affiliational bonds stem from the earliest forms of families and tribal relations. (pp. 2-6)

In social organisations, says Ahrne, an individual becomes affiliated, and recognised. "As an affiliate of an organization the other affiliates give you an identity, they begin to recognize you and they care about what you do, when you come and when you leave....You mean something" (p. 5).

Classrooms are "basic social units" (p. 2), and they are most definitely places where "human actions are transformed into social processes" (p. 2). Those social processes are the engine of education. To name just two of the social processes that occur in a classroom: (a) students construct an understanding of information presented in the class, and (b) they construct an understanding of how to participate in an affiliated group, the basic unit of society.

In a classroom, students are affiliated with other students, the teacher, and with the institution or organisation the classroom is housed within. This affiliation helps students forge an identity, aspects of which they will carry with them into whatever they do and wherever they go. I believe that the social organisation of the classroom carries with it the gravest responsibility. In classrooms, teachers hold the minds and identities of students in their hands. Student identities can be either eclipsed or illuminated, based on how they are treated and taught by the teacher and by other students. House (1996) says "above all, teachers must get to know the students and their work, even the way individual students think. Students must get to know each other and the teachers" (p.13).

Not only do teachers carry the responsibility of facilitating the acquisition of knowledge in a student, they also carry the responsibility of acquisition of the self in a student. Rubin (1985) explains that "what we must have are teachers who know both their subjects and their students, who have the essential pedagogical and interpersonal skills essential to their intent, and who are themselves positive, informed, and observant" (p. 58).

A fine balance must be struck by teachers as they assist students in forming knowledge of the world and of themselves. Ahrne states that “this is not to say that organisations are inherently just and that affiliates are always taken care of and treated fairly. On the contrary, organisations are often repressive and terribly unjust” (p. 6). But because they are entrusted with the vulnerable and fragile minds and identities of students, I model for my teacher education students the philosophy that teachers have a moral imperative to be just and fair.

There are various ways a teacher can uphold their responsibility to assist students in the acquisition of knowledge and the illumination of self. One of these is for the teacher to control the organisation of a classroom in such a way that it is a safe and healthy place for each student to learn and grow and discover more about the world and about him or herself.

If a classroom is chaotic, not only is it unlikely that a student will successfully acquire the knowledge and skills the curriculum is designed for, but there is also a danger that the teacher may not be able to discern when interactions between students are harmful. As facilitator and guardian of the processes of social organisation in a classroom, I believe that a teacher has the responsibility to control or manage that organisation in such a way that learning goals are met, and there is adequate awareness at all times, of how students are generally being treated by other students within the organisation of the classroom. Teachers must take care to ensure that students are not unduly criticised, or negatively labeled in the social organisation of a classroom.

Recent research into how to prevent school violence has shown that rewards and sanctions can have a positive impact on students in classrooms. In the article, *Creating Peaceful Classrooms: Judicious Discipline and Class Meetings*, Landau and Gathercoal (2000), explained that

researchers who are also teachers, administrators, and specialists in Michigan, Minnesota, and Oregon are documenting how the constitutional language of rights and responsibilities, incorporated into a democratic management framework.... can support equitable, respectful, and safe classroom environments. (p. 450)

A CLASSROOM MANAGEMENT SYSTEM

Classroom management that promotes a democratic, productive environment requires a fair, sensitive approach by teachers. It takes artistry to strike a balance between control and chaos in the classroom, so that students feel encouraged to express themselves. The teaching lab that was created through the after school arts program my students and I implemented afforded me the opportunity to collaborate with students on the creation of a classroom management system appropriate for the context we were working within.

It has been my experience with pre-service teachers that classroom management is one of their primary concerns as they prepare for work in Grades K-12 schools. Leading a classroom is often viewed as a daunting task for undergraduates, and many of my students have voiced concerns to me about a lack of experience in managing students. Because we are working as a team of instructors in the after school arts program, my students are gaining experience in the formulation of a classroom management system for the program.

As the undergraduates in the service-learning course assumed responsibility for instructional sessions, I noticed that some struggled with managing classroom discussions. During the discussions, some children would call out responses meant to get a laugh, or they would laugh loudly at another child’s answer. This frustrated the undergraduates and some voiced concerns to me about how they would manage these discussions when it was their turn to teach. In hearing these concerns, I decided we needed a more elaborate classroom management system than the frequent reminders to children about the class rule: to please show respect for everyone in the room.

So I devised a rewards based system in which there would be a drawing for small prizes, such as a pen, or a puzzle, at the end of each program session, and each child would begin the day with 3 chances per session, but would have chances removed if he or she needed to be reminded more than once about the class rule. I then posted a description of this system on the online discussion board for the undergraduate service-learning course and asked the undergraduates enrolled in the course to comment on it. I revised and adjusted the system based on their comments, and we continued to make adjustments after it was piloted and used with the children.

Enabling pre-service teachers to participate in the creation of a classroom management system brought to life Susi's (1995) suggestion that pre-formulated behaviour management systems might look good on paper "but may not work well for specific teachers and their students" (p. 36). Our system started out as one thing on paper, but then it evolved. And in this evolution it served as an example of action research as we implemented the system and made adjustments to it based on its utility within the specific context of our program.

CONCLUSION

In addition to providing our pre-service undergraduates with opportunities for observing cooperating public school teachers as teaching role models, education professors may want to consider contexts in which they are able to model their own teaching philosophies, methods of instruction, and classroom management systems in Grades K-12 educational settings. This can be accomplished in a variety of ways: professors might develop community after school programs in which they are the lead instructor, or they can offer to serve as guest teachers in public school Grades K-12 classrooms, with college students in attendance in rotating groups. Or public school classes may be invited for field trips to college campuses to participate in teacher education classes. Adding ourselves, as education professors, to the mix of role models our students observe, enables our education students and future teachers to witness a rich example of pedagogical theory in action.

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Introducing the 'linguistic turn' to history education

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Research studies aimed at exploring how secondary school students engage in doing history, develop historical reasoning and understanding often times neglected the theoretical frameworks that ahistorians of different orientations use to study the past. As a result of this oversight, some historical concepts are sometimes weakly defined, ambiguously used, or confused with other concepts. In order to contribute to the effort to provide students with rewarding and meaningful experiences in doing history, this article aims to enhance teacher educators' and teachers' understanding of different modes of historical writing by bringing into attention a recent school of historical thought's conceptual framework, methods, principal concepts, ideological positions, and pre-eminent practitioners. It also maps out the key debates, criticisms, and arguments that historians of different historical orientations engaged in.

History education, historiography, historical writing, linguistic turn

INTRODUCTION

The last decade has observed a growing body of research on what is said to be 'doing history' in schools. Although teacher educators and teachers have engaged students in doing historical inquiry in recent years, little attention has been paid to the theoretical frameworks that different schools of historical thought have employed to bring history to life. This shortcoming manifests itself in the questions framed, concepts explained, argument made, and conclusions drawn. For instance, some studies examining teachers' understanding of history either extrapolated or mixed the features of competing historical traditions. In order to give an example from a study done in the United States, in Evans's (1988, 1989, 1994) successive exploratory studies, five categories of teachers were identified as 'storyteller', 'scientific historian', 'relativist or reformer', 'cosmic philosopher', and 'eclectic' in terms of their conceptions of history and beliefs about the purposes of history instruction. When his typology of social studies teachers is subjected to the critical scrutiny in the light of the knowledge base on historiography, it is revealed as vague and in need of clarification. For instance, the two categories, 'scientific historian' and 'cosmic philosopher', are basically the same in terms of their definitions of how historians approach the past. 'Scientific' or positivist historians like psychohistorians do search for general laws and patterns in history – as a 'cosmic philosopher' does – in addition to placing a doubled emphasis on the importance of a rigorous research methodology in investigating the past. In other words, Evans described teachers' conceptions of history by inappropriately employing the concept of scientific historian. If one is describing his or her categories by using what is intrinsically a historical concept, it is unacceptable, from scholarly point of view, for him or her to use that concept without taking into account its purported meaning and implications in the discipline of history.

Teachers need to know the nature of history to plan effectively, implement and assess their instructional activities. The importance of an adequate understanding of the nature of a given discipline on the teachers' part in the teaching and learning process has been recognised in science education. This recognition manifests itself in the efforts to help science teachers and students develop a sophisticated understanding of the nature of science which is deemed to be a major goal in science education and a central component of scientific literacy by science

education organisations and science educators who stress the role that a nuanced understanding of the nature of science plays in fostering higher levels of scientific literacy (NSTA, 1982; AAAS, 1993; NRC, 1996; Alters, 1997; Bybee, 1997; Bell, Lederman, and Abd-El-Khalick, 2000). For this reason, science teachers are expected to be cognizant of varying positions on the nature of science along with accompanying conceptual frameworks with their methods, goals and theories (Loving, 1997).

The same emphasis on the importance of the nature of subject matter has not been realised in history education in the United States yet. However, as Lee (1983) argues, drawing on what insights historical frameworks provide for studying the past is crucial not only to develop a rational way of teaching history but also to address adequately the fundamental issues in history education. Wineburg and Wilson (1991) stress that if the goals for teaching history are to be realised, it is indispensable for teachers of history to understand the nature of the discipline. Likewise, Seixas (2002) stressed that being familiar with the different ways through which the past was made accessible, meaningful, and comprehensible was a must for advancing historical consciousness at schools and confronting the complexity of the past. Unless models in the discipline of history are identified and used in history teaching and learning, any framework for exploring students' thoughts about history was destined to remain murky (Seixas, 2001, p. 546). Alternative forms of history need not be viewed as burdensome or overwhelming for students to cope with, but as Pomson and Hoz (1998) stated, need to be considered as "cognitive agents fielding the rival attentions of different views of the past."

Awareness of how historians of different historical orientations construct differing interpretations of the past is one of the preconditions for history teachers to understand the complexity of the past and set the stage for their students to develop an increasingly complex and fine-grained understanding of the past events, people, institutions and processes. The purpose of this article is to bring a recent but rather contested historical orientation to the attention of both teacher educators and school teachers in order to contribute to the effort to bring about the more sophisticated and meaningful teaching and learning of history. The assumption underlying this article is that if social studies teachers become familiar with, recognise, and appreciate the multiplicity of historical explanations, along with the assumptions and ideologies that lie behind each orientation, they can help students not only to enjoy more freedom of choice in constructing their own historical understanding, but also to come up with a deeper and more nuanced understanding of the past. The past research on doing history in schools did not satisfactorily address this crucial issue in history education. Aimed at addressing this gap in the literature, this article provides an overview of the linguistic or discursive turn in history.

THE LINGUISTIC TURN IN HISTORY

The linguistic or the discursive turn¹ – sometimes called cultural and aesthetic turn as well – began to affect historical writing around the mid-1960s (Vann, 1995; Iggers, 1997; Cohen, 1999; Jenkins, 1999). The recognisable influence of linguistics on historiography came by means of literary criticism with a theoretical bent that tended to emphasise the issues related to the epistemological aspects of historical writing and autonomy of language as a symbolic system (Monas, 1993; Iggers, 1997).

Based on constructivist epistemology, the linguistic turn puts forward a conception of history as a constructivist enterprise based on a textualist conception of the relation between language and reality (White, 1987). Textualism presumes that whatever is taken as the real is constituted by

¹ Instead of the 'linguistic turn', Hayden White prefers the term 'discursive turn' to call this movement in that he thinks the object of the past is not perceivable (done with, dead), thus the historian can approach the past only "discursively" (personal e-mail communication, January 31, 2005).

representation rather than pre-exists any effort to grasp it in thought, imagination, or writing. According to the literary theorists such as Derrida, it is the language that shapes or constructs reality but does not refer to it (Iggers, 1997, p. 9). When applied to history, the implication of these epistemological assumptions is that the idea of objectivity in historical research is deemed to be impossible because there is no object of history. The historian is considered as the prisoner of the world in which he thinks and his thoughts and perceptions are inevitably conditioned by the categories of the language in which he or she operates (Iggers, 1997).

Language is seen as the reason for historical relativity. The relativity of the historical representation, White asserts, stems from “the function of the language used to describe and thereby constitute past events as possible objects of explanation and understanding” (White, 1997, p. 392). Stressing the nature of texts as nonreferential and ambiguous in terms of their meanings, White and other literary critics contend that every text can be read in innumerable ways. The author’s intention no longer matters, because it is multilayered and contradictory (Iggers, 1997).

Regarded as a revolution in terms of its effects on the approach to the study of history, the linguistic turn has placed an emphasis on the roles of rhetoric, the topics of narrative, and the poetics of history in historical writing or representation (Fay *et al.*, 1998; Cohen, 1999). Since historical studies are based primarily on written sources that are the product of verbal portrayal and human communication, they are deemed to be linguistic documents. As a result, the linguistic turn has been concerned with the consequences of this aspect of historical sources. The semiotics of text production, how meaning is made in text, how readers take meaning from text are what the linguistic-oriented historians reflect on and take into account in their historical writings (Cohen, 1999, p. 66). For this reason, the analytical attention of historians is shifted from the object (or referents) of historiographical research to the products of that research, so to speak, the written texts in which historians presented their findings (White, 1987). Pointing out the change in the nature of historical explanation and the theoretical dimension of reading, Cohen (1999, p.66) says:

The [linguistic] turn has induced some groups of historians to develop a framework for practicing history in which language is considered an event or action, as real or material as any nonlinguistic event or action, in which language systems become the basic unit of historical investigation and in which language generally – its use, production, diffusion, and appropriation over time – is moved to the center of the historian’s concern. The linguistic turn has forced historians to rethink traditional ideas about the nature and function of language, and the relationships between language and historical representation, between author and text, between text and reader.

The linguistic turn is also seen as a methodological alternative in opposition to essentialist and positivist traditionalism in historiography in that its mode of historical writing is assumed to be an attempt to replace essentialism and positivism for a more adequate understanding of society and a more refined methodology. Opposing essentialist assumptions, historians affiliated with the linguistic approach aim to illustrate the historical construction of the social through language or the cultural and linguistic method. They also take into account the political aspects of history, the inclusion of dispossessed groups as subjects of history, and implications of postmodernism and feminism (Fay *et al.*, 1998). The linguistic turn competed with the previous modes of historical writing (i.e., materialist and social explanations of the 1960s) in order to turn historians’ attentions from social and quantifiable material explanations to the questions of language, identity, symbols and social constructions. This ultimately became an established school with its own conception of history. Both historians of the positivist school of thought devoted to traditional approaches as well as those social historians dedicated to studies of culture and language refer to the linguistic turn as a novelty (Ekman, 2001).

The linguistic turn in historiography is used synonymously with the narrativist historiography informed by theoretical elaborations of literary critics such as White. This approach provides guidance for “how to read and interpret texts” rather than setting rules for “how to write history”

(Domanska, personal e-mail communication, January 31, 2005). Narrativist historiography assumes that historical narratives serve as social transactions and are produced by the historian for the audience in a special situation such as a pre-existing or ongoing debate, argument, and discourse (Cohen, 1999). Since historians intentionally try to persuade as well as to inform their audiences with some sociopolitical or ideological aim in mind, histories have a performative dimension. By means of rhetorical conventions and strategies, historians intend to persuade readers that their accounts of the past are truer, more objective, and worthier than another version and this in turn leads readers to develop a particular attitude toward the past and the present and to take a particular course of action in the present (Cohen, 1999, p. 69). The form itself or the plot structure of a historical account shapes content and allows the historian to pinpoint the system of thought that authorises the terms of the debate. White (1987) contends that rather than the evidence, the historian's conscious and unconscious choices about the categories of historical poetics are what provide him or her with vision in historical enterprise.

Having explained the characteristic features of the linguistic turn in historiography, I will narrow my focus on this movement by bringing to the fore the scholarly writings of the key literary figure who has played a pivotal role in initiating and directing the discussions about the implications of the linguistic turn for historical thinking and writing. It is White who, as one of the leading pioneers in introducing the linguistic turn to the study of history, has greatly contributed to the debate among historians about the nature and methods of historical studies by enriching historiography with the possibilities and implications of literary criticism for history.

As the most vociferous and articulate proponent of the theory on the rhetorical dimensions of historical writing (Kelley, 2003, p. 341), White explored "the relevance of literary theory for the writing and reading of historical narratives" (Cohen, 1999, p. 67). That is why he is considered to be a pioneer in initiating the linguistic turn in history, so to speak the turn toward "mediums and modes of representation" (O'Brien, 2004). Through an in-depth philosophical and theoretical critique of conventional historiography, White brought unexamined or taken for granted assumptions of traditional historiography to the forefront of historians to be discussed. The illustration of White's narrativist theory of history through his and other historians' works is considered next.

Trained as a medieval historian, White saw it necessary to have a strong command of literary studies and discourse analysis in order to "learn how to read works written by historians as historiography or writing" (White, personal e-mail communication, January 31, 2005). He resorts to literary criticism and cognitive relativism to address problems in historiography and emphasises the importance of the problem of language, of rhetoric, and of theoretical self-reflection in the writing of history (Lacapra, 1983; Thompson, 2000). He employs the narrativist-rhetorical conception of historiography and ascribes primacy to literary tropes and verbal structures in historical thinking (Zagorin, 1997). He attempts to "make interpretative and explanatory strategies – which remain implicit in traditional historiography practiced as a craft – explicit, self-conscious, and subject to criticism" (Lacapra, 1983, p. 75). Claiming that historians of professional training programs haven't yet theorised the historical method or the form of their own discourse, White (1995) urged historians to inquire into the nature and implications of interpretation in the reconstruction of the past. His basic purpose was to have historians reflect on the invidious distinction between those who engaged in historical research and writing and those who wrote about writing history. White's core argument started with his questioning of the traditional boundary between history and literature (Cohen, 1999). According to White (1987, p.27), traditional historians assumed that:

What distinguishes "historical" from "fictional" stories is first and foremost their content, rather than their form. The content of historical stories is real events rather than imaginary events. This implies that the form in which historical events present themselves to a prospective narrator is found rather than constructed....A true narrative is less a product of

the historian's poetic talents than it is a necessary result of a proper application of historical method...For the narrative historian, the historical method consists in investigating the documents in order to determine what is the true or most plausible story that can be told about the events of which they are evidence.

By questioning these assumptions, White counter-argued that historical narratives had much more in common with literary narratives than historians thought. Since "the historian is dealing with an object that is no longer perceivable" (personal e-mail communication, January 31, 2005), White saw historical text as a literary artifact (Jenkins, 1999, p.117) and accordingly argued that "historian's writing must be analysed first and foremost as a verbal artifact" (personal e-mail communication, January 31, 2005). He asserted that most historians fell short of analysing the discursive aspects of their writing due mostly to their rejection of the existence of such a dimension (White, 1995). He then drew attention to the constructed nature of historical narratives (Lacapra, 1983, p. 76), "the contents of which are as much invented as found and the forms of which have more in common with their counterparts in literature than they have with those in the sciences" (Cohen, 1999, p. 68).

White, therefore, expected the historian to recognise that historical facts were not so much found as constructed by the kinds of questions which the investigator asked of the phenomena before him (White, 1987, p. 26-57; Vann, 1995, p. 62-63). For this reason, he also suggested that historians to recognise that there was not a single correct view of any historical event or process under study, but there were many equally plausible versions or correct views, each requiring its own style of representation via narrative plot structures (Vann, 1995; Jenkins, 1999, p. 118). Accordingly, White urged historians to tell many different kinds of stories from various perspectives, with which many voices, emplotted diversely, without employing the "meta-story" to legitimatise their own discourse and downplay others' (Passmore, 2003, p.25). In brief, White stressed that historical writing was a form of narrative prose discourse (Cohen, 1999). In addition to the constructivist view of historiography, White was identified with a presentist approach as well. This was because, according to White, the only reason why we ought to study the past was to "transform historical studies in such a way as to allow the historian to participate positively in the liberation of the present from the burden of history" (as cited in Vann, 1995, p. 62).

White's critical engagement with historical theory culminated with his theory of a poetics of historiography based on Vico's ideas (Giovanni Battista Vico was considered to be the first philosopher of history by some historians). He (1973) elaborated on it in his book, *Metahistory: The Historical Imagination in Nineteenth-Century Europe*, where he dealt with the thinking styles of four historians and four philosophers of history. He identified four modes of a theory of tropes, four structures of emplotment, four argumentative models, and four ideological strategies. The theory of tropes -aiming to illuminate how historical texts are the way they are – constituted the gist of White's position on the debate on the nature and function of historical explanation (Jenkins, 1999, p. 120).

The theory of tropes was intended to uncover the deep structural forms of historical thought through the four literary figures metaphor, metonymy, synecdoche, and irony, each of which had its own unique way of organising parts into wholes (White saw irony as the trope of historical reality). Since the function of the four tropes was to describe the logically possible relationships between part and whole, tropology constituted the backbone of the study of narrative. Due to its ability to describe how discursive choices were pre-figured by one dominant trope, tropology served as a powerful tool for historians to be able to distinguish modes of thought (Zagorin, 1999). By employing tropes as tools of persuasion, the historian overcame the uncertainty involved in all interpretation that is fundamentally rhetorical (Zagorin, 1999).

Emplotment, which White defined as "encodation of the facts contained in a chronicle as components of specific kinds of plot structures", helped historians to make sense of historical events by enabling them to arrange selected facts and events into a particular narrative plot

structure, that is, a story (Cohen, 1999, p. 68). It was emplotment that produced an interpretation of the facts (White, 1997, p. 393). Roth stated that emplotment had a crucial role in endowing the past with meaning because it had none in itself (as cited in Jenkins, 1999). The historian needed to make use of a narrative plot structure “because the past is formless, or at least it does not have rhetorical forms that alone make it meaningful in communication” (as cited in Jenkins, 1999, p. 117). As White (1987) concisely expressed, “it is the choice of the story type and its imposition upon the events that endow them with meaning” (p. 44). According to White (1987), real events were not intrinsically tragic, comic, farcical, and so on, but could be constructed as such only by the historian’s imposition of the structure of a given story type on the events. Through different narrative accounts, the historian might present the same set of events in the form and meaning of either a tragic story or a farce with equal plausibility, without violating the factual record (White, 1997). The conflict between any given set of competing narratives did not result from the facts of the matter in question but from the different story-meanings with which the facts could be endowed by emplotment (White, 1997, p. 393).

White elaborated on the function of narrative history in terms of the implications of the nature of discourse in general. He (1987, p.40) pointed out that it was possible to transmit different types of messages with quite different aims in view (i.e., communicative, expressive, or conative) and every discourse was likely to have aspects of all these three functions. Most of the proponents of narrative approach who saw narrative as a legitimate mode of historical representation highlighted the communicative function. According to this view of history as communication:

A history is conceived to be a “message” about a “referent” (the past, historical events, and so on) the content of which is both information (the facts) and an “explanation” (the narrative account). Both the facts in their particularity and the narrative in its generality must meet a correspondence, as well as a coherence, criterion of truth value.... The narrative form of the discourse is only a medium for the message, having no more truth value or informational content than any other formal structure. (White, 1987, p. 40-41)

White (1987) continued to elucidate his own narrativist approach and suggested that instead of viewing every historical narrative as ‘mythic’ or ‘ideological’ in nature, historians saw it as “allegorical, that is, as saying one thing and meaning another” (p. 45). Since a narrative account was always a figurative account or an allegory, “a historical narrative can be said to be an allegorisation of the experience of “within-time-ness” the figurative meaning of which is the structure of temporality” (p. 53).

Where does the narrative history stand among other schools of historical thought? How do historians of different orientations view it? White addressed these questions. He succinctly summarised the discussion of narrative in historical theory by identifying four principal strains in these discussions.

First, certain analytical philosophers considered narrative as a kind of explanations especially appropriate to the explication of historical, as against natural, events and processes. Second, certain socially-scientifically oriented historians such as the French *Annales* regarded narrative historiography as nonscientific, even ideological representational strategy. Third, certain semiologically oriented literary theorists viewed it simply one discursive “code” among others, which might or might not be appropriate for the representation of reality. A fifth category would be the defenders of a craft notion [history as an art] of historical studies who view narrative as a perfectly respectable way of “doing” history. (White, 1987, p. 30-31)

What has been written in preceding paragraphs about White’s epistemological and theoretical thinking in conjunction with history may give an impression that White denied the knowability of the past. However, this is not the case (He is suspicious of the idea of historical truth, though). Even though many historians such as Marwick mistakenly associate White’s philosophical orientation with postmodernism, he is not a postmodernist theoretician either. He is identified with the structuralist mode of thinking as acknowledged by himself (Ankersmit, 1998). As

opposed to the postmodernists, he did not reject the assertion that history was capable of revealing the past facts (Cohen, 1999, p. 68; Jenkins, 1999, p. 116-119). Furthermore, emphasising that he had never denied the possibility of historical knowledge (White, 1985, p. 23), White stated that “competing narratives can be assessed, criticised, and ranked on the basis of their fidelity to the factual record, their comprehensiveness, and the coherence of whatever arguments they may contain” (White, 1997, p. 393).

Is the linguistic turn welcomed, widely celebrated, and practised by contemporary historians? Is White's narrativist theory of history accurately understood and interpreted? As is the case in other types of historiography, the linguistic turn or White's narrativist approach to history can not escape poignant criticisms and be misunderstood. Zagorin (1997) declared that most philosophically-inclined historians had either simply ignored or decidedly criticised it.

Just as they opposed Hempel's scientism as a damaging misconception of the character of historical knowledge, so they have likewise tended to reject White's linguistic turn and its rhetorical approach for its disregard and distortion of certain essential characteristics of historical inquiry and writing. (p. 263-264)

Even though White does not deny the knowable past, Zagorin unfairly and unwarrantedly criticised him for discarding the concept of a real and knowable past.

In response to Zagorin's criticism, White said that instead of basing his criticism on “original sources,” which was the act that a historian was supposed to do, Zagorin resorted to a secondary source “in a work that was also critical of his enemy, and then he uses that,” thereby betrayed his own principles in practice. That is, Zagorin violated the canons of historical research that he advocated. White gave a specific example to support his claim. “Zagorin repeats the canard about Derrida, who is supposed to have said, ‘There is nothing outside the text.’ But Derrida never said this...When he cites this statement, he quotes, not Derrida, but someone else.” White also contended that Zagorin did not recognise the point that “he is critical of professional historians on account of their lack of philosophical and ideological self-consciousness” (personal e-mail communication, January 31, 2005). Pointing out many historians' misinterpretation of rhetoric and ungrounded criticisms against his ideas, White continued to clarify his position:

Many historians, Zagorin included, think of rhetoric as simply persuasion. They do not understand that rhetoric is a theory of the public and more specifically the political use of language and/or speech. Therefore when someone says that the historical narrative is a rhetorical construction, many people are offended....Most historians simply ignore or reject on dogmatic grounds my arguments rather than answer them.

White was also accused of wiping out the boundary between fictional writings and historical narrative (Vann, 1998), and of developing an extremely constructionist narrative theory of history which underestimated the variety of histories and overestimated the role of narrative by identifying historiography entirely with the narrative mode (Zagorin, 1999). Referring to White's emphasis on the relativity of historical representation which stemmed from a so-called ‘part-whole’ view of the relationship between reason and fantasy as opposed to a view based on ‘binary opposition’ (Domanska, 1998), Chartier pointed out that the complex methods historians employed to investigate the past would be totally pointless if historical and fictional discourses were identical (as cited in Zagorin, 1999). Agreeing with Chartier's comment, White stated:

Yes. It might very well be pointless. But maybe it is pointless or a manifestation of a certain period of history itself. There was once a time when alchemy was regarded as a science, then it was discredited, and the alchemists (like the astrologers) had to pack up shop. There may come a time when the kind of historian that Zagorin is, one who goes over and over again the same documents and writes more and more stories about the same events, trying to get it right, will see that the solution to his problem is to change the way he does history. (personal e-mail communication, January 31, 2005)

Will there be an era in the future in which historians stop practising traditional historical methods that Ranke established in the nineteenth century? Will future historians embrace the discursive turn in its entirety which remains on the margin of contemporary historiography? Time will answer these questions. It will show whether White's prophecy will manifest itself in the future generations' historical writings.

CONCLUSION

The subject matters and methods of historical writing have expanded greatly since the inception of history as an academic discipline. Historiography has become more pluralistic today than it had ever been. The kind of history we have today is the one with "the multiplicity of versions competing for attention and emphasising alternatively elites or nonelites, men or women, whites or nonwhites" (Gilderhus, 1987, p. 125). Different conceptual frameworks used to explain the past "may contradict, compete with, or complement one another, but this means that students should be equipped to deal with such relationships" (Lee and Ashby, 2000, p.200). For this reason, history departments should emphasise training in historiography, by means of which students can stay away from accepting any historical claims at face value.

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