ANDRAGOGY: A FALL INTO A DITCH MAKES YOU WISER (CHINESE PROVERB)

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Andragogy: A Fall into a Ditch Makes You Wiser (Chinese proverb)

by Ann-Marie Parkes

A thesis presented on the introduction of Western-based instructional methodology to an Eastern-based tertiary institution in Hong Kong, (SAR), China. It commences with the development of appropriate problem-based learning scenarios whilst examining the importance of effective group compositions that are sympathetic to language and culture conducted within an action research framework.
ACKNOWLEDGEMENTS

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ABSTRACT

This thesis is the result of three studies that simultaneously focused on higher education instructional methodologies, group work processes and the professional practice of the author. The initial area of investigation is a study on the development and implementation of problem-based learning (PBL) scenarios on behalf of two postgraduate programmes at the Faculties of Architecture, and Business and Economics at The University of Hong Kong (HKU) and students' reactions to this approach. The second exploration is an extension of the first with an examination of the impact of ineffective teams on group work and its capability to thwart the constructionist approach of PBL. Students’ behaviours in these situations are examined and conclusions drawn on the impact that context has on collaborative learning. The third is a discussion of the application of an action research (AR) project that was used as the framework in the two studies to identify possible problems, underlying causes, assess the value of interventions and reflect on the writer’s professional practice and development as a researcher. All three studies were conducted in a non-western tertiary context in Hong Kong (SAR), China.

Insights gained from the first two studies in the theoretical sense are significant as they provide approaches to frame future academic practice utilising enquiry-based and collaborative learning to foresee and act in response to Hong Kong students' cultural frameworks. The third study presents the findings of investigating the phenomena of applying an equitable methodology within a culture that stresses piety and harmony, whilst reflecting on the professional practice of the writer within the AR context. The contribution that this thesis makes to teaching and learning in higher education environments is that it recognises Chinese social and cultural norms still have an impact on academic programmes and as such, local institutions should consider developing culturally appropriate, holistic approaches when adopting andragogic learning theories and instructional methodologies from western tertiary environments.
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<td>Group Process and Reasoning Instrument</td>
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<td>ibid</td>
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<td>University of Hong Kong</td>
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<td>MBA</td>
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<td>MIDM</td>
<td>Master of Interdisciplinary Management degree</td>
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<td>PBL</td>
<td>problem-based learning</td>
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<td>SPI</td>
<td>Self-Perception Inventory</td>
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<td>TDG</td>
<td>teaching and development grant</td>
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Certificate of Authorship

By Ann-Marie Parke,

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person nor material which to a substantial extent has been accepted for the award of any other degree or diploma at Charles Sturt University or any other educational institution, except where due acknowledgment is made in the thesis [or dissertation, as appropriate]. Any contribution made to the research by colleagues with whom I have worked at Charles Sturt University or elsewhere during my candidature is fully acknowledged.

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Signature

30 October, 2011
Date

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SECTION ONE

Chapter 1

Introduction

This thesis concerns itself with the implementation of ‘western-based’ instructional methodologies particularly problem-based learning (PBL) with Hong Kongese\(^1\) post-graduate students. It rests on the assumption that as an enquiry-based constructionist approach, PBL offers students a mnemonic for the reconstruction rather than just transmission of knowledge. However, caution should be exercised and consideration given to the cultural context of student cohorts as strong degree of influence on the success of this strategy when applied outside of its original framework.

The Master of Business Administration (MBA) and Master of Interdisciplinary Design Management (MIDM) programmes at The University of Hong Kong (HKU) China undertook a two-year internal Teaching and Development Grant (TDG) to:

- design pedagogy for these post-graduate professional programs that was derived from teaching tools now being used in two case-based tertiary post-graduate programs – each with distinct characteristics – currently operated by the two investigating Faculties (Architecture and Business and Economics);

\(^1\) The term ‘Hong Kongese’ is used throughout to denote Chinese students that live or work in Hong Kong but may have been born or educated in other parts of China.
• develop new problem/case based structures that invites a cross-fertilised testing ground for post-graduate professional learning, and is capable of being adapted to other programs and
• devise a unique study model for professional students from the business and property development sector, combining benefits from both learning realms, with a view towards smoothing a shared curriculum pathway (MIDM, 2006:2).

The MBA students were in the organizational tier of business management with the general objective after course completion to escalate to strategic management level. This program covered eighteen subjects in fourteen months (if undertaken on a fulltime basis) with forty hours per subject and as many as twelve subjects. Each topic was conducted over a thirteen week period with these subjects concentrating on breadth of knowledge. Alternatively, the MIDM student cohort was comprised of architects, developers, engineers, interior designers and project managers. The typical positioning of these students in an organisation was that of middle or senior consultants in their area of expertise. The MIDM programme was also conducted over a two year period but on a part-time only basis with a total of nine subjects. Each subject comprised of a forty hour workshop delivered over a four-day period. The method of delivery for the workshops supported the programme’s explicit core aims of teamwork with a concentration on depth of knowledge.

Both programmes recognised that adult learning theories and models needed to be considered as core teaching and learning methodologies in the TDG with these mature-aged qualified professional and their many years of practice experience. As such, PBL was proposed by the principle investigators in their TDG funding application as the method of instruction that had the capacity to enhance students’ problem-solving abilities in and outside of the teaching environment thus supporting the aims of the project. Problem-based learning reflects the principles of andragogy proposed by Knowles (1975) in that it embraces the teaching and learning theories that the adult learner:
• needs to be involved in the planning and evaluation of their instruction;
• has experiences (including opportunities to make mistakes) providing the basis for learning activities (hence the title of this dissertation);
• is most interested in mastering subjects that have an immediate relevance to their job or personal life and
• need problem-centred rather than content-oriented studies.

This transformational methodology supports the values of reflective, self-directed learning with its application extending beyond the classroom and into professional practice.

Drawing on Knowles’ (1970, 1975, 1984 & 2005) andragogic assumptions that adult learners are self-directed and expected to take responsibility for decisions, the author (fulfilling the role of a researcher and facilitator at HKU) embarked upon designing and implementing a curriculum set of cross-fertilised PBL cases for this TDG. Working with the Faculties to gain a greater understanding of these syllabi the researcher sat-in on many of the sessions of both programmes. It was during these preliminary stages that a re-occurring phenomenon was noted. It was observed that there was a general reluctance among many of the MIDM students to fully engage in group work activities. The delivery of their workshops concentrated on andragogic group work activities rather than the MBA teacher-led pedagogic sessions. The effectiveness of group work in this teaching and learning situation is pivotal to the PBL philosophy in that it is through the exploration of problem-based scenarios with all team members equally contributing to and taking responsibility for tasks that the formulation of solutions are discovered. These observations were the catalyst for change.

The experiential process of PBL draws on the andragogic and constructivist practices that support the collaborative construction of knowledge through social negotiation (Johansson, 1994 in Murphy, 1997). Therefore, if the observations that concluded that this collaborative process was weak it stands to reason that further investigation was warranted to establish the extent of influence it had to impact upon the success of the proposed PBL activities, identifying what the major obstacles preventing participation were and
ultimately formulate and test a set of appropriate interventions to meet the scenario, subject and TDG outcomes. Exploring the noted phenomena of the limited collaboration that was occurring with this cohort was not part of the TDG outcomes. It was however recognised by the author as an opportunity that could be linked to her Doctoral studies in higher education (with the permission of HKU and the TDG stakeholders), whilst serving the purpose of providing an additional research element to the grant without distracting from the task at hand.

The author re-located to Hong Kong from Australia for the duration of the TDG deeming this as an opportunity to develop international higher education experiences, become immersed in a culture that I found fascinating and mature as a researcher. The process of reflecting upon my professional practice that evolved throughout the TDG timeframe although not part of the brief provided an opportunity to really question my theoretical, historical and cultural positions. For this process action research was the methodology selected as it not only epitomised the MIDM programmes core values of reflective practice but also supported my role as a researcher in the field. Three steps were undertaken in this course of action to:

- **develop a plan** of critically informed action to improve practice (with the flexibility to allow adaptation for unforeseen effects or constraints),
- **act** on implemented plans in a deliberate and controlled manner,
- **observe** these actions to collect evidence allowing the evaluation of these interventions and
- **reflect** upon these observations to provide a basis for further planning of critically informed action (Kemmis & McTaggart, 1988; Züber-Skerritt, 1992).

This thesis therefore discusses the process of developing, implementing and assessing appropriate PBL learning scenarios for this Hong Kongese cohort whilst examining the development of effective group work strategies to support this collaborative learning process within an action research framework to support the growth of the author as a professional researcher.
Overall Research Aim

If post-graduate programmes in Hong Kong are preparing to utilize PBL as an instructional methodology, then students’ culture, language and learning readiness must be considered as major influence on the teaching and learning effectiveness of this strategy.

Research Questions

Based on the observed behaviour of the majority of MIDM students’ reluctance to participate in group work situations and PBLs reliance on this as an integral component of the learning process, the following questions were formulated:

1. Are there spheres of influence for the efficacy of PBL when applied in a Hong Kongese post-graduate context?
2. If so, what are they, what is their degree of influence and how can facilitators address these obstacles?

Study One

One of the aims of the first study was to develop and implement PBL activities on behalf of the TDG instigated by the Faculties of Business and Economics and Architecture for the MBA and MIDM programmes at The University of Hong Kong. These activities were to be designed to develop and support the skills and attributes listed below:

- provide evidence of advanced knowledge about a specialised body of theoretical and applied topics, particularly interdisciplinary group work;
- demonstrate a high order in analysis, critical evaluation and or professional application through the planning and execution of project work or a piece of scholarship or research and
- display creativity and flexibility in the application of interdisciplinary group work knowledge and skills to new situations, to solve complex problems, and to think rigorously and independently (MIDM, 2006:2).

Problem-based learning scenarios do not focus solely on content but concentrate on creating authentic problem situations that students solve through group work processes.
Whilst designing these scenarios the researcher aimed to replicate students’ professional practices and the complex issues that surround them. Problem-based learning is used globally as a method of instruction for medical education as it simulates prospective cases students may face when practicing as physicians (Barrows, 1985; Williams, 1993). An example of PBLs customary use and application at The University of Hong Kong is in the Medical Faculty where it is applied as the method of instruction for seventy per cent of its first year classes, culminating in a hundred per cent in the third and subsequent years. Other cohorts employing PBL (but not to the extent of Medicine) are the Faculties of Education and Social Sciences. To date this instructional methodology had not been intentionally utilised by either the Faculty of Business and Economics or Architecture in their under or postgraduate programmes.

The cohort of MIDM students are all in architectural or construction-based practices in Hong Kong (SAR), Macau (SAR) or mainland China and therefore, the scenarios needed to reflect the ‘typical’ professional practice issues they faced. Throughout the two year course students were expected to participate in group learning activities over the four day block of workshops. So from the beginning of this programme active collaborative learning was an integral element. As the students were working professionals in environments where work teams are a mandatory component of their project-based employment, it was the deliberate replication in the classroom and its connection (schema) to their professional practice that encouraged students to embrace this style of instruction.

In PBL as a rule, students cover as much or less actual content than would be the case in a traditional didactic education model. However, the skills they develop from the PBL experience and the increased level of knowledge retention more than make up for the possibility of covering less content matter. For this study it was acknowledged that some basic content knowledge, learning outcomes and enquiry-based process understanding was required before students could successfully embark on their PBL journey. As such, students were introduced to this mode of learning gradually to ensure all pre-requisites were successfully undertaken. What was not accounted for was the students’ reluctance to accept PBL as a ‘valid’ form of learning. Within their professional practices students had
to collaborate extensively on building projects sharing and contributing their areas of expertise. However, when this was translated to a scholarly context many expressed their concern that the focus on group work did not equip them with the knowledge required to complete the assessment tasks as they were not getting the information they thought they needed from the facilitators. The first of the PBL scenarios was piloted by default during a four day workshop held in Beijing that focused on experiencing the uniqueness of working within the constraints of this foreign business and educational situation. Students were given a brief overview of the PBL process, its aims and objectives and allocated time which was limited due to other scheduled activities. Student feedback concerning this strategy reflected an almost unanimous initial scepticism about its effectiveness as a teaching and learning tool rather than the situation, process or timeframe of its delivery. Therefore, this first study aimed to establish the validity of PBL as an appropriate methodology for this cohort and determine whether the students’ readiness to accept this style of teaching and learning either impeded or supported this andragogic philosophy.

**Study Two**

Much has been written about the importance of successful groups and the need to balance personalities, empathies, and understandings. To a lesser extent, the reality of selecting group members based on professional standing or available numbers (such as in educational settings) has also been investigated. This study however explored the selection (explicit or implicit) of group members by the MIDM cohort and the issues that resulted from their self-regulation. This mode of group member selection was seen to support the andragogic practices underpinning all of programme’s philosophies but during the attendance at the workshops for the purpose of introducing PBL the researcher noted students undertaking project-based group exercises were exclusively clustered into their companies, professions, cohort years or to a lesser extent their nationalities. Very little mixing of groups or changes to their compositions took place during the six months of the observations.

It was throughout the observational phase that one significant characteristic began to emerge. The more senior members of the groups either by ‘rank’ or age appeared
to be dominating the majority of discussions and consequently minimised group consensus and individual input. Some students were informally and discretely questioned by me as to their reluctance to contribute but when no response was elicited and their facial expressions and body language clearly demonstrated that they did not wish to engage in any further discussion, I did not pursue the enquiries. During my questioning they individually glanced at the most senior member of the group whom when I finished, solicited my queries. He also declined to comment, just smiled and avoided returning eye contact with the others. It was clear that my behaviour (whether asking an improper question, talking out of turn or to the wrong person about the unsuitable topic) had been indirectly culturally insensitive. The Chinese call this lack of any verbal communication as a response to posed questions that they deem as inappropriate in professional environments ‘dead air’ (Flowerdew, 1998:323). This ‘dead air’ and the observed behaviour, particularly in group work situations seemed to support the notion that Chinese cultural and psychological factors derived from Confucian philosophy were still evident in the majority of students’ behaviours. Nelson (1995 in Flowerdew, 1998:323) remarked that the three main principles of Confucianism, namely humanism, faithfulness and propriety:

are operationalized in the learning-style dimension of Chinese learners.

Humanism and faithfulness, which emphasize empathy and social relationships, underpin the co-operative nature of individuals. Propriety, which concerns the outwards expression of humanism and faithfulness through proper social behaviour, embodies the concepts of ‘face’ and self-effacement.

It was considered by the researcher that these strong values had the potential to impact upon the success of any teaching and learning exercise in a Hong Kong context that relied heavily on group participation and consensus such as recommended in the TDG. When this was discussed with the programme coordinators they felt that the subject outcomes were being met and that the group work practices were functioning appropriately. When attention was drawn to the observed behaviours it was agreed that not all students had been as actively involved as previously perceived. An exploration was then conducted to
establish whether cultural and as yet not identified other factors were impacting on existing participation rates, and whether an intervention was needed to rebalance this disparity. Subsequently, the first stage of study two was to implement a modified version of the Group Process and Reasoning Instrument (GPRI) (Rolfe, Murphy and McPherson, 1994) to establish a baseline of the functional/dynamic and organisational/maintenance aspects of the group processes and to confirm whether these observations were valid. Once completed and analysed and with all due respect to the students culture, it was decided to manipulate group members with a view to realigning inclusion rates and replicate work-based team compositions. Although the more senior members are considered the wiser, final decision makers in the workplace by allocating specific roles to all members each student could now contribute in some way to the discussion and formulation of solutions. Moreover, it came to the attention of the researcher that the majority of students had completed a Belbin Team Role Self-Perception Inventory (SPI) as part of a previous workshop. As with all questionnaires/surveys it only gives a snapshot of interpretations of behaviour but the researcher felt that it may prove to be a useful tool to assist in defining a more balanced group member mix. In addition to the results of the Inventory, group members were further characterised by creating a more even distribution of companies, professions and cohort years. Group members were allocated roles such as scribe and facilitator where as previously this appeared to either not be addressed or organised in an ad hoc way. This was executed with a view that a greater member mix balance and the allocation of roles offered an opportunity for all students to be actively involved. The language of instruction at The University of Hong Kong is English but for group work many students spoke their mother tongue of Cantonese. Only one group ever spoke English and this was because a member was an English-only speaker. This also proved problematic for facilitators as the majority of them only spoke English and as such interacting or interjecting during group work was prohibitive. In 2006 there was an intake of new students increasing the number of non-Cantonese speakers. After redefining the groups using the above criteria, English now became the prevailing language of group activities with ‘language fluency’ included in the group mix selection criteria to ensure that there was at least one non-Cantonese speaker per team. The aim of this study was to
consider the influences on group work participation, identify non-vocalised concerns; establishing student satisfaction levels with pre and post intervention group work practices and determining what role faculty can play to ensure the effective utilisation of enquiry-based learning activities within this context.

**Study Three**

The following observations/questions were noted whilst undertaking studies one and two:

- Students were not spontaneously engaging in group activities.
- What was preventing or inhibiting their participation inclusion?
- What culturally appropriate interventions could successfully address these?

This observation and questions were interrelated, and as such needed to be addressed individually and as part of the whole learning experience. The areas of concern began to emerge over a period of six months whilst the selection of subjects for inclusion in the to-be-developed cross-faculty courses was being investigated. I was required to assess all nominated subjects on the MBA and MIDM programmes as per the TDG requirements and it was the observed MIDM students’ behaviour in group work situations that I recognised as having the ability to impact on the success of any new initiative that relied heavily on group interaction and consensus. Addressing non-participation rates and attitudes towards working in teams in academic environments was not part of the original TDG aims but as the grant’s researcher I felt that these needed to be explored further as their scope of negative influence and ensuing interventions could prove to be the TDG’s catalyst for success. Additionally, I believe strongly in ensuring students’ needs, attitudes and cultural frameworks be considered in any educational context. This third study provided an opportunity for my professional practice and underlying theory and practice frameworks to be examined and as such, an action research approach was applied to the third study to plan, implement, review and evaluate intervention to improve group work practices and address culturally significant problems that could impact upon the TDG outcomes. This research study delved into the ‘process of collaborative action learning and AR in an organization with the aims of solving complex problems and achieving change and improved performance at the individual, team and organizational levels’ (Züber-
Skerritt & Perry, 2002). Based on Kemmis’ (1988) interpretation of Lewin’s (1952) cycle of plan, act and evaluate, three action steps were conducted to systematically and collaboratively test and refine inventions. Through a process of continuous self-reflection I was able to consolidate and reframe existing knowledge and gain insights into my professional values and practice. There is a distinction in this enquiry from the TDG’s core projects ‘thematic concerns’ (Kemmis & McTaggart, 1988 in CSU, 2006:7) which was the development of cross-faculty PBL scenarios in study one and the acknowledgment of the cultural influences on Chinese learners participation rates in collaborative learning situations in study two. This enquiry reviewed and reflected on my scope of influence in this process with the understanding gained in each of the steps being transferred and included in the planning stages of subsequent steps. Together with the collaboration and participation of all stakeholders, teaching staff would gain insights into how cultural influences could impact upon instructional strategies and students would benefit from the cyclic nature of this procedure as their cooperation and continued feedback provided valuable data to formulate a number of practical adjustments to group compositions. This further aligned the programme and TDG outcomes, students programme expectations and increased satisfaction levels of the experience. For the researcher the third study is a culmination of the integration of theory and professional practice within specialised research and development providing valuable awareness of my values and teaching and learning philosophy.

**Significance of the Research**

The studies not only contribute to the exploration of ‘cross-disciplinary and cross-professional inquiry into the nature of the researcher’s professional practice in a non-western/English speaking context but offer an understanding of ‘circumstances under which professional practice can be transformed’ (Green, Kemmis, Coombe, Unsworth, Paltridge & Simpson, 2003:2).

The first study presents the findings of examining the appropriateness of introducing western-style andragogic practices (PBL) into a Chinese tertiary environment without the
consideration of culture, language or learning styles. Problem-based learning had not been previously used as a method of instruction in the Faculty of Architecture and as such the implementation process and outcomes invited further exploration. Additionally, limited research had been conducted on identifying the need for learning organisations in China particularly Hong Kong, to consider the context in which Western based practices are sometimes utilised. Although the study was based Hong Kong, the findings have significance for tertiary organisations that are expanding with campuses in non-English speaking/non-Western environments. Issues identified by the researcher during the course of this study were used as the focus in the cycles of reflection in the AR investigation in study three. Additional areas of focus were taken from the observations of the students in groups/teams when selecting appropriate subjects for cross-faculty use for the TDG. An investigation into this phenomena and subsequent interventions was the basis for study two.

Study two was a direct result of observing limited student interactions in study one. This lack of contribution was further explored through the use of a modified version of the Group Process and Reasoning Instrument (GPRI) (Rolfe, Murphy & McPherson, 1994). Outcomes of the resulting data and recorded observations confirmed the previously observed behaviours of domination by a few and prompted an investigation as to whether these were culturally embedded norms as suspected or something else. These cultural norms were further explored and interventions identified. Further instruments were used (Belbin Personality Test), archival records and a complete profile breakdown of the student cohort to propose new group sets and allocate specific roles to participants. The significance of this study is to highlight the need for facilitators to be responsive to possible cultural barriers to learning that often arises in adult learning environments when implementing teaching and learning in a non-western context even when English is the language of instruction.

Study three is an AR examination of the researcher’s practice whilst exploring the personal and professional influences that produced interventions with a view to affecting positive
educational change. By isolating areas for improvement within the course, I was able to conduct an inquiry that directly impacted on my existing knowledge base through reconnaissance, reflecting on action taken and organising a detailed analysis that informed subsequent interventions. In this study the focus was reflecting on the transformations that occurred through interventions including facilitation methods, implementation of pre-determined groups with specific roles, considerations of cultural and language barriers, the development of PBL andragogic practices and finally, the development of the researcher as a researching professional. The steps and the geographical locations of these studies afforded a unique opportunity to explore aspects of my craft that previously were limited due to the nature of my teaching load or the requirements of employers.

To date limited studies have been conducted to link the development of teaching and learning practices and Hong Kongese student readiness for specific, transformational instructional methodologies such as PBL specifically in post-graduate construction and business programmes in Hong Kong. At the institutional level this thesis leads to the consideration of further questions about setting with ‘Chinese students up for failure because we do not make sufficiently explicit the dominant cultural epistemology underlying curriculum design, and focus instead on the tangible aspects of learning procedures’ (Turner, 2006:47). Per se, the significance of these three studies is their contribution to the knowledge and practice of professionals employed in contexts that are not of their traditional cultural and/or linguistic backgrounds.

**Structure of the Thesis**

This thesis has been divided into four sections. The first contains the pre-data sections containing an introductory chapter that outlines the postgraduate, Hong Kongese context of the thesis and rationale for undertaking the three studies. Chapter two discusses investigating professional practice which is core to becoming a reflective practitioner. The inclusion of this dialogue is to draw on the opportunities afforded by conducting workplace research and the author’s development as a researcher. Concurrently by contextualising these, the application of action research is further justified.
The second section comprises of two chapters that assemble the methodological and theoretical approaches used to support this work. The literature review focuses on andragogy, teaching and learning in higher education, Chinese learners in Hong Kong, PBL, investigating professional practice and the application of AR. The data collection chapter aims to outline the methods and instruments used to amass and analyse evidence supporting the formed claims.

The next section is the evidentiary chapters for the three studies focusing not only on differing intellectual traditions (design and construction vs. education), but the geographical, linguistic and cultural constraints faced when the author was employed by HKU for the TDG. The studies explore professional practice and professional knowledge by ‘interrogating our ‘vernacular’ knowledge...in a dialogue with the ‘codified’ knowledge of practice outlined in a particular kind of theorising’ (CSU, 2006:3) The third study intended to provide a critical investigation analysis of my own practice and how it linked to that of others. As Kemmis (2003:1) states:

\[\text{despite its ubiquity and familiarity, what the term ‘practice’ means is by no means self-explanatory. In theory and research, it turns out to mean very different things to different people. Perhaps one reason for this is that researchers into practice from different intellectual traditions tend to focus on different aspect of practice when they investigate it.}\]

The final section draws together the emergent themes of the studies and how they contributed to a knowledge base of adapting western-style instructional methodologies to meet the perceived needs of Hong Kongese students. It also highlights the dialectical relationship that developed as a result of acting upon this knowledge through reflective practices and the growth of the writer as a researcher. Additionally, it contains the supporting evidence referred to in the text.
Chapter 2

Conceptualisations of Professional Practice

This chapter discusses the relevance of undertaking research into professional practice, its impact upon specialist and organisational learning and how this was achieved through my candidacy in a Doctor of Education programme. As a professional doctoral student I was required to produce an original contribution to my vocation that was going to impact upon the profession, or that re-directs or adds in a significant manner to the direction that researchers frame their questions for that field. Like myself the majority of educators are themselves engaged in research and hence good practitioner research should be judged on the production of conclusions or approaches drawn from research that has engaged practitioners and contributes to both the profession and practice. Many universities documented goal is to produce results of relevance to society through excellence. This is true of my experience at HKU where I was employed on a TDG and undertaking doctoral studies into my profession practice at Charles Sturt University where the knowledge gained through ‘upstream research, which is curiosity-driven, experimental, or theoretical work aimed at advancing the frontiers of human knowledge, without any practical usage in sight has extended to midstream and downstream research for further technological development and commercialization purposes’ (HKU, 2005: n.p). These changing relationships have the power to influence the more traditional forms of research enquiry (the TDG) with a newer mode of practice enquiry by way of the professional doctorate. With the combination of employment requirements and academic ones, the traditional dichotomies between basic and applied research or theory and practice are no longer adequate. With universities existing in a social context of knowledge application, it is pertinent to question not only whether research accumulates disciplinary-based knowledge, but also whether it is useful for society and professions (Tynjala, Valimma & Sarja, 2003). The need for the professional practice researcher to have mastered the ‘know that’ and their professional craft knowledge enables them to concentrate on the issues being explored and to be able to rapidly focus and appreciate other influences that may have
some bearing on these studies. Therefore, this section will discuss the relevance of the Doctoral programme undertaken, how its requirements contributed to the author’s professional development and subsequently fulfilled the institutions TDG practical requirements.

**Doctor of Education Programme**

In contrast to the PhD and Mode 1 knowledge production which mainly contributes to scholarship through an ideology or theory, the newer professional doctorate aims to make a contribution to practice, and practice knowledge targeting senior and mid-career professionals (Green, Maxwell & Shanahan, 2001; Boud, 2001). Whilst still striving to maintain and enhance excellent basic research results and reputations many universities are committing to broadening the scope of their research to include the increasingly accepted practice of applied research and developmental work inclusive of society. As Gibbons, Limoges, Nowotny, Schwartzmann, Scott and Trow (1994) and Boud (2001) have suggested, there are considerations that this new category of knowledge production is set in the context of application where the nature of research may be changing into transdisciplinary problem solving that aims at more ‘practical’ outcomes. The identification of these new kinds of knowledge production has been described as Mode 2. One of the major features of Mode 2 is that knowledge is produced in use because of ongoing negotiations between the stakeholders involved in that process. As the focus of this research is work based the professional doctorate candidate now becomes the insider-researcher (Green, Maxwell & Shanahan, 2001) with the research activity linked to their specialised function and responsibility. Communities of practice now have a stake in the results as they are based on actual workplace projects such as the three studies undertaken in this thesis.

The new professional doctorate involves practitioners like myself who in addition to a dedication to learning, knowledge and the spread of knowledge are directly involved in practice. Green, Maxwell and Shanahan (2001) suggest that the outcome of Doctoral education on professional practice is a tacit recognition of ‘new’ professions and forms of profession knowledge and practice as opposed to ‘world-wide’ dissatisfaction with the
[lack] of real world skills of traditional PhD graduates. Irrespective of the thematic allegiance of the researcher, professional doctorates have contributed to the emergence of new forms of education and advanced levels of training and research studies for professionals in practice. Areas of practice investigation include law, health, engineering, education, psychology and business administration. As an example, Charles Sturt University in Australia currently offers fifteen Doctoral or professional doctorates and five Doctor of Philosophy with various cohorts, whilst The University of Hong Kong offers nine professional doctorates and one Doctor of Philosophy programme. This newer form of professional doctorate research has ‘challenged existing forms [of doctoral research] both in their epistemology and their methods – [candidates] tend to be situated at the nexus of their profession in the workplace and the university (Lee, Green & Brennan, 2000 in Green, Maxwell & Shanahan, 2001:4). Practitioners such as myself are being encouraged to be the ‘masters of their own practice destiny’ (ibid) in a contemporary form of higher research degree.

**Becoming a Professional Researcher**

Due to the nature of the application of Mode 2 knowledge, it additionally takes into account the candidate’s context, professional relationships and support mechanisms that frame their work (Green, Maxwell & Shanahan, 2006). As practice research for the purposes of the professional doctorate is essentially interpretive, there is a focus on qualitative information where participants are observed (and often include the researcher) in the social world of practice. Professional practice requires that practitioners make frequent and rapid judgments in the context of intense human interactions; these judgments themselves quickly become part of the problem rather apart from it with the solution itself overwhelming the task (Schrantz & Walker, 1995). Researchers of their practice are able to recognize these situations and subsequent actions that are based on their own craft knowledge whilst working with human subjects, being able to compensate for unpredictability without lengthy delays whilst undertaking investigations to understand them. The methods employed to collect and analyse data may not neatly fit into the qualitative or quantitative realm and may prove to be a further challenge to the
professional practice researcher. In the case of these studies the researcher made use of current data collection methods via student feedback ratings as well as employing qualitative methods to extract opinions and comments. Kemmis and Wilkinson (1998) suggest that rather than the researcher focusing on the methodology, that they decide what constitutes theory and practice in their profession. It is only then that the nature of the most relevant data or evidence collection for describing practice is obtained with the types of analysis most relevant for interpreting and evaluating within the workplace being decided. Once the researcher has understood the significance of understanding practice in the profession, it then is possible to conclude what evidence, methods and techniques are the most suitable for ‘advancing our understanding of practice at any particular time’ (Kemmis & Wilkinson, 1998:25).

My next challenge was to decide where to position myself in the approach based upon the criteria of the TDG, doctoral research requirements and genre and context of the students. There are many definitions of what constitutes good professional practice research with Yates (2004:287) proposing that there are ‘arenas’ attached to educational research. These arenas are where judgments about what makes good educational research are being decided with the existing textual agendas shaping them as well as the issues not represented textually determining who gets to make these judgments and how. An issue for practice researchers is not to fall into methodological fetishism where research can if we are not careful ‘lead us to see better and better, fewer and fewer things’ (Bourdieu et al, 1973:88; Schutz, 1970:315 in Wacquant, 1992:7). The need to define the research’s legitimacy or identify the type of contribution is often dependent upon where one stands in the stakeholder line.

Historically, research stakeholders have both overt and covert political agendas that influence their judgment about the level of contribution to be made by professional practice researchers. With these motivating factors driving future investment in this mode of research, there needs to be an acknowledgement that there are also many constraints including the acceptance of findings by practitioners within this professional context that
may not align with the original aims and focus of the TDG. Conversely, there is the thought-provoking issue of academic cultural change with regard to the acceptance of professional practice research findings and their ability to be utilised for the enhancement of teaching and learning of the profession such as in the AR step findings. The cycle of profession, practice, and professional research to enhance vocation should be viewed by all stakeholders as having the ability to ensure a greater relevance of knowing and its transference to the ‘knowing how’.

Ultimately, the TDG stakeholders wanted their expectations exceeded with results that could produce high standards and generate greater income in the long term. They wanted outcomes that had the ability to produce satisfactory academic and professional performance. And as the field of professional practice research leaves itself wide open for criticism from all angles, researchers must themselves be the consummate professional in all aspects of their practice to contribute to whatever measurable outcomes have lead the research and in this case the TDG. This continued commitment to teaching, learning and the understanding of one’s practice and profession paves the way for future learned individuals to achieve the approval of their peers – both academically and professionally (although not mutually exclusive) by means of demonstrating that relevant contributions can be made to the cross-fertilisation of learning and knowledge in their fields of professional practice.

**Participatory and Practical**

If the aim of professional practice researchers is to undertake research in order to investigate reality and make a contribution to knowledge with the objective of a change in practice; the notion of using participatory AR should be explored. The motivation for applying this methodology is that it concerns actual and not abstract educational practices. The focus on actual practice is a valuable aspect of AR as it is the learning process of the practitioner that contributes to the complex activity of praxis, where through the creation of culture and society the individual becomes critically conscious. Praxis comprises a cycle of action-reflection-action which is central to emancipatory education. Characteristics of
praxis include self-determination, intentionality, creativity, and rationality (Zeichner, 2001; Mason, 2002; Kemmis & Wilkinson, 1998). Kemmis and Wilkinson (1998:23) suggest that there are five different aspect of practice emphasised in different investigations. These include the:

1. *Individual performances*, events and effect, which constitute practice as it appears from an outsider observer.
2. Wider *social and material conditions and interactions*, which constitute practice as it is viewed from the objective, external observer.
3. *Intentions, meanings and values*, which constitute practice as it is viewed from the ‘subjective’, internal practitioners themselves.
4. *Language, discourses and traditions* that constitute practice as it is viewed by communities of practitioners when they represent their practices to themselves and others.
5. *Change and evolution* of practice. This takes into account all four of the previous aspect of practice when it is understood as reflexively restructured and transformed over time. This is the historical dimension.

These views of practice distinguish themselves by engaging in making action and history. This is because the learning is derived from action and history as well as somewhat within the research process rather than being viewed and analysed from an ‘outside looking in’ position of the traditional research situation.

It is because of the professional preparation in educational institutions that practitioners are able to ‘know’ what decisions or actions are required in certain situations. But it is the knowledge that supports these actions that are difficult to explain, and yet are the most important as they direct action. It is this action or sense of conscious awareness that influence the extent of the learning (Schön, 1983; Eraut, 1985; Boreham, 1992; Cervero, 1992; Watkins & Marsick, 1992 in Higgs, Titchen & Neville, 2001). Titchen (2000 in ibid: 134) suggests that there are three modes where this process of knowledge is acquired, and she is supported by Eraut (1994 in ibid) in that it is not possible to separate the acquisition of learning professional craft knowledge from its creation at institutions and
use in practice. She suggests that theoretical principles are utilised in practice enabling the practitioner to gain even further insight into their application. Secondly, she suggests that by being a participant in the process of practice, practitioners add to their knowledge base. This immersion into practice allows the practitioner to be presented with challenges where they must apply theory and evidence-based solutions. Finally, another method of gaining knowledge is through a combination of the first two modes and hence ‘experiential facilitation strategy of ‘critical companionship’ as well as through experience’ (ibid). Ideally then Schön’s (1997:306) concept of Dual Orientation of the Professional School as illustrated could be adapted as per the below figure to include contributions back into universities, schools and practice. This should occur once the acquisition of implicit knowledge has been learnt, applied and understood.

![Diagram of University, School, and Practice](image)

*Figure 1. Adapted from Schön's Dual Orientation of the Professional School (1997:306).*

If the professional practice researcher approaches their research from this viewpoint then they are more likely to adopt methodologies that are reflective such as: critical social science (Carr and Kemmis, 1986; Fay, 1987), collaborative action research (Kemmis & McTaggart, 1988; Wilkinson, 1996), and/or memory work (Haug, 1987 in Kemmis & Wilkinson, 1998). If this cycle of acquisition uses specialised undertakings such as in professional doctorates utilised reflection-in-action theory, then the contribution to knowledge would be absolute.
The next section comprises of two chapters beginning with a discussion of the literature pertaining to andragogic teaching and learning in Hong Kong, investigating practical practice and the AR methodology that framed these three studies. Chapter four outlines the methods employed in the studies to collect evidence, a discussion of the chosen tools and ethical considerations.
SECTION TWO

Chapter 3

Literature Review

This section turns to the literature relating to andragogy, higher education, Chinese learners in Hong Kong, PBL, and professional practice. It begins by reviewing andragogy, its practices and influences in the sphere of adult education. It then argues that when andragogic practices are introduced into a non-medical, post-graduate curriculum through problem-oriented group work processes using PBL, then students’ levels of readiness for collaborative, self-directed learning, attitudes and motivation must be considered in the delivery of content. Once accounted for then a greater predilection for reflection and lifelong learning can be achieved. The review then proceeds to examine teaching and learning in higher education with an emphasis on self-directed learning practices and students’ interpretations of what constitutes a satisfactory teaching and learning experience. A scrutiny of the literature relating to students studying at Hong Kong universities, and their adoption of andragogic practices into their instructional methodology from a more ‘traditional’ Confucian curriculum is then undertaken. Approaches to PBL are then discussed within the context of whether this student cohort has the pedagogic and cultural background to support this approach. Investigating professional practice is then explored in the context of myself as a researcher and facilitator in a higher education setting with a focus on the examination of my theory and practice mutually informing the other. Additionally, this review highlights the cultural variations and attitudes towards studying as well as teaching and learning practices at postgraduate level within an Eastern framework.
Understanding Andragogy

The writings of Knowles (1975, 1985 & 2005) stress the importance of identifying and acknowledging the unique way adult learners acquire and retain knowledge. He also emphasizes that educational bodies should ensure their curriculums and instructional methodologies be a reflection of this. A pedagogical approach to teaching focuses on a content plan where the teacher is responsible for what needs to be included, how this is to be organised and subsequently transmitted. Savicevic (1985 in Knowles, 1985) proposed that a style of facilitating adult learning that was parallel to pedagogy in the provision of knowledge is that of andragogy. Merriam and Caffarella (2002 in Rachal, 2002:211) observed that andragogy is the best known ‘theory’ of adult learning but that it has also caused more controversy, philosophical debate and critical analysis than any other concept, theory or model. Rather than a concept, theory or model Knowles (1970, 1975 & 1984) proposes that andragogy is a series of assumptions that collectively form the notion of adult learning. These assumptions include: the need to know, learner self-concept, role of the learners’ experiences, readiness to learn and an orientation towards learning. Tennant (1997 in Smith, 2001) argues that these assumptions are just a set of meaningless, culture-bound tautologies unsupported by psychological and empirical evidence. The truth perhaps lies somewhere in-between and there remains a need to re-examine the concept of adult learners in light of current technological access and the flexibility of knowledge acquisition as well as what a learner constitutes as ‘an education’.

In contrast to pedagogy’s focus on content, andragogy focuses on the process of learning. Rather than teaching in the traditional manner of teacher-centeredness, learners are now the focus by being instrumental in the design and management of the processes that facilitates their content acquisition. The learner also serves as a content resource providing leads and input for other resources such as peers, supervisors, and subject matter specialists. Self-directed learning was identified by Knowles (1975 in Ladouceur, et al, 2004) as:

- a process in which individuals take the initiative with or without the help of others in diagnosing their learning needs, formulating learning goals, identify
human and materials resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes.

This concept would appear to reflect the ideal that learning is a human activity where participant involvement allows them to diagnose their lack of competence, and proceed to fill this gap through self-discovery. This purest form of andragogy assumes therefore that all learners have reached a stage of self-actualization and are able to articulate when, where, how and what they wish to learn. How factual this statement is was hard to verify as the literature reviewed often failed to consider the perspective of the student before the learning process and focused on post-experience evaluations and feedback. Additionally, this mode of instruction would appear to be one where the teacher does very little but facilitate the process. In fact andragogy requires specialist skills and training in all aspects of teaching and learning with stakeholders maintaining ‘a faith in the ability of the learner to learn for himself’ (Knowles, 1970:51). Haggis (2000 in Miflin, 2004) reported on the inadequacies of this ‘simplistic and unchallenged idea of adult learning’. She argues that teachers are misled and inexperienced in the facilitation of this concept of instruction and that learners were often left with a ‘do-it-yourself course’ overseen by a non-contributing or distanced knowledge expert.

Brookfield (1983), comments that writers in this field often experience two contrasting points of view. Firstly, through this style of education adults acquire and apply relevant knowledge, skills and attitudes in an immediate and appropriate setting. This is because experiential learning involves ‘direct encounter[s] with the phenomena being studied rather than merely thinking about the encounter, or only considering the possibility of doing something about it’ (Borzak, 1981:9 in ibid). The second type of experiential learning associated with andragogy is the ‘education that occurs as a direct result of participation in the events of life’ (Houle, 1980: 221 in Smith, 2001). This learning is attained through a process of reflection. No mention is made by the authors about the impact of imposed further education by either employers or economic circumstances and the attitudes of the learners towards pursuing further studies as a means to an ends rather than for self-discovery or fulfilment. This situation is one that is increasing and as highlighted in the
studies, was a major factor in student enrolment in the MIDM programme. Although not a focus of the studies, resulting data analysed illustrated that generally students’ attitudes towards the construction of knowledge through collaborative practices such as with PBL, was viewed as making them work for outcomes in a course that they sometimes forced to attend by their employers. Current attitudes and motivation towards engaging in adult learning invites exploration within the context of the economic climate to ascertain whether it is an additional factor that supports or inhibits the use of andragogic practices.

Whilst there have been many inclusions in adult education literature relating to reflection in the major works of Kolb (1976, 1981 & 1984) and Fry (in Kolb & Fry, 1975), as they provide an additional reference point for further discussion. Kolb's interest lay in exploring the processes associated with making sense of concrete experiences and the different learning styles that may be involved. In this he makes explicit use of the work of Piaget, Dewey and Lewin (Smith, 2002). Following on from Kolb's work there has been a growth in literature relating to experiential learning which serves as an indicator of greater attention being paid to andragogy by practitioners - particularly in the areas of university teaching and learning. Kolb and Fry (1975) created a learning cycle model containing four elements: concrete experience; observation and reflection; the formation of abstract concepts; and testing in new situations. This model incorporates Lewin’s (1952) concept of force field analysis and change theory reflecting a physical halt to action and a need to reflect and reanalyse data. They argue that this learning cycle can begin at any one of the four points and that it should really be approached as a continuous spiral. A subsequent step is to comprehend the effect in a particular instance so that if the same action was repeated with the same circumstances, it would be possible to anticipate what action would follow. This should be challenged in that although circumstances may be similar in future instances, they can never be repeated within the same parameters. The third step would be an understanding of the general belief under which the particular instance falls. Boud, Keogh and Walker (1985:7) refute this stating that these concepts fail to pay sufficient attention to the process of reflection. Reflection and the ability to amend behaviour is one of the critical elements of a mature mind and any exclusion of this seems to undermine its
vital role in andragogy. While reflection ‘has been useful in assisting us in planning learning activities and in helping us to check simply that learners can be effectively engaged’, the authors additionally comment that ‘it does not help... to uncover the elements of reflection itself’ (ibid: 13). Tennant (1997:91 in Smith, 2001) also challenges this as he proposes that the claims made for the four different learning stages are extravagant. He comments that whilst the four elements ‘neatly dovetail’ with the diverse scope of the experiential learning model it does not necessarily validate them. Hence he has an issue is that this experiential learning model does not always apply to all situations particularly when cultural diversity is a factor. It does however serve as a template and can be combined with alternatives such as information integration and memorization or rote with each being appropriate in different learning situations.

As these research studies are embedded in a Chinese context, this model fails to take into account different cultural experiences and conditions (Anderson, 1988 in Tennant, 1997) and therefore would need some adjustment. Anderson also highlights that there is a need to consider that differences in cognitive and communication styles are often culturally-based. These styles may differ from the 'western' assumptions that underpin the Kolb and Fry model. Jarvis (1987) and Tennant (1997 both in Smith, 2001) suggest that empirical evidence supports this by stating that the model is weak with its initial research base being so small. Additionally, there are only limited studies that have either sought to test or explore the model. Jarvis (1987 in ibid) again highlights that the relationship of learning processes to knowledge is problematic but he does however acknowledge that Kolb (1984) is able to show that learning and knowledge are intimately related with two dilemmas diverging from this. He suggests that there is no exploration of the nature of knowledge in any depth, nor is any connection made with the debates about the nature of knowledge.

The concept of Argyris and Schön’s (1974) and Schein’s (1972 in Argyris & Schön, 1974) notion of becoming skilful in the theory of action and the ‘artfulness of reflection’ (Schön 1983:165 in Higgs, Titchen & Neville, 2001:1999) should also be explored. This model closely echoes the others in that it is action based and as the learner becomes ‘competent
[in] taking action [they] simultaneously reflect on this action to learn’ (Argyris & Schön, 1974:4). Through the application and testing of their own learning and practical experience as well as knowledge against each other, facilitators and learners utilising andragogy should be able to understand there are differences according to context. In addition, they need to recognize that there is a connection between these actions and that they are affective over a range of variable circumstances. These studies used quantitative and qualitative research methodologies in an aim to test and understand the level of influence that a learners’ culture has on their readiness for self-directed learning in this higher education setting. There was an emphasis on the learners’ intimate relationship between ‘thinking-and-acting; acting-and-thinking’ to develop their reflective practice towards ‘crafting strategy’ (Mintzberg, 1987) and the application of ‘reflection-in-action’ (Schön, 1987).

There have been a number of reviews of the literature pertaining to the effectiveness of andragogy and yet there has been little evidence to suggest that these studies have focused on any shortcomings in their findings. Examples of this is the mixing of non-adult learners with adult learners and with control groups that differ in the same experiment as highlighted by Anaemena (1986), Farrar (1991) and Strawbridge (1995 all in Rachal, 2002). This could lead researchers to question whether this assumption of learning has been fully investigated from the applicability of this instructional methodology to the type of facilitation for adults in the twenty-first century, and also whether it really is an effective basis for universal adult learning. Nevertheless it does provide a historical perspective of this unique approach to teaching and learning of adults.

**Learning in Higher Education**

Knowles’ concept of pure andragogy and subsequent instructional methodology of PBL has traditionally been used in environments such as the facilitation of medical training in Western and some Eastern higher education settings. It is the testing of Knowles’ notions of andragogy with Hong Kongese learners in a higher education setting that is next explored through this subsequently set of literature. What is of interest is that teaching and
learning on a Master’s programme is that they are distinctly different from undergraduate programmes in subject content and instructional modes. Postgraduate programmes involve a greater emphasis on self-directed study, with critical assessment and review of specialist content and research (UE, 2010). Although literature pertaining to adult learning is plentiful, Brookfield (1992 & 1995) suggests that there are four major areas of research that should still be pursued when researching adult teaching and learning: self-directed learning, critical reflection, experiential learning and learning to learn; all of which are andragogic principles employed in some form within tertiary environments. It should again be noted that the majority of works reviewed relate to andragogic practice in western contexts with the students and researchers reflecting same. Brookfield (1995:1) does challenge the notion that adult learning is ‘inherently joyful’ and that adults ‘are innately self-directed learners…[with] good educational practice always meeting the needs articulated by learners themselves’. This hypothesis sounds very idealistic and reflects a desire rather than actual practice. Most facilitators are able to share these concerns as realistically each learning experience is unique, comes with its own set of challenges and rarely follows the theoretical concept of a learning environment filled with enthusiastic self-directed learners. Brookfield (1995:90) also stressed the need for facilitators to comprehend not only the learning domains of ‘processes, rhythms, forms, functions, and experiences’ to assist the learner, but for themselves to become more ‘adept and sensitive’ at their practice. This would imply that facilitators in adult education are anything but sensitive to their learner’s needs or their own professional development and growth. Interestingly, it is proposed that any learning theory defined by a chronological age cannot be thought of in terms of a standalone theory but rather it should be considered as part of an evolutionary process were the variables such as culture, ethnicity, personality and political ethos are included to explain how learning occurs and is experienced.

In addition to the variations over a period of time or changes that occur with chronological age, the direction of the change must also be explored. These changes should be positive in that the learner encounters growth and development from experiences. It is argued by Merriam (2004) that an advanced level of cognitive functioning must be present before this
can occur. Conversely, in addition to a mature level of cognitive functioning, learners should have a sense of self and be able to understand and apply basic concepts of critical reflection; otherwise growth is stunted in that it cannot be applied to future situations. Mezirow’s (2000 in Merriam, 2004) theory of transformational learning is a primary model focusing not on the learner’s age but their development. Transformational learning supports the belief that a learner’s values, beliefs and assumptions ‘compose the lens through which personal experience is mediated and made sense of’ (Merriam, 2004:61). This outcome does require an advanced level of cognitive development however and one could argue that this can only come through experiences. The need to reflect upon experiences is more likely to occur with adults rather than younger learners where the goal of transformational learning is to become an independent thinker. This method also supports the notion of experiential learning where there is an emphasis on a ‘continuing process of evaluating experiences’ (Lindeman, 1926 in Brookfield, 1995:25). Kolb’s (1984) model of the adult learning process suggests that there are four stages which follow from each other: concrete experience followed by reflection on that experience on a personal basis. This may then be followed by the derivation of general rules describing the experience or the application of known theories (abstract conceptualization) and hence to the construction of ways for modifying the next occurrence of the experience (active experimentation), leading in turn to the next concrete experience. All this may happen immediately or over days, weeks or months depending on the topic, and resembles a ‘wheel within a wheel’ process. This process also aligns itself with the concept of self-directed learning and andragogy suggested by Knowles (1975, 1984 & 1985) in that there is a focus on the process by which the learner takes control of their own education through setting their goals, locating resources, presenting material and evaluating the process. The problem with many of these theories is that as much as the facilitator wishes to pursue these areas and includes them in their instructional methodologies, the question of whether the learner is actually at a stage of readiness for self-direction that will allow them to take full advantage of the learning opportunity should be considered, alongside other impacting features such as culture. The exploration of the readiness of students is explored within a Hong Kongese learner’s context in studies one and two of this thesis highlighting the level
of impact readiness (including contributing factors) had on the proposed transformational theories.

Guglielmino (1977) developed a readiness scale to explore and examine a readiness for self-directed learning. The Self-Directed Learning Readiness Scale (SDLRS) tool has been applied to deduce (1) who is a self-directed learner, (2) is self-directed learning stable across a life time, (3) is self-directed learning associated with other measurable human attributes, (4) can an individual’s level of self-directed learning be changed through an intervention strategy, and (5) what are the characteristics of individuals associated with high/low self-directed learning. The focus was on surveying abilities, attitudes and personality characteristics associated with self-directed learning. Field (1989) is one of a number of researchers that refutes Gugleilmino critically by examining the structure, validity, and reliability of the scale. He proposes that the original thesis in which the scale was developed is marred by both conceptual and methodological problems. He then suggests that there are a number of problems in the wording of the scale and that the scale appears to measure a homogeneous construct that does not appear to be associated with readiness for self-directed learning. Hence the scale is structurally unsound and invalid. Candy (1991) additionally incited debate about the construct validity of the instrument questioning and whether it is a good measure of self-directed learning ability and concedes that even though the SDLRS has been criticised in the literature, it is the most widely used measure of its kind. The SDLRS appears to merely measure a love of learning or a positive attitude towards learning. Even with these criticisms in mind and little evidence of other available appropriate tools combined with limited literature on the application of the tool that focused on Chinese students, it was the intention of the researcher to administer an adaptation of the SDLRS to this student cohort in a fourth AR step. Unfortunately I was unable to conduct a fourth step to apply this tool. As discussed in the third study, stakeholders were reluctant to embark upon further investigation of this area as they felt it detracted from the original TDG which supports Wacquant’s (1992) reasoning of methodological fetishism.
The Department of Education, Science and Technology (DEST) in Australia (2003) commissioned a report into the findings of the student Course Experience Questionnaire (CEQ) with a view to identifying student ratings of areas of importance in their tertiary education. The motivation was to align student values with funding expenditure, development and recruitment with a view for the retention of a maximum number of learners. The findings did identify that differing cohorts held contrary views as to what was important in their tertiary experience highlighting that faculties focus is often different to that of the student stakeholder. Although not directly related to the nature of learning, this report does emphasize the influencing factors of a student’s motivation to embark upon further study and the type of institution chosen. This study of student motivation could be an indicator of learners already displaying levels of critical reflection and possessing a sense of readiness for self-directed learning by vocalizing what they perceived are their learning needs and the method of attainment.

But what of Chinese students needs in Hong Kong? To date there have been limited studies focusing on Hong Kongese students readiness and acceptance of self-directed learning and hence research makes a contribution to scholarship in this field. Since many institutions are expanding into Asia (Far, Middle Eastern and Eastern), efforts should be made to understand how a balance can be reached between meeting student learning expectations, delivering outcomes, programme and institution aims within appropriate cultural frameworks. Studies on university teaching and learning have largely focused upon the generic features of instructional methodologies, student learning styles, curriculum development and assessment (Hativa, 1997; Dunkin, 1986 in Neumann, 2003) and again have generally been conducted in western environments. The question of whether student satisfaction rates and instructional methodologies differed across cohorts and cultures has had a limited focus and per se clearly invites further scrutiny.

**Chinese Learners in Hong Kong**

The majority of Chinese teaching and learning environments are described as ‘formal, disciplined, teacher-centred and didactic’ (Turner, 2006:30) where an ‘approach to a
unitarist, factual construction of knowledge is established early, and questions and criticism of knowledge content or methods are not tolerated (Turner & Acker, 2002 in ibid). Recent research findings of Hong Kong students within this specific cultural context are quite limited although the work of Biggs (1990, 1992, 1994a & b, 1996) attempted to explore the uniqueness of Hong Kong students. Unfortunately, these studies are dated in that they focus on pedagogic practice pre-1997. Biggs is the most prolific author of Western approaches to teaching and learning with Asian students. He does tend to categorize Hong Kong Chinese learners into a single homogeneous group without accounting for their diverse ethnicity. As stated, much of Biggs’ work was done in the early 1990s and in 1997 before Hong Kong was ‘handed over’ or ‘back’ to mainland Chinese governance. Hong Kong students were then more than anytime influenced by a resurgence of a Confucian style of teaching and learning conventions with a stronger focus on Chinese language and culture in contrast to their previous British-based, English-language norms. Nowadays as a powerful global commercial entity, the Hong Kong Education Bureau recognised that it still needed to function in an international context and as such publicly acknowledged a requirement to skill citizens with the ability to contribute to all facets of society from a critically reflective position rather than just following the party line. This is in direct contrast to the Chinese Government policy on individualism. Perhaps because of a previous need to reconnect with cultural ‘roots’ and the casting aside of a colonial past in the last ten years that Hong Kong’s education systems rushed to teach critical and analytical thinking skills even at Kindergarten level whilst focusing on English-as-a-second rather than third language. In research the many cultural aspects of Hong Kong students needed to be further scrutinised, and one such study that undertook this was Tweed and Lehman (2002) who used a Confucian-Socratic framework to explore a culture’s influence on academic learning. They refined the term ‘Chinese’ and ‘western’ students through the use of adding culture to both contexts. The authors state that cultural labels were problematic as they literally denote an entire region and that this includes more people than is usually implied by the terms. This acknowledgement and further refining of cultural groups is particularly significant to Hong Kong. Hue’s (2008:303) study of the influence of Chinese Confucian culture in high schools found that there needed to be a
promotion of culturally responsive approaches towards teaching and learning as well as culturally competent practices. The author also affirms that Confucianism served as ‘a paramount and respected reference’ (ibid: 306) with the teachings of Confucius (551-479BC) emphasising personal morality, correctness of social behaviour and harmony of interpersonal relationships. He regarded harmonious interpersonal relationships as the cornerstone for the prosperity of family, community and society. Education in this context was intended not only to acquire knowledge but to help students explore their ‘natural instinctive potential’ (ibid) which poses an interesting false dichotomy. Turner and Acker (2002 in Turner, 2006:30) stresses the ‘civic and moral education and governance of personal behaviour are strong themes featured in the typical Chinese students educational career’ with Confucianist views about learning ‘remaining influential with-in contemporary pedagogy’ (ibid). Although these highly influential values supports the exploration of a student’s true promise, Confucianism advocates maintaining a harmonious status quo and hence students are only able to do so as long as it is within the confines of this collectivist culture. By developing their (da wou) which literally means ‘macro-self’, they will be ‘capable of pursuing the collective interests of the social groups to which they belong (Hue, 2008:311). In the Hong Kong culture individuals tend to view themselves as ‘a social participant embedded in the social group to which they belong rather than to clearly defined individual entities’ (ibid). This is particularly the case when these students are participating in collaborative situations such as is required of them in most higher education settings. This supports the findings of this thesis regarding collaborative learning and the influence of culture. It also supports the works of Edwards, Ran and Li (2007:391) in that it calls attention to when in written exam conditions Chinese students are able to express themselves within the confines of the subject (Darcy & Higgins, 2005 in ibid); whereas in the areas of critical analysis and problem-solving, these are often identified as areas of weakness. Clark and Gieve (2006 in Edwards, Ran, & Daguo, 2007: 391) contrast ‘large culture’ approaches of this kind, with attitudes and practices described as fixed and homogenous with the alternative ‘small culture’ approaches of critical pedagogy and cultural studies. Similarly, Shi (2006) and Jin and Cortazzi (2006 both in ibid) emphasise ‘the rapid pace of change in education in China; and challenges the
assumption that the Confucian heritage culture exerts the same influence today as it did in the past.’ This is in contrast to the findings of the thesis but it could be argued that the sample of students in Edwards, Ran, and Daguo’s (2007) study were under taking their studies at British universities and as such were in the cultural minority and therefore they were imbedded in a different set of social and cultural values. The student sample of these studies were undertaking postgraduate programmes in Hong Kong (SAR), and employed in middle to senior positions; hence cultural influences of this group was the strongest as they were living and working in an environment although once strongly influenced by colonisation, remains strongly Chinese.

Hong Kongese students cannot be compartmentalised into the term ‘Chinese’ as there they have more than one cultural lens and could be considered almost academically bicultural. Smith (2001) further explored this theme by highlighting in his studies a need to define the ‘Chinese student’. This he did by using the criteria of those whom spoke a dialect of Chinese as their first language and describing them as Confucian Heritage Culture (CHC) students. The rationale was that any studies conducted with the view to developing tertiary curriculums aimed at Chinese learners must appreciate the significant differences in learning approaches amongst Chinese subgroups and that caution must be taken against forming fixed conceptualizations of cultural characteristics. It should additionally be noted that there are two languages of Chinese spoken: Cantonese and Putonghua (Mandarin) with many Hong Kongese speaking one or the other or a regional dialect of both. Chan (2001) further explores this theme by investigating Chinese learner’s attitudes and expectations, teacher and learner roles, their learning preferences and perceptions of learner autonomy. The implications for the development of a learner-centred approach in higher education reflected that of the researchers own studies in that although the student samples were generally from traditional, authoritative Chinese backgrounds, they were amenable to autonomy but only if a balance existed between teacher and student-centeredness in classroom practices.
Establishing and meeting the needs of Hong Kongese students whilst still achieving the aims and objectives of the MIDM programme required detailed investigation. Educational research often attempts to gain insights into human behaviour but it is the actions that effect change based on these insights that has the capability to produce perceptive, transferable outcomes for practitioners and students. Turner (2006:30) supports the limitations of the literature encountered in this thesis regarding Chinese education as being focused on the general characteristics of the education system or descriptions of the formalities of teaching and learning dynamics and providing less information about the individual student experiences with the learning process. My findings are supported by Turner’s (2006) work in that although contextual literature was narrow it did however assist in developing insights into the personal frames of reference from which Chinese students came from and assisted in creating a greater understanding of their academic contexts.

**Problem-based Learning**

The trend in Western and non-Western educational environments appears to be a penchant for taking instructional methodologies that evolved in these different language and cultural contexts and apply them to Eastern, Far Eastern and Gulf-based settings. This may be as the result of an increasing number of expatriate teachers particularly in second language teaching being employed to impart their educational philosophies onto unsuspecting students; or the recognition of the need to change student education from a rote-memorisation culture to one of self-directed, critical thinkers. Both situations are valid responses to the recognition of the need to develop students’ skills to be competent in dealing with real-life employment situations and not just meet the course objectives (Simsen, Yung & Lee, 1996), particularly with increased globalisation. An instructional methodology that cultivates creative and independent scholarship is PBL. The basic tenet of PBL is that it is an andragogic strategy for posing significant, contextualised, real-world solutions that provides the resources, guidance and instruction to learners as they develop content knowledge and problem-solving skills (Mayo et al, 1993 in Mossuto, 2009). Problem-based learning has its origin in medical education in the 1970s in Canada (Rhem,
1998) although intellectually is far older. Dewey (1953 in Ehrlich, 1998), discussed the
ing of student engagement as did Socrates. Student engagement in PBL comprises
of conflict resolution, decision making, negotiation (Mossuto, 2009) and interpersonal
interaction. The learning results from the individuals’ and groups’ abilities to ‘confront
contextualized, ill-structured problems and striving to find meaningful solutions’ (Rhem,
1998). This instructional methodology supports the theory of constructivism (Lai & Tang,
2000) where the key features reflect both PBL and andragogy and to a certain degree,
Vygotsky’s theory of the Zone of Proximal Development (ZPD). Problem-based learning
should:

- apply real-world environments that employ the context in which learning is
  relevant;
- focus on realistic approaches to solving real-world problems;
- have the teacher playing the role of coach and advisor;
- provide multiple representations or perspectives on the content;
- include evaluation that serves as a self-analysis tool and
- should be internally controlled and mediated by the learner (Jonassen, 1991 in
  Murphy, 1997).

Research literature shows that the success of programmes utilising PBL rely heavily upon
the success of effective groups (Stepian & Gallagher, 1993; Fenwick, 2002; Hendry, Ryan
& Harris, 2003; Tan, 2004; Kumar & Natarajan, 2007 all in ibid; Rhem, 1998). Siaw’s
(2000:6) findings highlighted that seventy-five per cent of student responses in her study
of PBL and disciplines felt that group interaction was the most valuable, whilst
interestingly ninety per cent reported that the tutor facilitated the group interactions. Teoh
(2008) also cited that students and faculty both stated that group dynamics was crucial to
the PBL experience. Conversely, both groups reported the limited awareness of effective
group dynamics and analyses, including the ability to deal with or redirect ‘dysfunctional
groups’. Group composition is another central consideration. Students and faculty new to
PBL need to apply group learning theories whilst gaining knowledge related to the course
objectives. But just as importantly are the structural factors such as size, physical
environment and course design (Teoh, 2008). The optimal size in PBL groups is five to ten
as it allows for greater cohesiveness, interaction and mutual caring which subsequently affects relationship building (Johnson & Johnson, 1996; Hare et al, 1994; Davis & Kent, 1996; Dimock & Devine, 1996 in Teoh, 2008). As the number of participants increases, complexity does diminish opportunities for meaningful participation. It is this participation in all stages/phases of PBL that allows students to problem-solve.

Theoretically, this appears to be a ‘grown-up’ approach to teaching and learning, but what of the practical applications; particularly in environments where teacher-centred learning is the norm? In addition to the core characteristics of curriculum delivery, the importance of assessment and evaluation systems including the students’ self-evaluation is emphasised (Dochy et al., 2003; Poikela & Poikela, 2005b in Hakkarainen, 2009). Assessment in PBL is not separate from the instruction; a notion that many students find difficult to comprehend. The focus now is on learning, how it is done and how it can be done better, [and] not on normative comparisons (SFSU, 2005). Teachers now become facilitators of the learning process which for some does not match their philosophy of teaching and learning. Most secondary schools in Hong Kong seem to encourage memorisation and surface reproduction (Biggs, 1996) and as such the focus is on the transmission of knowledge with school graduates being familiar with only this didactic model before entering universities. Many students find it difficult to adapt to and even resent PBLs requirement of independent study and group work emphasis (Lai & Tang, 2000). This is in contrast to Siaw (2000), who states that PBL students placed more emphasis on understanding than on producing compared to students from traditional programs. The disparity may be due to the amount of PBL that students have been exposed to: their level of study; real-life workplace experiences; individual motivation and their program of study. Further studies have shown that there are four factors affecting the implementation of PBL in institutions in Hong Kong. These factors are namely: resources; quality assurance; student factors and the teaching conception of faculty members (Lai & Tang, 2000).
Programmes chiefly those introducing Hong Kongese students to ‘non-traditional’ methods of knowledge acquisition should be empathic to the education contexts from which their cohort has come from. Engaging in a higher teaching and learning environments with new subject content can be in itself traumatic enough for even the best of students. However, combining this with being immersed in new linguistic surroundings and an unfamiliar approach to instruction that relies heavily on self-directedness, group work and organisation should be met with the added elements of facilitator understanding and support. Facilitators themselves can achieve a greater sense of self and begin to understand their underlying philosophical leanings, particularly when working in environments that are unfamiliar (such as myself in Hong Kong), through a process of investigating professional practice and reflection.

**Investigating Professional Practice**

Many educational practitioners understand systems of inference-making by way of causality, but their lack of skills as ‘qualified researchers’ tended to alienate any contribution they could make to academic enquiry. This lack of contribution to learning was perhaps not received as it could have been in the past because it did not occur in the traditional ‘hierarchy of...knowledge valued by universities (Kemmis, 2003:14). In the past, university scholarship relied upon certain standards and traditions that have contributed and provided a basis for the contribution of knowledge. Gibbons et al (1994 in Hargreaves, 2000:154) described this style of knowledge production as Mode 1. Mode 1 is claimed to be ‘pure, disciplinary, homogeneous, expert-led, supply-driven hierarchical, peer-reviewed, university based’ (Hargreaves, 1999:136 in McLaughlin, Black-Hawkins & McIntyre, 2004:7). What is presumed to be knowledge with any profession particularly in the field of education is a ‘take’ on the state of purposeful enquiry, but as Bourdieu’s (1994 in Brennan, 1998:71) construction of the academic world reminds us of the ‘difficulty of studying the field in which one is engaged’. Schön (1987:306) proposed that the question of the relationship between practice competence and profession needed to be turned upside down. He suggests that traditional suppliers of theory should not be asking how they could make better use of their research-based knowledge, but asking what
practitioners could learn from the careful examination of artistry. That is, ‘the competence by which practitioners actually handle indeterminate zones of practice – however that competence may relate to technical rationality’. He also advocates that the ‘development of a reflective practicum can join with new forms of research on practice, and education for it, to take on a momentum – even a contagion – of its own’ (ibid: 343). Conversely, Hargreaves states that there is also a need to understand professional knowledge bases recommended by Gibbons et al. (in Hargreaves, 2000:136) where any approaches to knowledge in ‘contemporary circumstances’ (Kemmis, 2003:27) would benefit from the inclusion of Mode 2 rather than that of Mode 1. Out of Mode 1 grows Mode 2 knowledge production which when is applied should be:

- problem-focused,
- trans-disciplinary,
- heterogeneous,
- hybrid,
- demand-driven,
- entrepreneurial,
- accountability-tested and embedded in networks. Mode 1 knowledge is not created and then applied, but rather it evolves within the context of its application, but then may not fit neatly into Mode 1 knowledge structures (Hargreaves, 1999:136 in McLaughlin, Black-Hawkins & McIntyre, 2004).

Professional practice and research particularly the studies undertaken as part of this Doctoral programme can be viewed as Mode 2 knowledge production. Professional ‘craft’ knowledge can often be viewed as inferred or tacit with Farr and Middlebrooks (1990 in Eraut, 1994:238) concluding that traditional approaches to a problem (of maintaining professional competence) seem to have primarily reduced the negative outcomes of professional development activities whilst increasing the positive. The discourses of professions often direct and enlighten practice as they offer a unique understanding of how it can be steered and improved to the advantage of professionalism and organisational knowledge. Ideally, it should be recognised that environmental work factors influence a specialist’s beliefs about the utility of professional development activities to obtain valued outcomes, and the impact upon restructuring individual practice such as with the outcomes of the third study. Against this view a new concept was proposed by Swab (1969 in Kemmis, 2003:2) which drew on an Aristotelian view of practice more than Tyler’s
applied scientific view. An example is the Tylerian perspective that is argued that the assumption of curriculum was a technical task, ‘a task of the application of scientific knowledge to the problem of transmitting knowledge’ (Tyler, 1949 in Kemmis, 2003:2). Tyler’s theory can be stated as $T \rightarrow P$ with this model supposing that theory is the direct and singular contributor of practice because reflection can only occur after an event and not during or before. This notion mirrors the dominant view of some institutions (such as the MIDM teaching team) where their scientific descriptions of the world suggest methods of resolving practical problems can only be reached by an association of analysis to synthesis. Schwab’s (1969 in Kemmis, 2003) theory is in contrast to Tyler’s and can be stated as $P \rightarrow T$ or practice being the direct and singular contributor to theory.

Schwab (in Kemmis, 2003) advocated that the ‘balance required’ is the distinction between technical and practical reasoning. He further argued that the field of curriculum should draw upon the resources of practical reasoning and that teachers (and developing researchers) should draw upon ‘the art of deliberation’. But what are the new epistemological implications of this? If we presume productivity in the Aristotelian context of *poiesis*, then this can contribute to the holistic interpretation of what is regarded as ‘creative reflective action’. Creativity and reflection in terms of Schönh’s (1987) proposal of reflection does not account for a lack of practitioner’s time, as when time is short decisions have to be made rapidly’ (Eraut, 1994; Hagar, 1995) and hence the scope of the reflection may be limited. In these circumstances, reflection can be viewed as a metacognitive process in which the practitioner is alerted to a problem, reads the situation, decides what action to take and proceeds in a state of continued awareness. This then renders the notion of $P \rightarrow T$ ‘inapplicable to their [practitioners] normal work (Eraut, 1994:143). Taking this further is the view that theory and practice inform each other equally which would be a positive outcome for the integration of practice and theory. However, practitioners need to understand how to combine reflective observation and abstract conceptualisation with active experimentation and concrete experience. The dialectic relationship of $T \rightarrow P$ and $P \rightarrow T$ suggests that there must be theory to inform practice with the application of practice to test, evaluate and inform theory. Hence, instead
of the professional researchers being the only source of theoretical knowledge, practitioners are now valid sources of research. Post-modern scholarship itself is then a worthy and substantial contributor to these enquiries (Beckett & Hager, 2002). Of all of the practice researchers only Bourdieu (1977 in Wacquant, 1992:195) acknowledges the other theorists and highlights ‘each group of interpreters typically ignores the others so that few have discerned the organic connections, theoretical and substantive’. The interpretation of practice is diverse and yet the underlying theme in all perspectives is a focus on human thought and the application of this scope of research as knowledge-constituting practice.

The relationship between the different traditions in the study of practice needs to be examined to understand the perspectives of either being objective, subjective or both, and ideally within a framework that includes historical, social and discursive construction and reconstruction (Kemmis, 2003; Hager, 1995). These inclusions can be found in the collaborative AR context in which these studies were undertaken. These forms of examination allowed the researcher as an active participant in this process and as a doctoral candidate, to improve their practice, overcome dilemmas and contribute to professional knowledge. Practice evolves as a response to constant change in intellectual climates, political crisis, economic developments and other cultural and social transformations (Kemmis, 2003), and as such professional doctorates investigating these changes contribute to narrowing the divide that sometimes exists between research contexts and practice.

The weight of the discussed literature’s evidence suggests that andragogic practices strive for a more teacher-student balance in that communication is now two-way and collaborative. Actively including students in the learning process draws on the intentional and non-intentional ‘learning en passant’, but can only be effective if the characteristics of the adult learner are understood. Historically the focus has been on self-concept, experience, readiness to learn, orientation to learning and motivation (Knowles, 1984:12), but thought needs to be given to the institution and student culture in which it will be
applied. Institutions need to consider what students constitute an effective teaching methodology to achieve programme aims, and whether a particular approach supports or hinders their learning process. Scrutinizing students’ motivations and the cultural and language context in which they are placed informs institutions about the appropriateness of adopting practices that are theoretically sound, but practically need to be implemented in a supportive and informative manner. Chinese learners although working in ‘Westernised’ situations do retain in learning situations the Confucian influence that is central to their personal lives. Insisting that this cohort adopts practices particularly in PBL situations that may cause internal conflict with this should be approached with prudence. In the process of reviewing the appropriateness of instructional methodologies, practitioners also need to reflect on what they view as knowledge construction and production and recognise any influencing factors. By critically investigating within an AR framework, practitioners draw on the theories that inform their practice and understand in greater depth how these contribute to the development of effecting educational change.
Chapter 4

Methodology

This section discusses the selection of methodologies employed to inform the three studies. It discusses the process of evaluating current practices, the implementation of quantitative and qualitative data collection methods and the utilisation of existing evaluative feedback to formulate interventions. Bell (1993:7) states that ‘research questions arise from an analysis of the problems of practitioners in the situation and the immediate aim then becomes that of understanding these problems’.

Understanding and researching professional practice knowledge provided as many challenges as it did opportunities for myself as the practitioner and researcher for these studies. Whilst engaging in practice research I found that over the course of the studies there were often many questions that could not be answered by a scientifically derived set of values as I was operating with tangible events and people. Research for this purpose was essentially interpretive and as such there was a greater emphasis on qualitative information rather than quantitative. The aim of these studies was to investigate practice reality and make a contribution with the objective of a change (through interventions) for practical improvement. For this reason participatory AR as a methodology was utilised. Action research is an investigative methodology that is conducted by practitioners whom assume the dual role of researcher and facilitator. The appeal of this form of investigation is its processes of collaborative, systematic enquiry that embraces the reflective concepts of andragogy.

Action Research Framework

The researcher’s key role in these studies was to constantly evaluate teaching and learning. By this the researcher contributed to the solution by identifying issues to be deconstructed with subsequent reflection on action, adding to further evaluation and analysis.
Additionally, new themes were able to emerge and be included as the knowledge and experiences of the researcher grew. The deliberate application of AR in teaching and learning draws its strength from the defining of issues, taking them through cyclic processes (as many as several if required) of the investigation of action with intent but with the added dimension of the immersion of the researcher in the process. Unlike empirical research these AR studies expected and encouraged new themes to emerge and merge; with my knowledge and experience as the researcher acting as the filter for inclusion. When AR is applied in this instance it is likely that the ramifications of its collaborative nature and outcomes would extend beyond the initial TDG’s aim of developing cross-faculty PBL cases but could also inform a wider range of disciplines and programs at the University. By examining curriculum from a practical AR perspective Carr and Kemmis (1986:17) support to some extent Tyler’s technical approach of providing a compatible theory of the development of the technical assumptions that ‘needed to be examined and recovered from the realm of the taken-for-granted, examined and explicitly ordered’. By focusing on the practical, teachers become central to the ‘curriculum as doers, making judgements based on their knowledge and experience and the demands of practical situations (Schwab, 1969 in ibid: 18) which is a sentiment echoed throughout the literature. In addition to the spectral dimensions of AR, consideration needs to be given to discourse.

The importance of analysing AR discourse is imbedded in the need to justify knowledge. If AR does constitute its own discourse as suggested by Jennings and Graham (1996), then the practitioner needs to be open to the idea that peculiar narratives, rules and metaphors will become evident as underpinning values. These values rather than confining the research as in other methodologies almost guide the AR research practice. The researcher is able to scrutinize what should be pursued and what should be let rest by drawing on and relating their own discourse in practice; it becomes one and the same. This act of association may in empirical circles classify the research as being flawed as the researcher has now crossed the line of observer to participant. On the contrary, it is this unique relationship with discourse and the link to implicit action that in the view of researcher gives the AR approach to researching practice, validity, relevance and application. Caution
must be advised as there is the opportunity for the researcher to become so preoccupied with the desire to question discourse that they could overlook the resolution of the problem (Jennings & Graham, 1996 in Züber-Skerritt, 1996) which remains the focus of AR. This search for truth and understanding in practice is linked again to the importance of understanding one’s discourse. Without a clear comprehension of this, the data gathered and analysed inhibits the objective of taking action as the practitioner must establish a base line from which to measure any changes of behaviour. Once position and discourse are defined and AR has been selected as the most appropriate form of methodology, exploration can begin.

The distinctions of AR agendas can be further refined into ‘two camps (the reflective practitioner and the critical theorist)’ (Kemmis, 1997:177 in Cohen, Manion & Morrison, 2000) with this influencing the interpretation of what AR is. As the researcher is involved in improving professional practice at a localised level then the reflective practitioner aspect of AR is drawn upon. For researchers involved in a broader change to education, the AR element of praxis becomes the driver. Whichever drives the research there are two defined phases: the diagnostic in which problems are identified, analysed and subsequent hypothesis developed; and the therapeutic stage where the hypothesis is tested through consciously directed intervention and live experimentation (Cohen, Manion & Morrison, 2000; Dick, 1999). Lewin (1946 & 1948 in Cohen, Manion & Morrison, 2000) codified the AR process into four main stages which are familiar to all researchers using AR, these being: planning; acting; observing and reflecting. For this research study, the model for AR practice that was proposed was that of Züber-Skerritt (1996b:99) as it incorporated the plan, act, observe and reflect stages in addition to Lewin’s (1952) concept of force field analysis and change theory reflecting a physical halt to action with a need to reflect and reanalyse data. This theory is described as unfreezing/moving/refreezing. The author also incorporates Beer et al. (1990 in Cohen, Manion & Morrison, 2000) work on task alignment which further allows the researcher to segment and approach each stage of the research in a systematic manner where all stakeholders are able to perceive each phase of the process even if they are unfamiliar with AR. This combined with the AR cyclic
sequencing informed stakeholders of all the stages and processes. This cycle can be completed in itself or as a part of a series of cycles and in this instance was conducted as three action plans steps (see Appendix Five).

With the collection of persuasive data a researcher can invest in the legitimacy of the data collections they have identified. These data sources provide persuasive insights into the impact of an intervention and resulting outcomes and are authoritative for teacher researchers as they guide successive actions.

All AR models share the elements of: a sense of purpose based on a problem or area of focus (identification of an area of focus), observation or monitoring of practice (collection of data), synthesis of inform (action gathered analysis and interpretation of data), and some form of action that invariably spirals the researcher back into the process for the repeated development of an action plan (Carr & Kemmis, 1986; Mills, 2007). In all of the stages, processes or tasks, the issue of problem evaluation and action formulation is critical for action. The need for continuous discussion and negotiation throughout but particularly in the planning stage of the research is of great importance as there needs to be unambiguous and unanimous agreement on the research aims, objectives key concepts and approaches for the gathering of data. Data gathering should be approached in a qualitative and ethnographic context as ‘social research needs to examine situations though the eyes of the participants…grasping the point of view of the native, his view of the world and relation to his life’ (Malinowski, 1922:22 in Cohen, Manion & Morrison, 2000). This is noteworthy as AR involves the researcher being an instrument of the research and hence should be approached incorporating the hallmarks of ethnography. The ethnographic approach uses observations and the recording of these observations via instruments such as interviews, questionnaires, and log books for example. It is the recording of the data that has been generated from the live situations that are of great importance to the AR researcher. Appendix Five shows the steps that were undertaken in this study and collated data. Once analysed this data became the basis for the evaluation of the action. Once researchers have gathered the data there are approaches to the way that it is analysed before moving onto the
next stage of the cycle. Power (1996) Stainback (1988), and MacLean and Marian Mohr (1999 all in GSE, n.d.) recommend several ways AR researchers can analyse the data that they have collected. Based on this, the following activities are suggested:

- **Triangulate.** Study the research question from at least three separate pieces of data and three points of view. For example, those three pieces of data might be the researcher’s observations in their research log, recorded comments by a student or students (such as the tape recorded comments or quotes the teacher researcher has noted in the research log) or examples of student work. The researcher should ask themselves - do the identified issues still fit the data that is emerging from the research?

- **Compare constantly.** Look through the data and keep comparing the data that was collected earlier in the study (for instance the first cycle) with data collected in subsequent cycles. The researcher should use these differing bases for comparison.

- **Categorize and sort.** Set up charts, columns, outlines and ways of counting occurrences. The researcher can create different categories that fit the issue or use categories developed by another researcher. Be aware of ways that the data develops into categories different from other researchers and explore those differences. Coding findings will help categorize the data.

- **Order.** Decide on a way to order the data findings such as chronologically, by importance, or by frequency (how often an occurrence transpires, for example).

- **Contrast.** Look for what does not fit the assumptions or theories of other researchers and note what is significant.

- **Speculate.** Explore different feelings about what the data means. Make an educated guess and then see if it is supported by the data. Do not stick rigidly to an assumption or hypothesis that was originally held.

- **Restate the question.** Restate the question many times changing it when necessary to fit what is important from the data that has been collected.

- **Visualize.** Create a visual representation for what has been collected. Map out the data draw it all on one page. Sketch the metaphors that come to mind when
thinking of the data and what it all means. Use colours and shapes to separate ideas. Use diagrams, sketches of things, people, happenings to show different ideas and groupings.

- State theories. Build on ideas about teaching and learning as researchers try out new strategies. Theories come from and are grounded in practice. Stakeholders should assist in looking at data from multiple data sources and help interpret findings, drawing conclusions and implications.

Dick (1999) suggests that AR can be conducted and reported without sacrificing rigour and in fact, the rigour can be enhanced by using triangulation or other dialectic approaches. These give richer data for intervention and for understanding as well as allowing efficiency to be improved. It is suggested that dialectics also provides an economy in reporting. The researcher can focus on the contribution to understanding which the study makes and report only the conclusions, the dialectic relationship and the methodology which directly relates. Action research methodologies aim to integrate action and reflection so that the knowledge developed in the inquiry process is directly relevant to the issues being studied. They help the practitioner develop the skills of reflective practice; and impact upon teaching and learning in higher education by being part of a culture of inquiry. Before this can begin the practitioner must have a clear understanding of their own values and practice. The path to personal and professional development begins with enquiring into one’s practice. ‘In practical reasoning about practice, the researcher adopts a more ‘subject’ stance to the practice setting, treating the practitioners and others involved as members of a share lifeworld...but also autonomous and responsible agents’ (Kemmis, 2000:97 in Kemmis & McTaggart, 2000). Action research is a methodology that would appear to suit this pursuit as it is the action component and the research arguments that complement each another. Jarvis (2010:267) gives prominence to the concept that this complimentary relationship is more complex than appears as ‘traditionally, the data discovered from research about practice was regarded as the new theory; when the new theory was taught, put into practice and researched, this now is insufficient’. He suggests that the concepts are much more complex that this and we need to see that this
interrelationship has a number of possibilities, namely that research into personal practice is just that, personal and often does not translate to other or future contexts. Additionally, the knowledge gained does not necessarily carry across as practice is ever changing and the research data may be out of date before application in subsequent cycles. Essentially the relationship between theory, practice and research is one of under determination (Jarvis, 2010: 268).

Nevertheless, there is also a need for the practitioner to appreciate their position in the investigation as it sets the foundation for the researcher to identify the significance of the AR process and generated data. Without a clear understanding, research using this form of methodology may not be appreciated for the rich contribution it can make to practice. Being perceptive to the opportunities that AR can offer does not restrict a teacher’s practice but rather liberates it. When AR is used as a methodology, the ramifications of its collaborative nature extend beyond their practice into that of the facilitator and student. The impact that any curriculum improvement could make to a student’s current and life-long learning and to that of the facilitator’s teaching practice should never be undervalued.

**Data Collection Tools**

The first stage of the data collection process began with the need to gain insights into current teaching and learning practices on the MBA and MIDM programmes thus identifying subjects that could be used. For this an adaptation of the Course Experience Questionnaire (CEQ) from The University of Sydney (1999) was applied. From this the observed behaviours of students in group work situations on the MIDM programme were noted. To investigate this, an adaptation of the Group Process and Reasoning Instrument (GPRI) (Rolfe, Murphy & McPherson, 1994) was developed and applied to note occurrences of students’ appropriate and inappropriate behaviours (as identified by the original instrument developers) during group work activities. Further to this, the MIDM teaching team had been using a Likert scale as part of the students’ reflective practice to rate their levels of satisfaction with the group work process and subsequent learning. This data was now utilised to establish a baseline of their satisfaction levels of group work
situations and to gather additional quantitative data about future interventions. The studies used a number of qualitative data tools to gain an awareness of the phenomena though complex textual descriptions of the students’ experiences that could not have been generated alone with the two tools. Alongside the Likert scale there was a section for students to additionally comment on the workshop sessions. This allowed the teaching team to gather evidence for future workshop experiences and reflect upon previous sessions. The richness of this data was evident when the researcher began to focus on behaviours in groups as it yielded confirmation of ongoing issues that were observed such as domination of a few and exclusion or non-participation of others which had yet to be addressed. As part of another subject in the programme, students had to complete a Belbin Self-Perception Inventory (SPI) and Observer’s Assessment Sheet (OAS). It was felt that this information could be used as additional data by providing further insights into students’ perceived group work strengths and weaknesses and would assist in assigning roles in the interventions. The researcher’s participant observation notes were also used as evidence for the purpose of noting ‘the activities, people, and physical aspect of a situation; and to engage in activities that are appropriate to a given situation that provide useful information’ (Spradley, 1980 in Mills, 2007:58). Student work samples and archival data was used to further assist in answering the research questions by provided supplementary evidence to support the team compositions and measure changes in group work behaviour engagement.

Course Experience Questionnaire

As part of the data collection process for the TDG, comprehensive descriptions of all the subjects that had been flagged as having the capability to blend into both programmes needed to be conducted. Therefore, detailed observations, interviews and syllabus evaluations needed to occur. The first step in this process began with utilising a questionnaire based on the CEQ from The University of Sydney (1999) (with permission from the authors) and applied to capture:

- program coherence in terms of congruence of aims, teaching methods, assessment processes and learning outcomes;
• whether the pedagogical approach was appropriate to the subject matter and program structure;
• if teaching is adapted for context (for example course content, type of program, student interests and background, and learning environment);
• if it promoted 'hard' (for example clear, demanding but achievable) expectations of students;
• whether assessment expectations of students were clear and demanding, course content was worthwhile, challenging, up-to-date and relevant to the needs of the discipline/profession/industry;
• the scope and depth of studies;
• whether the curriculum balance is a representation of the field or discipline;
• appropriate sequencing of courses and program structure coherence;
• if andragogic approaches to learning were used and if so, when and how and
• whether the program compared favourably with others that had essentially the same purpose and was likely to result in desired learning outcomes.

‘The purpose of the CEQ is to provide the University community with a basis for strategic, faculty level academic development and curriculum review to further enhance the quality of teaching and student learning’ (ibid). Once refined, the survey was administered to those subjects isolated in both programmes that had on the surface comparable parallels in their aims and objectives. The most effective means of administering the survey was through attending and observing the subject sessions. This stage took three months to complete for the identified MBA programmes and over twelve months for the MIDM programme. This extended period was due to the timetabling of the workshops. Identified MBA subjects were attended in the period from February to April 2006 whilst the MIDM workshop observations began in August 2005.

**Group Process Reasoning Instrument**

The choice of the GPRI began with researching evaluation tools specific to PBL and group work. The instrument needed to focus on the core constructs of the programmes objectives within the chosen framework focus of collaborative learning by capturing the broad
dimensions of PBL. The core constraints identified by Ladouceur, Rideout, Black, Crooks, O'Mara and Schmuck (2004:449) include self-directed learning (SDL), critical thinking (CT) and group process (GP). Once the student had developed the characteristics of SDL, this learning can then be applied effectively to group processes. Any instrument applied needed to establish and measure an individual’s contribution to themselves and the group’s collaborative learning processes. Before being applied in the context of the first action step, the content validity of the original GPRI to measure appropriate and inappropriate behaviours needed to be tested; this was to ensure that the final version was representative of the area/s of focus. Initially, the GPRI contained the items pertaining to the structural/functioning dynamic, organisational/maintenance and procedural/reasoning/critical thinking aspect of group work processes. By employing the GPRI it was assumed that this instrument had the ability to discriminate amongst behaviours that ‘do or not approach the ideal set by the curriculum’ (Ladouceur et al, 2004:448). As a result of identifying specific PBL characteristics and reviewing these against the GPRI some items were discarded so that the final version reflected the specific information being sought with regard to the types, levels and frequency of student participation rates. Previously facilitators using the GPRI measured individual student performances by referring to a set of descriptive behaviours that supported the course objectives but in this instance the instrument was not intended to assess students’ behaviours for formative or summative purposes but rather to make curriculum decisions.

**Likert Scale**

The use of a Likert scale to measure students’ satisfaction rates of group work process in each workshop session had been devised and utilised by the teaching staff since the formation of the course in 2002 and as such the researcher did not contribute to its development. There does however need to be some discussion as to its reliability for use in this context. The scale in this instance had seven options from +3 representing a high level of satisfaction to -3 expressing a high level of dissatisfaction. The ideal number of options in a Likert scale is between four and seven as the greater the number of options, the better the psychometric properties of reliability and validity (Basir, n.d.). This scale included a
neutral label of zero with two students’ exercising this option (see Figure 3). Ideally, this scale could have had the number of items reduced by eliminating the zero option and in so doing obliging the student to record some form of response. Rare is the student that does not have a position on group work processes and/or their level of learning satisfaction.

The value of using this scale is its ability to measure attitude thereby determining the effectiveness of views and experiences (Page-Bucci, 2003:n.p.) Some of the advantages of using it for a researcher conducting an AR investigation is that it is straightforward to construct as the responses are scored rather than the items; it is uncomplicated to read; and generally produces a high reliability scale. Generally by employing ‘scaling techniques (1) the validity increases, (2) the reliability of the data increases, (3) the measurement level rises (ordinal instead of categorical) and (4) the communication of the results remains comprehensible’ (Spooren, Mortelmans & Denekens, 2007:670). The MIDM students were required to make a decision about their level of satisfaction and add a statement to further clarify their choice. Even those students that chose a value of zero wrote statements that clearly expressed their dissatisfaction with some element or elements. Consequently even if a qualitative rating was not obtained, quantitative data was.

**Belbin Self Perception Inventory and Observer’s Assessment Sheet**

The majority of students had completed Belbin’s SPI and OAS as part of a previous workshop. This inventory was undertaken by the participant (SPI) and ideally a minimum of four observers from the students’ professional practice (OAS). The result is an inventory that identified nine clusters of behaviour which groups of individuals could fulfil with each being termed as a team-role (Belbin, 1988 in Belbin, 2003). The groupings according to Fisher, Hunter and Macrosson (1998:284-5) highlight that these roles are clustered together as chairman, team worker, resource investigator and company worker, and they appear to have a common ‘relationship’ dimension. The role of plant, monitor, evaluator, completer finisher and shaper appear to have a common ‘task’ dimension. Belbin (1993 in Fisher, Hunter & Macrosson, 1998:286-7) describes the dynamic relationship between one team role and another as:
dyads whose team roles both fall into the ‘relationships’ category are likely to interact harmoniously but not particularly productively; those whose team roles both fall into the ‘tasks’ category are likely to interact neither harmoniously nor particularly productively; and those whose team roles falls into one of each category are likely to interact both harmoniously and productively.

The SPI is a sixty item self-report inventory split into seven sections with each section containing ten items. Each group of ten items is scored through the distribution of ten points amongst the items in the group according to the strength of belief that an item accurately reflects the respondent’s behaviour. Thus at the extremes, ten points could be given to one item or one point given to each of the ten items. The e-interplace computer programme then analyses the results giving a score between zero and one hundred on each of the nine team roles. There is also a ‘Dross’ scale in the SPI to assess social desirability. A score of seventy or above assumed to indicate the subject’s most natural team(s) role.

The OAS on the other hand is a seventy-two item peer-rated checklist divided into two parts. The first contains forty-five positive words or phrases which are possible descriptions of the person observed. The second part is in similar form but contains twenty-seven negative words or phrases again to describe the person being observed. The observer ticks or double ticks (if very applicable) the words which they think are descriptive of the person. Each of the nine roles is scored for five positive and three negative adjectives. Unlike the SPI, there is no ‘Dross’ scale (Senior & Swailes, 1998:3) used. The OAS produces a ranking of team roles for each individual observed.

Broucek and Randell (1996 in Senior & Swailes, 1998) reported low reliability values for the scales of both instruments. However Senior and Swailes (1998:3) highlight that ‘there is no published data on how the e-interplace program scores the instruments, although we know that, for SPI, the program produces standardized scores’. Additionally, they state that there it is not clear indication of how Broucek and Randell (1996 in Senior & Swailes, 1998) carried out their reliability calculations. The instrument was not the choice of the researcher but since it had been used in a previous workshop to give an indication to
students of how they could best contribute in interdisciplinary management team work situations, it was felt that the results were applicable to assist in defining team roles in this instance. All data was reviewed and clustered into common themes. These themes were used to develop textual and structural descriptions and ‘an integration of textures and structures into the meanings, and essences of the phenomenon will be constructed’ (Moustakas, 1994:118-119).

Archival Data
In addition to the results of the SPI and OAS, group members were further characterised by referring to archival records that stated employers, positions held and occupations to define compositions with a more even distribution of professions, cohort years and languages spoken. The new group formations were introduced to the students in the May 2006 workshop. Thirty-five students were involved in the first group work exercise with thirty-four in the subsequent activity.

Student Work Samples
During the July 2006 workshop the recently developed Beijing specific PBL scenarios were tested along with the newly reformed groups (see Chapters 5 and 6). The assessment for this task was that at the conclusion of the workshop each group was required to present their findings in a documentary that mapped their PBL progress and provided possible solutions to the issues. In addition to their findings, groups had to evaluate their own learning in the presentation. In this instance due to the nature and context of the problems, students were not expected to reach a ‘right’ answer or an answer that incorporates a specific body of propositional knowledge, but rather they were required to select and apply relevant concepts, evidences and theories from previous workshops. The presentations were used as formative evidence for their group work assessment grade, and by the researcher as student work samples for Study One. The artefacts contributed to the understanding of what was occurring in the groups and the students understanding of the PBL process.
The decision as to what data tools to employ was largely determined by the nature of the problem. By utilising current data collection practices in a manner that was not their original intention such as the reflection sheets, student comments, rating scales and Belbin inventory results highlight the flexibility of an AR investigation. At the same time, field notes gathered for one purpose were then applicable and appropriate for another with the ‘resultant knowledge justified in the eyes of some audience’ (Green & Caulley, 1996:4 in Fehring, 2001). No one approach to data collection was better than another and for the three studies the researcher was an instrument who collected data utilising a variety of techniques over an extended period of time ‘ferreting out varying perspectives on complex issues and events’ (Wolcott, 1988 in Mills, 2007:57). To validate this investigation and the data collection tools the researcher made use of Guba’s (1981 in Mills, 2007:85) criteria for validity of qualitative research.

**Validity**

Guba (1981 in Mills, 2007:85) stressed the importance of the trustworthiness of data through addressing the characteristics of a study: that of credibility; transferability; dependability and conformability. Credibility refers to the ability of the researcher in this instance to take into account the complexities that present themselves and deal with patterns that are not easily explained. For the three studies this was undertaken by applying the following methods:

- **Prolonged participation** at the study site. The researcher was involved with the MIDM study for over six months before the investigation was undertaken and hence was familiar with the participants, programme and teaching staff.
- **Persistent observation.** Due to the nature of the TDG all classes and workshops were attended over the twelve month observation period by the researcher.
- **Peer debriefing.** All teaching staff were included in discussions and debriefs took place every day after the workshop sessions.
- **Practice triangulation.** Data collection methods included: the GPRI; a Likert scale; student feedback; observations; student work samples; informal interviews; photographs and reflection logs.
• Collect documents, film, videotapes, audio recordings, artefacts and other ‘raw’ or ‘slice-of-life’ data items. During the workshops photographs and audio recordings were used, as well as archival information in the form of the SPI results, and student records.

• Do member checks. Through the action step processes students and teaching staff were kept informed of the progress of the interventions formally and informally.

• Establish structural corroboration or coherence. As the MIDM Industry Advisory Board, the Dean of The Department of Architecture, Head of School and all teaching staff were stakeholders in the TDG and as such were kept informed of any findings and of the resulting actions.

By ensuring that all aspects of credibility as suggested by Guba (1981 in Mills, 2007:85) were adhered to the researcher also considered the transferability of the study and its findings. The investigation was context bound in Hong Kong (SAR) and this formed unique, descriptive statements rather than producing a generalised ‘truth’ account of Chinese learners. The dependability of the data was approached through a process of triangulation with students’ comments and feedback used to compensate for any weakness in the researcher’s observations. The GPRI and Likert scale were applied to further stabilise the data through quantitative inferences. And interestingly Lee, Jones, Mineyama and Zhang (2002:295) reported when they examining the cultural differences in response to a Likert scale ‘the construct validity of the scale tended to be better for Chinese students.’ This overlapping of quantitative methods supported a confirmability position by objectifying the data. Furthermore, by seeking guidance from and ensuring that other teaching staff were included in the collection of data and formation of interventions, the researcher was able to confirm objectively and reduce any evaluative or judgemental reporting. Issues that arose such as the dislike or dissatisfaction that students had with any interventions or PBL approaches were equally highlighted in the analysed data along with comments that supported the actions. This was vital to the success of all the studies as it was through the discrepant data that further explanations to understand what was occurring in the groups was sought. As the investigation was also a reflection upon the researcher’s
practice, without these measures in place it would have been simple to engage in a narrative that validated my position within the TDG. Reliability of the information was another factor considered when applying, collecting and analysing the data.

**Reliability**

By triangulating the data, a greater degree of reliability was achieved. Wallace (2006:35) stated that ‘sometimes achieving a high degree of reliability means controlling nearly all aspects of the situation... [and] in many action research situations this is impossible or undesirable’. But in this instance additional evidence (apart from the researcher’s hunches and observations) needed to be forthcoming to convince stakeholders that current group work behaviours had the capability to impact negatively on future PBL cases, and that interventions needed to be explored before piloting any new scenarios. This required the production of ‘hard’ facts. For this, the GPRI/Likert scale two tests were utilised to measure the:

- occurrence of appropriate and inappropriate behaviours in group work scenarios (GPRI) and
- student satisfaction rates of the group process divided into peer, self and learning categories (Likert scale).

With Belbin SPI and OAS measures behaviours rather than personalities and it is important to note that whilst personalities may remain fairly consistent, it is expected that behaviours to change along with a variation in job role for example. It is acknowledged by Belbin that the SPI and OAS results may not be static as ‘indeed, it is desirable that an individual’s should adapt to suit the demands of the job. Although it is unusual for a Team Role profile to become entirely reversed, it is highly likely that preferred and manageable roles may move around within an individual’s profile during his or her career’ (Belbin, 2009:11).
Action Research and the Researcher’s Role

Radnor (2002:30) suggests that the principles of the practice researcher can be summarised in the following statement: ‘The researcher is the research instrument who engages on a transactional process, recognizing that the process is ethics-in-action’. Fundamentally the author is proposing that there are three principles consisting of:

1. the researcher as data a collecting instrument: the reflexive subject;
2. interpretive research as transactional: keep focus and interface data and developing ideas and
3. interpretive research is ethics in action: dignity and respect for participants.

By engaging in these principles Radnor (2003) proposes that a code of conduct encourages good practice and assists in informing the structure of the research design would be attained.

Principle one is claiming that the researcher is the research instrument and therefore this has significant implications for the researcher’s roles and responsibilities, and the need for integrity. As the researcher was a participant in the investigations it was important to consider how my subjectivity could enhance the experience as ‘it is the strength on which [the research] can be built. It makes the [researcher] who they are as a person and as a researcher, equips [them], from a selection of topics clear through to the emphases in [their] writing’ (Glesne & Peshkin, 1992:104 in Radnor, 2002:30). The taking of responsibility by the researcher for the work from the beginning to completion is characteristic of interpretive research. Being responsible for collating and analysing data and understanding that these are only the tools that assisted in the process reinforced that it was I that was the driver of the processes. This was achieved by making sense of events and critical decisions about each stage, and what path to follow next. Researchers cannot remove themselves from their own distinctive subjectivity from the process but can engage reflectively in the process and be aware of their interpretive framework (Radnor, 2002:33).

Another distinction about this form of research is that the researcher engages the subjects (including themselves) in their professional practice settings. This is the essence of principle two.
The differing culture of the researcher and the students was a disadvantage but the professional bonds of being part of the MIDM programme had the advantage of establishing an instant rapport though commonality. This led to the students to generally being open with me and me able to identify with them. Conversely an environment of trust should be in place. This transactional exchange occurs on two interaction levels. The first is the practical one of the researcher and the research participants, with the second the cognitive researcher to conceptual one. This level was where I drew upon my professional craft knowledge to further extract conclusions about the phenomena being explored. The third principle is the requirement of the researcher to show respect when working with participants whilst stressing the need to remember that they are not samples but subjects.

Ethical clearance was obtained from the Human Research Ethics Committee for Non-Clinical Faculties at HKU regarding the information used in this thesis (Appendix One). Hence the standards of ethical research were applied as per HKU and Charles Sturt University research policy requirements with the key criterion for gathering data to be that of trust, integrity and respect. If these are cultivated between the researcher and the subject through the application of the three principles, then good interpretive qualitative research studies should have explanation and enlightening power about the situation under study. With its base in theory a wealth of individual perceptions about the situation will have been uncovered. With this would come an increased understanding of issues and practical knowledge present in that situation (Radnor, 2002:33).

The concept of triangulating the data was appropriate for this AR study as it ensured that a single source was not relied upon to support the findings or interventions. The studies benefitted through combining qualitative and quantitative methods as the data produced more interesting lines of inquiry than what was initially anticipated which supports the view of Newman (1998:10) but not necessarily that of the researcher in that ‘research can only be enhanced through a continuum that includes both qualitative and quantitative methodologies’. Moreover, it provided evidence to stakeholders not directly involved in the investigation of the legitimacy of the enquiry.
Through the production and analysis of the data, emergent themes were identified and used to assist in the development of future workshops and exercises. The student themes that transpired were:

- level of readiness for self-directed learning and
- perceptions of what constituted valid learning experiences.

In addition to the student themes, teaching and learning themes emerged that drew attention to a possible clash between the philosophies of andragogy and Chinese cultural and educational contexts. This is one of the advantages of employing the AR approach in an environment that values critical research with the intention of informing practice. Hence, in addition to reporting the findings of the MIDM research the researcher was committed to taking action effecting positive educational changes based on findings rather than just reporting the conclusions.

Overall, the data collection tools included archival sources such as observation notes, students’ reflective self and peer evaluation comments, student work samples, Belbin Inventory findings, Likert scale responses, student records and GPRI results. These were all used as evidence to draw inferences regarding participation rates, student satisfaction and acceptance levels of the newly developed and applied andragogic practices.
As discussed, this thesis is an investigation of three intertwined studies that link the development of PBL for a TDG at The University of Hong Kong, the outcomes of interventions to group compositions that stemmed from the observations during the first study and the overriding methodological framework of action research. Action research was applied to gain insight into the philosophical and historical position of myself as the researcher on the TDG to understand how and why I focused on the emerging issues and proposed the solutions that I did. These studies attempt to understand the cultural context of myself and the students during this 12 month period and gain an appreciation of the covert and overt influences of all stakeholders.

Enquiry-based methodologies are effective teaching and learning tools to construct knowledge and have been utilised in higher education settings since the late 1960s. The theoretical premise centres on the students’ ability to work effectively within small group settings, in a self-directed manner, and on authentic predicaments. The integration of process skills such as critical thinking and reasoning, and a positive learning attitude is required of students in PBL scenarios; as well as the ability to work cooperatively in groups. Hence when applying this constructivist epistemology, the content knowledge should reflect the skills, knowledge and attitudes required in a work place. Compared to a conventional curricula students engaged in a PBL situations now become active participants in their learning process. Kwan and Chang (2009:93) suggest that by having
students engaging in problem-based inquiry formulating their own solutions, they develop knowledge and strategies for problem-solving and self-evaluation. Problem-based learning requires that students apply their existing knowledge to analyse problems, identify issues and information gaps in an effort to specify possible solutions as steps towards constructing new knowledge. Implementing PBL into a curriculum requires the systematic analysis of learning outcomes, formative and summative assessment practices, the role of the teacher and student, and the current teaching strategies. By reconsidering the teaching and learning process and outcomes, a curriculum that strives to develop and support life-long self-directed learners can begin to emerge.

The availability of postgraduate programmes aimed at the development of students’ theoretical subject knowledge and its practical application are vast. However, the diversity of these programmes whose focus is on the students as adult learners, actively participating and creating their own learning experience is small. Today's world brings with it a rapid explosion of easily accessible information and graduates need to be self-directed and possess life-long learning skills. They need to be critical thinkers, problem solvers and be analytical in their approach. The inter-disciplinary nature of employment means that they need to be able to integrate the knowledge and skills from a number of disciplines as well as have an interpersonal competence to be an effective team member. It is the striving for team member efficiency that is central to the selection and use of PBL in higher education teaching and learning programmes.

The catalyst for selecting this approach by the TDG originators stemmed from The University of Hong Kong’s Teaching and Learning Quality Process Review (TLQPR) 2nd report (2004) that stressed a major change on campus was the planned shift toward more student-centred pedagogies, with a particular emphasis on Problem Based Learning. The University Self-Evaluation Document suggests strongly that this curricular change is the ‘major initiative on campus, and that the development of Problem Based Learning approaches is an “exemplary” initiative’ and that PBL has been an influential pedagogical model for guiding curriculum developments:
in general there is a reflective approach among the staff that is driving the changes at unit level, and a willingness to experiment with and evaluate various approaches that may lead to the desired learning outcomes. As with teaching methods, the move toward more student-centred curricula generates a shift toward a broader range of assessment modes and methods, and in particular a move toward continuous assessment and away from traditional end-of-course examinations (2nd TLQPR, 2004).

With this in mind an opportunity was sought by the two Faculties and programmes to support this focus. The TDG’s principal aim was to design and implement PBL as an instructional methodology that ‘blended’ generic and content-specific learning outcomes from the MIDM and MBA programmes at HKU. The major requirement of the TDG was the development of PBL activities that could be used in both programmes. These PBL models would blend current MBA case methods with the MIDM’s case based exploration. This chapter reviews the development of these scenarios and focuses students’ reactions and satisfaction levels of this new approach to provide valuable feedback to enhance the TDG.

**Programme Identification**

Conceding there was a gap in teaching and learning or a desire to improve upon current practice is often the first step in redefining a syllabus. The first phase of reviewing these programmes was to develop facilitator and course content evaluation tools to give an overview of the subjects outcomes and the key performance indicators, lecturers method of delivery and courses structures. This step was required so that subjects could be reviewed for possible future ‘blending’. A questionnaire/survey was developed for facilitators and course content evaluation to give an overview of the programmes subjects, lecturers and courses. This was based on The Course Experience Questionnaire (University of Sydney, 1999) which had been used by many English and Australian universities. Once developed, the questionnaire/survey needed to be administered to those subjects isolated in both programmes that on the surface had comparable parallels in their aims and objectives. This was done with a view to the eventual ‘sharing’ of the PBL cases augmenting existing
syllabi. The MBA programmes pedagogic focus was on a fundamentally inductive case-based method of teaching. This concentrated on the evaluation, examination and diagnosis of proposed cases based on conclusions inferred from the evidence supplied. MIDM case formulations approached some aspects of PBL in that proposed ill-structured problems were presented requiring contingency ‘lateral thinking’ where information was limited and the focus was on evaluation, assessing constraints and comparing values. Approaches to this type of problem solving were more synthetic with a focus on soft skills. However, MBA students learned to diagnose management structures and processes with a focus on what they had already been taught whilst MIDM students discovered how to design management solutions to craft a team vision or strategy (MIDM, 2006). As such the subjects identified in the MBA programme were: PMBAA2962 Human Behaviour Organisation (HBO), PMBA2337 Entrepreneurship, Creativity and Innovation (ECI), PMBA2965 Firm Strategy and Management (FSTRA) and PMBA2233 Managing the Consulting Process (MCP). These subject outcomes and case-based foci aligned themselves with each other, and MIDM subject outcomes – both generically and with specific learning objectives. It was thought that based on this that these subjects could possibly support any future ‘PBL cases’ by drawing on both the inductive and synthetic techniques, whilst combining diagnostic analysis in a collaborative problem-solving context.

The most effective means of administering the course content evaluation was through attendance and observation of the subjects’ sessions. This stage took three months for the identified MBA subjects. The data gathered were not used in this study as it does not direct relate to the development of the PBL scenarios but only for the gathering of preliminary information regarding content similarities. As for the MIDM programme, based on the request of the senior lecturers all subjects were attended in a timeframe that took just over twelve due to workshop timetabling. The MBA sessions were held in a lecture theatre, limiting movement without student access to resources such as whiteboards, and grouped desks for example to allow for discussions or collaborative group work. The MIDM sessions on the other hand were held in studio-type classrooms with seating that supported
group discussions with resources placed around the room such as individual whiteboards, art paper and stationary supplies to encourage brainstorming and dialogue.

The Role of Groups in Problem-based Learning

It was during the MIDM observational phase that one characteristic began to emerge that could prove to be a significant barrier to the success of any future PBL cases. Problem-based learning is highly dependent on the formation of effective groups and it was noted during the observation sessions of the MIDM workshops that students undertaking project-based exercises were always clustering themselves into professions, employer groups, cohort years and nationalities. Concurrently, the more senior members of the group either by ‘rank’ or age dominated the discussions minimizing group consensus and individual input. Their influence was so profound that the researcher felt the dominance would continue if not addressed as it was highly likely to impact upon the ‘democratic’ nature of PBL experiences irrespective of the cohort or programme. Additionally, students were used to having information given to them to produce whatever assessment task was required. Teaching and learning in this Chinese context often uses the traditional expository approach that lends itself to very little input or self-direction by the learner. The focus of PBL's andragogic practice is a student-centred, active, critical thinking approach to learning where effective self-directed group work is an integral component. This approach was one that was unfamiliar to the majority of the Chinese students as confirmed by their comments in the MIDM student session feedback sheets (refer to Chapter 6).
As illustrated in the above comparative table the traditional expository approach is very teacher-centred with the information rather than being sought by the students is presented by the teacher without any enquiry or active participation in the learning process. This was typical as per the 2\textsuperscript{nd} TLQPR (2004) report findings stressing HKU’s commitment to nurturing the direction of student-centred pedagogies with an emphasis on “new” generic student learning outcomes, together with assessment methods that gauge and foster these. Current teaching methodology on the MIDM programme emphasised the PBL approach as shown in Figure 2. The approach focused on developing the students’ ability to apply and improve their critical, higher level thinking skills and connect the knowledge cultivated in the classroom to real-world situations. The conventional memorisation of facts and values that the students were familiar with and illustrated in the above example demonstrations how the traditional expository limits critical or higher-order thinking compared to the PBL approach. By being immersed in the PBL process students retain more information not only about the facts but the specific steps taken. The ability for students to transfer knowledge gained from traditional expository approaches is limited as
the learning tasks themselves do not support the types of issues that are faced in the workplace, and hence there is a gap between the information and the students’ ability to apply this to ‘real-world’ situations. Independent learning is the focus of the traditional approach whilst the need for students to be interdependent and responsible to the group is stressed in PBL. The emphasis on group work also supports the real-world situations that are explored in PBL particularly for this cohort as the construction industry requires cohesive, supportive and professional teams.

For PBL to succeed a balance was needed between the group mixes to encourage equal participation, responsibility and workload. Herewith and to monitor group dynamics, a checklist was developed based on an adaptation of the Group Process and Reasoning Instrument (GPRI) (Rolfe, Murphy & McPherson, 1994) (Appendix Two). This instrument was selected as it was originally developed as a formative assessment tool to measure the interaction between clinical reasoning and group processes in PBL situations. The researcher observed the group for sixty minutes each whilst they were undertaking discussions to develop solutions to presented cases. The rationale behind this was to rate their ability to identify and prioritise hypotheses, develop an inquiry strategy and generate learning goals. Behavioural aspects of group function particularly in relation to task orientation were focused upon (Rolfe & McPherson, 1995). To establish a baseline as to an individual’s contribution and subsequent impact on the group this instrument was first applied in the April, 2006 workshop during the initial three months of the observational phase of the TDG without changes being made to the group compositions. Students had been engaged in the case-based discussions throughout this and previous sessions. The adapted GPRI was administered to the six groups with the categories:

- structural/functional/dynamic aspects of group processes,
- organisational/maintenance aspects of group processes and
- procedural/reasoning/critical thinking aspects of group thinking

The resulting data highlighted the need to manipulate and modify the groups’ current structures (refer to Chapter 6 for a greater breakdown of the data). After analysing the
results, students were then assigned traditional group roles with the more authoritarian members being asked to fulfil less vocal roles such as scribe whilst quieter members now took on the role of facilitator. Chapter six discusses in greater detail the outcomes of these changes and subsequent redefining of the allocated roles and the re-application of this instrument.

In addition to this tool and the results, as part of another subject the majority of students had been asked to completed Belbin’s SPI and OAS to understand their ‘team personality’. This inventory was completed by the participants and ideally a minimum of four observers from the students’ professional practice. The result was an inventory that identified nine clusters of behaviour with each participant being given ‘a team-role’ such as: facilitator, visualiser, or recorder for example. Each identified team-role was a combination of identified strengths and ‘allowable’ weaknesses that were the result of the inventory’s analysis. The participants received a fingerprint of their identified strengths for each of the nine team roles with the intended value of the team-role identification theoretically enabling an individual or team to benefit from this self-knowledge. The proposed benefits of this knowledge were to adjust workplace teams according to the demands being made by external situations. It was suggested that using this information could offer the individual and team managers an idea of how to define and allocate roles based on each participants’ ability to maximise group work situations. As the researcher was unable to observe the students over long periods of time based on the programme delivery, the inventory results were used as another characteristic for redefining the group compositions. Additionally, the culturally pre-defined hierarchical roles of the more senior students (whether by age or position in a company) were considered along with their employer and spoken language. The students were a mixture of two cohort years and as a lesser consideration amalgamating the cohorts was also applied to the mix. By redefining the groups and re-assigning specific roles, it was predicted that the likelihood of domination by a few would be reduced whilst the participation rates of others would increase.
Designing and Developing Problem-based Learning Scenarios

The first set of PBL pedagogies for this study were developed on the principles of Savery and Duffy (1994) and Milter and Stinson (1995) in that approaches to their development and design were subject to the following four criteria:

- learning outcomes are holistic rather than being divided by narrow disciplinary boundaries,
- problems mirror professional practice,
- problems are ill-structured and
- problems are contemporary.

The appropriate design of these PBL cases was therefore critical. Furthermore cases had to be effectively implemented so that students could learn from their experience by gaining a generalised awareness of professional practice situations in Beijing and be capable of developing their own robust knowledge and understanding from the case environments. As Boud (1985:13-18, in Savin-Baden, 2000:133) suggests, ‘the principle idea behind PBL is that the starting point for learning should be a problem, a query, or a puzzle that the learner wishes to solve’. The problems were therefore seen as providing a stimulus for learning and as a result the question or statement came first with the students both defining the predicament and gathering the relevant facts to explore and solve it. Thus the procedure was entirely student-centred. The subject matter to be learned, resources to be used and the time allocated to studying each problem was determined by the students but guided by course facilitators to whom they could come to for advice or guidance if necessary. The ultimate goal for MIDM students in this instance was to discover a balance between their analyses, artistry and crafting skills.

Problem-based learning scenarios do not focus solely on content but concentrate on creating authentic problem situations that reflect the complexities of ‘real-life’ scenarios. The design of these situations was aimed at replicating professional practice and the complex issues that surrounding it. The cohort of MIDM students were all in architectural or construction-based practices in Hong Kong (SAR), Macau (SAR) and Shanghai.
Therefore the problems needed to reflect the ‘typical’ professional practice issues they faced. These carefully designed problem scenarios reflected the learning outcomes required for this subject reflecting the authentic locations where the students could be immersed in the experience.

As a rule in PBL students do not focus directly on the learning outcomes as much as they would in a traditional didactic education model. However the knowledge and skills they developed from the PBL experience and the increased level of knowledge retention was far more transferable to professional circumstances than content alone. Some process knowledge was needed as a pre-requisite before students could successfully embark on their PBL journey. Throughout the two year post-graduate degree students were expected to participate in group learning activities over the four-day block of workshops; so from the beginning active learning was an integral part of the programme. As the students were working professionals in environments where work teams are part of everyday practice, there was a deliberate replication of this in the classroom to encourage students to embrace this style of teaching. The four-day workshops were structured in the following manner throughout the ‘block-delivery’:

- Facilitators and guest speakers introduce the session topic.
- Facilitators continue with topic. Afternoon group work with introduction to problem.
- Guest speakers/facilitators continue with topic. Afternoon group work with dimensions added to problem.
- Group work all day with presentation/conclusion in the afternoon and final summing up.

Previously the inclusion of learner scaffolding was structured into the first three days of the course. This scaffolding takes the form of instructions or the provision of examples of how these problem situations can be approached and solved. Naturally it is made very clear just how this methodology works and what was expected of the students. With the
structure of the ‘block sessions’ as above, the implementation of PBL’s active learning strategies seemed a natural progression/evolution.

It was thought that to test the validity of PBL and strengthen the students’ ability to work as interdependent teams that the subject of ‘Cross-Market Interactions’ was an ideal occasion to pilot this style of instruction. This subject was conducted in an area of mainland China that exposes the students to situations outside of their usual working and learning environments and for this session it was a four-day field visit in June, 2006 to Beijing, China. The TDG’s PBL cases were developed with the aim to introduce the students to a range of authentic construction and real estate issues unique to Beijing that supported the course outcomes and tools whilst applying a greater degree of autonomous collaboration. The exercises were implemented to assess the students’ ability to interpret and analyse unique Beijing construction issues/phenomena using a sociological frame of reference, and put into practice newly assigned group work roles. The objective of this subject was to ‘examine the potential beyond local markets, and seek to reveal telling differences and similarities in national priorities’ (MIDM, 2006). Subject topics were: the effective cross-transfer of knowledge and skills; creating a network; understanding and overcoming market and institutional barriers and understanding various client cultures (ibid). Tools that were to be drawn upon were observation, analysis and critique. Additionally limited access to technology, unfamiliar surroundings and spoken languages (Putonghua (Mandarin) not Cantonese is spoken) would further isolate and challenge the students. MIDM’s delivery for all four-day workshop sessions was dependent upon an explorative case-based, problem-solving approach where the parameters were defined; students evaluated the problems; assessed the consequences of the constraints; compared values and culturally-laden expectations and formulated strategies or approaches (MIDM, 2006). The difference between this approach and PBL was that the previously facilitators altered the problems conditions mid-stream sometimes changing student groups; hence the synthetic nature of the cases. Originally the new PBL cases were to be launched throughout the year in conjunction with other courses and guest speakers but an opportunity presented itself at this time as the result of a change of programme content to
pilot the PBL cases. As part of the visit to Beijing lectures were organised with subject matter experts to give the students glimpses of real estate and construction industries issues unique to this part of mainland China. A particular lecture was scheduled to discuss changes to the city and the Government’s strategic plan for the city’s redevelopment. Unfortunately it was cancelled but it was felt that this would be an excellent occasion to include active participation through investigation in an environment that was both challenging and ‘foreign’. Although Hong Kong is part of the People’s Republic of China it has been designated the status of a Special Administrative Region (SAR) which acknowledges/accepts its links to the socialist government and yet retains some of the freedoms particularly that of business previously afforded when under British rule. Furthermore the Hong Kongese consider themselves ‘western’ in their business dealings with very little negotiation or contact with Beijing-based industries hence the ‘foreignness’ of this experience.

Five PBL cases were developed in Hong Kong to replace the previously scheduled lecture with additional slots created in the existing timetable to allow for research and visitation times. Groups were given a week’s notice that the exercises would be conducted and that digital cameras, movie cameras and personal computers for example would be required as part of the assessment would be the documentary style presentation of their findings. To assist the groups, Beijing-based subject matter experts (SMEs) were contacted to support this process. They kindly donated a half day to spend with each group assisting them to focus on their problem/issue from a local perspective. Students were required to contact their host, arrange a mutually agreed location visit and make the best use of time by delivering pre-determined interview questions. At the request of the SMEs any perceived negative questioning that may be supposed as ‘anti’ government or a questioning of the regimes motivations were not to be broached as some areas directly related to future developments and the upcoming Olympic Games. Some SMEs were accompanied by ‘assistants’ and hence all due respect was granted regarding these issues. When the problems/issues were presented to the groups, these sensitivities were highlighted. Below
is a list of the original group field work breakdowns highlighting the SMEs and areas of investigation:

- Professor B: Chief Planner of area - Juer Hutong ‘adaptive re-use’.
- BIUD Head/Chief: Master plan strategy to Government (traffic and land use).
- Developer D: Residential Area, Huilongan.
- Government Official E: MTR PPP with Beijing Line.

Although there had been five original structured groups one of the SMEs was unable to obtain permission from the Government to address the group at the last minute. After careful consideration and consultation with the Belbin Group Inventory and the group demographic spreadsheet developed by the researcher (see Appendix Four), the second group members were blended into the remaining four. This was explained to the groups without incident and thankfully their agreement. As this was Beijing and many of the visitations over this period involved inspecting Olympic sites, each group was given the name of an Olympic mascot to further promote the ‘spirit’ of the exercise. As a point of interest when the names of the mascots are joined together they stated: ‘Bei Jing Huan Ying Ni’ which translated means ‘Welcome to Beijing’.

Once we had arrived in Beijing, been given a tour of the major Universities and settled into the hotel, the students gathered into their groups and were given a presentation on the principles and basic philosophies of PBL. The cases were presented to the groups with the overall aim being a contribution to the identified gaps in knowledge of the Beijing Governments’ redevelopment plan that other means of research such as the internet or media articles were unable to fill. The process and outcomes were explained and a general guide to the reasoning behind how this linked to the module was provided. Clear parallels were drawn to the current facilitation practices of the workshops so that students were aware of the links between PBL and their current ‘case-study’ approaches to remove any anxiety. At this stage each group was assigned a question and students were required to then co-ordinate their research and final assessment presentation outside of the timetabled hours – which was interesting in itself as the World Cup football tournament had just
begun. In addition to the teaching grant aim of introducing PBL, one of the objectives was to provide the students with an opportunity to be immersed and experience the distinctiveness and utility of the construction industry in mainland China.

As previously stated, the PBL learning objectives were divided into three main dimensions: analytical, conceptual and presentation. The analytical dimension focused on the students developing the following skill sets:

- Identify a problem/issue/decision or opportunity.
- Analyse a problem or issue.
- Develop decision criteria.
- Develop and evaluate alternatives.
- Generate an action and implementation plan.

The conceptual dimensions concentrated on the students being able to understand and apply the following:

- Theory (ies).
- Concepts(s).
- Technique(s).

Presentation dimensions concentrated on the students being able to:

- Separate relevant from available information.
- Specify relevant missing information.
- Organise information logically.

Based on the learning outcomes, location and availability to information the following PBL cases were developed to maximise the learning opportunities that this location provided:

1. Mission for Team Bei-bei (this mascot represented prosperity) ‘Is the ‘hutong’ a relevant model for contemporary Beijing?’ Site Location: The Qianmen Hutong area.
2. Mission for Team Huan-huan (this mascot represented achievement) ‘Is the planned rail strategy appropriate and effective for Beijing?’ Site Location: BJ Metro Lines.

3. Mission for Team Jing-jing (this mascot represented luck and opportunities) ‘Is the new master planning an effective solution in dealing with traffic in Beijing?’ Site Location: Various.


**Assessment Used in PBL Courses**
The assessment used in PBL courses relates directly back to the nature of the tasks undertaken and encompasses processes as well as content. In addition to this the assessments also sought to examine the level of integration of interdisciplinary knowledge, skills and behaviours. Generic skills/attributes are now widely accepted and acknowledged as important outcomes from a university education and are being written into most curriculum and syllabus documentation. In the case of MIDM, the curriculum rationale documentation incorporated these by stating that upon completion of the programme students should be able to:

- provide evidence of advanced knowledge about a specialised body of theoretical and applied topics particularly interdisciplinary group work,
- demonstrate a high order in analysis, critical evaluation and or professional application through the planning and execution of project work or a piece of scholarship or research, demonstrate creativity and flexibility in the application of interdisciplinary group work knowledge and skills to new situations, to solve complex problems, and to think rigorously and independently (MIDM, 2006:4).
The formative assessment for these exercises was the presentation of a documentary-style discussion that mapped the students’ PBL progress whilst providing possible solutions to the questions. In addition to their findings, groups had to evaluate their own and the groups’ learning via the reflective log. In this instance due to the nature and context of the problems the students were not expected to reach a ‘right’ answer or an answer that incorporates a specific body of propositional knowledge but rather they were required to select and apply relevant concepts, evidences and theories of collaborative learning. The process was also used as formative evidence in the programmes group work assessment grade. Therefore, it was not just the creation of appropriate PBL solutions (formative) that needed to be considered but how each member of the group had contributed to their construction (summative). It was important to ensure that summative assessment requirements for this process were appropriate to the course design and had not been juxtaposed over existing assessment evidence for the subject but complimented it. The types of assessment that tested these areas in this instance included:

- reflective problem logs;
- daily reflection sheets;
- self-assessment;
- peer assessment;
- observations and
- questioning.

**Data Collection and Analysis**

One way of assessing the success of this approach was to review the individual’s attitude towards additional composition changes and the PBL exercises. This was achieved through the data gathered from the daily workshop evaluation sheets that each student was required to complete. These reflective worksheets contained areas for self, team and learning contemplation. Students were asked to complete one for each of the four day workshops and paste the original in their reflective log book whilst supplying the teaching team with a photocopied version for review. These sheets additionally had a rating scale next to the
sections where students were asked to allocate a value from +3 for satisfactory through to -3 for unsatisfactory and give further written feedback regarding their rating choice and evaluating their own, the team’s performance as well as the learning process from that day’s workshop. The initial comments written on the evaluation sheets documented the students verbally undisclosed reluctance to take on the task, their disappointment that they had to ‘work’ at finding answers rather than attending a series of lectures and site visitations and how this would impacted on their socialising; ‘Good. Anyway better than I thought. Took time to focus on objective, and dinner was a v.high priority, but finished in the end. (mix of 2 MIDM years is good)’. (Student 4, 17 June 2006). Additionally another student commented on their surprise at the level of learning that took place, their enjoyment of the process and enthusiasm once immersed in the process ‘it was a really good experience to work on a topic out of our own discipline. I find that conflicts are more vigorous as before and with the understanding of the facilitor’s (sic) role, we can control ourselves aim in the task[sic] and compromise is reached (Student 9, 18 June, 2006). The reflective journals as well as self-assessment sheets were powerful tools that encouraged students to think about the processes and just what they had learnt, whilst additionally allowing the teaching staff to monitor students’ reactions to the PBL process. Comments such as the one below highlighted the linked to the generic skills and attitudes that at times are difficult to monitor or define:

To me this Beijing journey is a very valuable experience. Not only knew [sic] about how to apply the systematic thinking such as CAF, Six thinking hats but also felt closer to the classmates. This is a good opportunity for all of us to build a sense of belonging to MIDM. The four topics assigned to four different teams were actually all related. Through the presentation of all four teams we realized the relationship between the four aspects. It was a good arrangement. The schedule was quite tight. If a little bit more time could be allocated for the presentation, I believe there would be more constructive discussion that could inspire us more (MIDM student 1, July 2006).

In addition to the reflections journals, students were asked to rate their satisfaction with the
days’ activities from a learning perspective. Of the thirty-five students, twenty-seven submitted the following information for the first day of the PBL activity allocating a rating to their satisfaction levels.

**Workshop F: Cross-Market Interactions 15th – 18th of June 2006.**

<table>
<thead>
<tr>
<th>Satisfaction level</th>
<th>Failed to mark</th>
<th>Double marked a section</th>
</tr>
</thead>
<tbody>
<tr>
<td>You</td>
<td>1 7 1 0 0 0 0 0</td>
<td>1</td>
</tr>
<tr>
<td>Team</td>
<td>2 7 0 0 0 0 1</td>
<td></td>
</tr>
<tr>
<td>Learning</td>
<td>0 9 0 0 0 0 1</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>3 23 1 0 0 0 1 1</td>
<td>1</td>
</tr>
</tbody>
</table>

Figure 3. Student learning satisfaction ratings - 17th June, 2006.

The data highlights that generally students’ reactions rated above-satisfactory with the learning for the first day of the exercise: individually and in groups. This information combined with the comments shows that even though they may have been reluctant to engage in this form of learning at the beginning of the day, overall they felt that they had achieved something. ‘I enjoyed very much the discussion with the teammates in the case study workshop;’ (MIDM Student 3, 17 June, 2006), and ‘jumped in with a few false assumptions, but managed to shut up in time for team to pull together’ (MIDM Student 4, 17 June, 2006). Conversely, the second day reactions showed a marked decline in their levels of satisfaction. This was the day where they had to present their documentaries after working on them during the evening with the focus for the second day on group cooperation.

<table>
<thead>
<tr>
<th>Satisfaction Level</th>
<th>+3</th>
<th>+2</th>
<th>+1</th>
<th>0</th>
<th>-1</th>
<th>-2</th>
<th>-3</th>
<th>Double marked a section</th>
</tr>
</thead>
<tbody>
<tr>
<td>You</td>
<td>0</td>
<td>6</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Team</td>
<td>1</td>
<td>6</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Learning</td>
<td>1</td>
<td>6</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>2</td>
<td>18</td>
<td>5</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
</tbody>
</table>

Figure 4. Student learning satisfaction ratings - 18th June, 2006.

This evaluation showed that there was a greater increase in the number of students that reported that they were ambivalent to the process and those that were just satisfied with it. There was one student that double marked so it can be assumed that they were between ratings which were both in the negative. ‘I did not take part in the presentation this morning as the PowerPoint was finalised late last night. I did not get the chance to read the file beforehand...teamwork was difficult this time as the team leader was arrogant and I was not keen on his style’ (MIDM Student 5, 18 June, 2006). As stated not all students found the exercise stimulating with one student noting that he was:

...disappointed with the group (PBL) exercise. It could have been a great opportunity, a learning vehicle for us to appreciate the importance of a ‘holistic’ view to a problem (of such nature), to get a “feel” of system thinking. But the questions were so poorly constructed that they misled almost all teams to think of only their subject of investigation but neglecting the 4 subjects are probably interrelated and interdependent core elements of urban design ...the prescribed steps of the PBL exercise are, in brief, rubbish...did anyone at HKU MIDM possess the knowledge to assert any ‘solutions’ from the teams’ (Student 6, July 2006).
Although this was the only student that either felt this way or had the courage to document his true feelings, it did highlight the differences in learning styles and expectations of learners. Furthermore this student wrote ‘the solution to any problem is irrelevant...the four ‘problems’ have been problems for urban design for decades, subject of numerous intense studies. Is there any merit in asking the teams the even attempt a solution?’ (Student 6, July 2006).

As highlighted in all of the PBL teaching learning materials, the process of learning particularly in this location was just as important as the answers. This was to take into account the nature of the issues and lack of information available in mainland China. This change in approach and limited access to resources made a student ask at the beginning of the trip if he could be excused from the exercise as he felt he would not benefit from the process. This notion did present a problem for the researcher in that the programme advocates andragogic practices and this student was exercising his self-knowledge by recognising what was relevant to his life stage development. This mirrors Knowles (1984) theory that adults will respond to external motivators but that internal motivators exert a more potent influence. Was he displaying an awareness of his cognitive needs by fully displaying his understanding of the consequences of learning or not? (Knowles, 1990). Although Knowles emphasizes the importance of the self in the learning process, he also advocates learning can be negotiated through a learning contract between the learner and educator. By enrolling in the course it is considered that a contract regarding the student’s participation and contribution had been entered into and in this instance the student’s request for exclusion was considered by the facilitators as not open for negotiation. It was felt that his absence would impact upon his group and the remaining three groups’ morale as well as on his final group work grade. Hence the needs of the other learners took precedent over his in this instance. Sadly, his reflections when summing up the exercise stated that he was unable to gain from anything personally or professionally from the PBL approach. The MIDM course outcomes emphases that graduates should ‘demonstrate creativity and flexibility in the application of interdisciplinary group work knowledge and
skills to new situations, to solve complex problems, and to think rigorously and independently’ (MIDM, 2006:3). In this new situation it was felt that the student would have been able to at the very least apply some creativity and flexibility to an old problem within a new contextual experience.

PBL involves a great deal of team/group work and a large amount of the assessment revolves around this type of activity. Group presentations in this instance provided a substantial contribution towards students’ final mark and could be mitigated by the final formative peer review each student received. The development of the individual’s ability to work effectively as part of the team can be seen in comments made by students whom alluded to their emerging sense of satisfaction as a productive contributor to the group such as ‘Today, we made a great presentation. We has [sic] a very good team spirit and work together efficiently. The slides below are our deliverables (Student 8, 18 June, 2006). These remarks reflect the student’s satisfaction with not only the assessment task but the group’s cooperative approach. It also highlights the sense of learning satisfaction that some participants gained in addition to the PBL process outcomes.

MIDM graduates need to work productively in diverse groups, employ effective judgement when handling complex issues and articulate a compelling vision to multiple stakeholders (Brownell & Jameson, 2004). In this PBL process, learner groups encountered real-world problems and sought to solve them with information they already possessed allowing them to appreciate what they already knew, whilst additionally identifying what they needed to explore to better understand the dilemma and propose resolutions. Student 6 mentioned however that ‘not so much learning from it, but observation confirming theories I’ve learnt like the propensity of people to hook (concentrate) onto ‘solving the problem’’ (18th June, 2006). This ‘working through’ a problem as far as possible and identifying what they needed to know additionally assisted the learners to engage in self-directed collaborative learning situations.
The concluding presentations emphasised the ability of the learners to apply what they learned in this short time in order to more fully understand an issue and attempt a resolution. After they had finished working on their questions and presented their results, the learners rated themselves and each other to develop skills in self-assessment and the constructive assessment of peers. Self and peer assessment was an essential skill to effect independent and interdependent learning during this process, “Jing-Jing should be the champion. This is the first time in my entire one and a half years learning in MIDM I feel team spirit. No-one wastes time in fancy talking or showing off” (Student 7, 18 June, 2006). This comment suggests that the cognitive, affective and behavioural outcomes were achieved. By expanding cognitive learning through an analytical learning process, the students gained knowledge of mainland Chinese business concepts, principles and methods. The analysed comments data clearly shows that the majority of students were open to the process of PBL rather than being fixated on the outcomes as was previously their focus. It also illustrations how many students valued the team work spirit that evolved. By affective learning through an interpretive process, students gained sensitivities to consider multiple perspectives and the impact of various options. The synergy of cognitive and affective learning in PBL formed a solid base for the development and informed application of implementation skills. This included the ability of these students to put plans into actions, lead teams, communicate with stakeholders, and follow through (Bronwell & Jameson, 2004).

Apart from taking these refreshing outcomes into account, the researcher was concerned about the limited time allocated to the ‘solving of problems’ through the research and review of available information. The restricted presentation timeframes were also a feature of the exercise that was commented upon by students in the feedback and informally in conversations where they stressed their dissatisfaction ‘I enjoyed the variety of presentations today but they were not fully discussed or reviewed. I appreciate the limitations with time and the necessity of strict time control for the tight schedule (Student 10, 18 June, 2006). It is acknowledged by all stakeholders that the four days were at times rushed and that the PBL cases were somewhat ‘sandwiched’ between other activities.
undertaken to maximise the location experience. It was noted however even within these time constraints the students were still able to employ a variety of information resources such as books, journals, reports, online information and utilise the SMEs expertise to support their investigations. In this way the learning was personalised to the needs and learning styles of the individual whilst supporting the philosophy of working within a team towards a common goal.

Despite the challenges of developing, implementing and evaluating PBL, redefining group compositions and the restrictive location, the advantages to the students and the program far outweighed any time restraints or student’s negative attitudinal drawbacks. Students may not have been initially aware of the learning that occurs during the PBL process although it was discussed previously however the evidence from the Likert scale supports their openness to the notion that there existed different styles of knowledge construction. Student comments also provided supporting valuable feedback of how important supportive democratic group work was to them and the benefits that could be obtained through positive collaborative experiences. With the students overcoming their initial barriers to real and perceived issues of the PBL route they were fostering the beginnings of an acceptance of what they considered as a ‘non-traditional’ method of instruction. This should be of interest to institutions considering adopting western-styles of instructional methodology in eastern backgrounds as consideration must be given to the cultural and religious backgrounds of students and their ability to adapt to forced changes. Hong Kongese students are entrenched in ‘Confucianist educational constructs that assert youth, formality, a focus on propositional knowledge, and open-access’, and that procedural knowledge, ‘where explicit (mainly confined to learning techniques and structures) follows in linear fashion from the propositional, reflecting the didactic learning context’ (Bruner, 1996 in Turner, 2006:32). Therefore the level of transition for students from their learning comfort zones whether that was in teacher-centred classrooms or time-honoured group dynamics should not be underestimated. Neither should a change in their language use. These PBL exercises placed the majority of the student not only in unfamiliar physical environments but in foreign teaching and learning and linguistic situations as well. These
extra elements combined with the time limitations could have proven to be disastrous on many levels hence the importance of the facilitators’ initial role in scaffolding the learning process to ensure that students were clear about the process and objectives of the exercise. Students additionally needed to understand the assessment tasks and criteria, and how they linked to the programme’s overall learning outcomes. The PBL experience in this instance supported Knowles’ andragogic practices in that the students were able to identify what, why and how they needed to learn before the PBL process began. Analysis of the data showed that majority of students were able to apply self-concepts as they moved towards being responsible for their learning as opposed to being supplied with information from their teachers and draw on the experiences that they brought into these situations. Furthermore, they were motivated to learn those points required in order to cope with real-life situations showing their readiness to adapt to learning in this context. Additionally this motivation assisted students to perform the required tasks and achieve the subject’s outcomes. This combined with evidence of internal pressures such as their sense of satisfaction and self-esteem highlighted their generally positive response to the requirements of the PBL exercises and the TDG’s objective of applying this approach to a Hong Kongese cohort.
Chapter 6

Study Two: Collaborative Learning

Group work in adult learning environments is an essential teaching and learning instrument that encourages the sharing of experiences, promotes content discussion and forges communities of shared knowledge. Successful group work activities should create environments that sanction the exchange of information and inclusion of all members. Unfortunately not all situations promote a democratic approach with the domination of a few and a shortage of input by others whether through a lack of confidence or incentive. According to Connolly (2008:21) group work is defined as ‘the art of working with others in a group towards a goal, whether...implicit or explicit.’ This is particularly relevant to learning groups where the collective outcomes drive the cooperative and collaborative processes such as in PBL. The ability for all members to utilise these group skills and overcome any personality difficulties is key to attaining its goal and enhancing each members learning experience (Connolly, 2008). The overall research question of the thesis is to explore this cohort’s readiness to accept PBL as an effective instructional methodology and whether their current group work practices and cultural influences have the ability to impede this cooperative and collaborative process. Based on the notion that groups are imbued with dynamic relationships that between members generates energy and processes that combine to create synergy, this interaction is far more likely to be effective and contribute further to the knowledge process of all members rather than just an individual. The MIDM programme focused on harnessing this use of synergy in its four-day workshops with the explicit aim of exploiting teamwork at its core (MIDM, 2004). The four day workshops intended to simulate the four stages of team development that of: forming (orientation), storming (dissatisfaction), norming (resolution), and performing (production) (Blanchard, Carew & Parisi-Carew, 1994).
The Confucian value system of Hong Kongese students advocates that within this tradition students learn through co-operation by working for the common good, supporting each other and not elevating themselves above others (Nelson, 1995:5 in Flowerdew, 1998). This traditional value system was evident in the MIDM classroom as there were mixes of cohort years, gender and senior staff alongside more junior members of the same company. ‘Younger’ or ‘secondary’ members tended to defer their judgements in these group activities to the more ‘senior’ with this behaviour often subtly impacting upon the expected group development cycles as propriety must at all times be maintained. ‘The individual’s social and professional status automatically bestows him or her with authority, to such an extent that subordinates tended to assume that the boss is always right, purely by their virtue of their standing’ (Flowerdew, 1998:325). Hence when asked to contribute an individual opinion in these situations, they were reluctant to do so. Conversely when students were required to give peer feedback as a group they were clearly more comfortable because they were voicing collective opinion. Turner (2006:34) highlighted in her study of Chinese students in studying in Western tertiary environments that there was a lack of ‘enthusiasm for group work and their regard for this as being outside the formal learning process.’ An interesting issue with the student sample of this study was their shared ‘generally low level of awareness that participants showed of their orientation to learning...with their accounts largely focusing on the technical/instrumental aspects of the learning process when identifying progress or development, rather than relating skill-acquisition to any fundamental changes in views about context and epistemological composition of learning’ (Turner, 2006:34). These cultural influences were also often evident during the attendance at the MIDM workshops by the researcher for the purpose of observing and implementing the course survey discussed in Chapter Five to identify possible subject alliances for the TDG.

It was during the MIDM observation phase that the emergence of the characteristics of fixed group member inclusion and distinct hierarchical roles was apparent. This phenomenon was so intriguing that the researcher felt further exploration of whether these implicit group collectives and roles impacted upon the effectiveness of the groups could be
of great benefit to the students and future PBL scenarios. It was observed that students undertaking project-based group exercises were generally clustering into professions, employer groups, cohort years or nationalities. It was observed informally that the more senior members of the group either by ‘rank’, or age were dominating discussions, minimizing group consensus and individual input. A number of incidences during this phase ‘illustrated both a maintenance of the obedient ‘passive-receptive’ student persona’ (Biggs, 1999; Gay, 2003 in Turner, 2006:42) and in some cases, a sense of doing what was necessary to pass and ‘what the teacher required, not asking questions, keeping opinions to oneself’ – and as an example of the essential unchanging conceptual framework with which participations evaluated their learning experiences’ (Turner, 2006:45). It could be argued that the success of any teaching and learning exercise is the meeting of a subject’s aims and objectives and as such on the surface current MIDM workshop outcomes met theirs. But nonetheless it is also the experiential group processes particularly in adult education that are just as important for successful outcomes, and it was questioned based on the observed behaviours in groups whether individuals were achieving this. It is difficult to gain experiences and take chances (particularly in a safe learning environment) if individuals do not or are not able to participate. With this in mind, there needed to be a focus on establishing the extent of influence these traditional characteristics had and whether interventions through group structure modifications within culturally-sensitive pedagogy would be appropriate and/or beneficial to this process.

**Establishing the Individual’s Contribution**

Apart from programme enrolment, the professional discipline of these students was the bonding agent between them. As in their design and construction practices students were required to rely on the individual’s knowledge and skill sets with the collective wisdom of the groups to successful develop and implement creative ideas. Therefore the need to be competent in collaborative team work situations was paramount for their careers. It was observed that the students chose their groups members (whether intentionally or sub-consciously) by automatically placing themselves at the same tables at the beginning of the workshops that contained either peers from the same companies, occupations or gender
(where the majority were male for example). These self-selected groups generally remained static throughout the programme. This approach was not emulating workplace situations where pre-selected multi-disciplinary teams were selected by management for their expertise and ever-changed throughout the life-cycle of design and construction projects. Problem-based learning practices ideally should reflect authentic situations and as such the current MIDM group compositions needed to be amend to reproduce this. The first phase of redefining the groups was to determine each individual’s contribution over a defined period and authenticate whether these observations had any substance that they negatively impacted or influenced the group learning process in some way. As the workshops were held every month over a four day block any techniques that could be applied to assist in establishing the level of each student’s participation needed to accommodate a rapid quantitative analysis of the situation. The first approach was to develop a tool that quantified the quality and quantity of dialogue exchanges (Prinz, Yip, Tipoe, Lucas, & Lenstrup, 1998). The aim was to document current group work behaviours to provide a baseline by which to evaluate and subsequently amend any areas identified to support future PBL scenarios. Prinz et al. (1998) stated that identifying problems is the first step towards solving it. Conversely, they also proposed that it is arguable whether students’ contributions to small group sessions should be assessed. They further explain that unless features of the process-learning had any real influence on the outcomes of that process then the monitoring is a waste of time. Interestingly enough their research was also with medical students utilising PBL at The University of Hong Kong. In this instance the monitoring of student contributions was closely tied to the identification of the kinds of activities/characteristics/behaviours/attitudes which individuals in groups and groups themselves need to develop to perform successfully in complex settings (Newman, 2001). Hence by monitoring contributions group structures could be reviewed to reflect ‘real world’ practices that supported PBL scenarios, the TDG aims and MIDM’s philosophy. Observational tools that could assist in this task and produce the rapid quantitative analysis of the situation were required. The researcher again turned to medical faculties that supported a PBL syllabus. The Faculty of Medicine and Health Sciences at Newcastle University, Australia had developed an observational assessment
tool that uses both formative and summative methods to assess group process and reasoning skills. The instrument is used to observe group performances during specific group tasks. Newman (2001) stresses that no data is reported on the reliability or validity of this instrument but it was decided by the researcher that the instrument contained the elements that were needed to be focused on to record specific behaviours that support or hamper effective group work situations such as: member inclusion/exclusion, evenly distributed discussion, discussion limited to a few members and domination of group by 1 or 2 for example (Rolfe, Murphy & McPherson, 1994).
Data Collection and Analysis

In the original Group Process and Reasoning Instrument (GPRI) (Rolfe, Murphy & McPherson, 1994), (Appendix Two) each criterion is specified as a pair. The first category of behaviour is considered appropriate with the second inappropriate. In the amended version the two domains of structural/functional/dynamic aspects of group processes and organisational/maintenance aspects of group processes were retained as focus was on the interactions and the division of labour, whilst the procedural/reasoning/critical thinking aspects of group thinking category from the original was removed. Depending on the type of activity for example a case-based exercise, it was possible to assess interdisciplinary group work by means of direct observations, a set of criterion and interviewing. The researcher used this tool to monitor how the students worked together and divided the various tasks. This was backed up by occasionally questioning whilst they worked. For example student groups were asked about how and why they divided the work load at the end of the exercise as part of the evaluation process. Individual students were questioned to ascertain their overall understanding and distinguish if they had made an effort to involve themselves in the tasks if it was felt that further clarity was required.

The first observation using the GPRI was conducted during the 27th-30th April, 2006 ‘Structured Thinking’ workshop that focused on the resolving of issues utilising De Bono’s Six Thinking Hats strategies. This subject’s focus interestingly is on behavioural patterns with the sub-theme of group decisions with the structure and content being selected many years previously by the programme coordinators. Documented throughout the observations was the number of times each criteria was met with additional comments highlighting any behaviours that although were not listed as criteria could not be ignored such as group members leaving the discussion half way through and returning towards the summing up section in the proceedings. Additionally, languages spoken, main contributors, students’ physical presence (sitting or standing for example) were all recorded throughout the 60 minute discussions. All six groups were monitored twice over
the four days; the first without member intervention and the second with re-structured group compositions.

After the first observation the researcher reviewed the data to establish which groups had the greatest incidence of inappropriate behaviours such as members isolated/excluded, no clear division of labour, able to proceed along only one route, inattentiveness in posture, and whether the additional comments could cast any light upon these. The following are the combined results of the first observations outcomes. The two areas of focus were the structural/functional/dynamic and organisational/maintenance aspects of group processes.

Observation One

<table>
<thead>
<tr>
<th>1. Structural/functional/dynamic aspects of group process</th>
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</thead>
<tbody>
<tr>
<td>1.1 All members included/involved</td>
<td>3</td>
</tr>
<tr>
<td>1.2 All members attentive in posture</td>
<td>4</td>
</tr>
<tr>
<td>1.3 Widespread interaction between members</td>
<td>1</td>
</tr>
<tr>
<td>1.4 Freedom to express ideas thoughts</td>
<td>6</td>
</tr>
<tr>
<td>1.5 Evenly distributed discussion</td>
<td>2</td>
</tr>
<tr>
<td>1.6 Ability to resolve conflict/disagreement</td>
<td>5</td>
</tr>
<tr>
<td>1.7 Critical consideration of all ideas</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. Organisational/maintenance aspects of group process</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1 Group limits discussion of peripheral issues</td>
<td>6</td>
</tr>
<tr>
<td>2.2 Group demonstrates coherence of approach</td>
<td>4</td>
</tr>
<tr>
<td>2.3 Group consciously works toward making decision</td>
<td>4</td>
</tr>
<tr>
<td>2.4 Tasks clearly allocated/accepted with group</td>
<td>3</td>
</tr>
<tr>
<td>2.5 Ability to adopt alternative route to solution if one is blocked</td>
<td>6</td>
</tr>
</tbody>
</table>

Figure 5. GPRI administered 27th April, 2006.
Of the six groups five had discussions that were observed to be limited to a few, with four of the six groups being influenced mainly by one or two members. Considering that there was an average of six members in each group the significant lack of contribution by the majority of the students was an area of concern. To add further weight to the GPRI results, additional researcher comments drew attention to issues such as ‘Student A was the self-appointed facilitator - was noted formulating his own questions for the facilitator whilst the rest of the group were discussing other areas – he was also taking on the role of scribe without consulting with his team-mates’ (1st observation, Group 1, 27th April, 2006). When this occurred, the remaining group members reverted to Cantonese (Student A was an English-only speaker and senior manager). Their body and spoken language clearly displayed their frustration with student A and yet not one member spoke out – they just appeared to accept his dominance. Again it was noted that a student in another group tried to control the group’s discussion process as he ‘took over the role of facilitating from student d (v. dominating) without any consultation’ (1st observation, Group 4, 27th April, 2006). A student from Group 3 was observed leaving the table in the middle of the discussions ‘Where is student B then? He has left and failed to return for the remaining 50 minutes (1st observation, Group 3, 27th April, 2006). The researcher asked the student upon his return where he had gone and his response was to just shrug his shoulders and smile. Not one student in this group commented or questioned his absence and just visually acknowledged his returned and continuing with their discussions. The acceptance of behaviours that clearly showed a lack of contribution or too much emphasised that any form of conflict was generally avoided.

Although it was obvious that basic group management processes were employed with objectives for each scenario, there did appear however to be a lack of understanding of what was expected from each student and how they could contribute to the group work process. Any group work exercise ‘under proper conditions, encourages peer learning and peer support...under less than ideal conditions, group work can become the vehicle for acrimony, conflict and freeloading (University of Wollongong assessment policy, 2002 in James, McInnis & Devlin, 2002). Less than ideal behaviours observed in this instance
included a lack of understanding of any group work skills such as limited contribution to discussions or question formulating, little consultation and dominance of final presentations for example. In terms of learning it could be argued that much of what was experienced was ‘relatively superficial, at the level of skills and knowledge acquisition or surface learning, which confronted notions of the deeper or transformational learning achievable within postgraduate studies’ (Turner, 2006:47). After the first observation areas of concern noted by the researcher were further mentioned by some students in their daily reflection sheets. Comments such as ‘Team of the table has not been as energetic as I expected; taking into account we’re all 2005 cohorts. In addition, the team has NOT used any of the tool and skill from 2005 module. Discussion was in a highly unorganised, almost chaotic fashion (Student A, Group 5, reflection sheet, 27 April, 2006). Additionally, ‘I tried my best to make my contribution. However, my opinions are ignored most of the time. Actually not only mine, but also other teammates opinions are ignore’ (Student B, Group 6, reflection sheet, 27 April, 2006) and interestingly from the student that was forceful in group one this reflective comment of his being ‘Too loud, and didn’t let others have a go! (Student C, Group 1, reflection sheet, 27 April, 2006). As stated the GPRI results are reflected in these comments further highlighting that domination and a lack of designated roles was an issue that interfered with some students’ motivation to contribute and thus affecting peer-learning. After monitoring group dynamics through the application of the GPRI, observing behaviours and taking into account student comments and ratings; careful consideration was given to implementing designated roles in an endeavour to reduce the domination of some, increase the contribution of others to ensure that all students had a clear understanding of how the group work process could add value to their own learning. There is no one ‘best’ practice model for group work situations as its application is constantly changing and so a degree of flexibility is needed so that individual learning styles can be accommodated. At this point it was decided that the need to establish roles and responsibilities was the highest priority to guide students’ behaviour and encourage their contribution for this workshop. By also discussing what each group work role entailed with all the class it was anticipated that a clearer understanding of expectations would be determined.
This workshop applied De Bono’s Six Thinking Hats problem solving strategies with each groups’ hat colour predetermining a position towards a problem. These coloured hat positions required carefully definition to ensure that all members were able to take on the standpoint that was required of the colour so that they were able to contribute to the overall findings of the class on an issue. By adding the element of role allocation, quieter students were encouraged to take on roles that required greater management input whilst the more previously observed domineering students were to be asked to fill more support type responsibilities. The group compositions were not altered at this first stage as they had been working together for at least two days towards a solution and it was decided that a change in members may detract from the objective of the workshop. On the last day however it was decided to further clarifying group work roles in the context of adding to De Bono’s group work processes. This was done so as not to draw attention to the behaviours had been observed by the researcher over the previous three days. It was also a subtle response to the comments that many students had made in their reflective notes. As it is often human nature to become defensive if challenged particularly in the areas of individual behaviours so by focusing on the group as a whole, a change of functional roles was approached as a supporting tool for the De Bono exercises.

The next phase of concentrating on effective group work practices was to consider the group compositions and strive to configure them in a manner that supported the individual and the team to facilitate the development of:

- team work skills (skills working with team dynamics; leadership skills);
- analytical and cognitive skills (analysing task requirements; questioning; critically interpreting material; evaluating the work of others);
- collaborative skills (conflict management and resolution; accepting intellectual criticism; flexibility; negotiation and compromise) and
- organisational and time management skills (James, McInnes & Devlin, 2002).
**Group Re-construction**

It had come to the attention of the researcher that in a previous workshop that the majority of the students had completed Belbin’s SPI and OAS. These surveys were undertaken by the participant and ideally a minimum of four observers from the students’ professional practice. Once completed by the participants and their colleagues, students’ results were forwarded to the Belbin team and analysed via e-interplace software to measure behaviour and propose team roles:

An individual does not have one Team Role, but a combination of preferred, manageable and least preferred roles. The distribution and interrelation of these roles across an individual’s profile have a great influence on the way the roles will be played out in practice and experienced by others. Whilst an individual may claim to prefer or enjoy a particular role, it does not necessarily mean that they can or should play only this role. The theory of Team Roles is concerned with acknowledging strengths and weaknesses, but also with cultivating strengths to becoming a model, strong example of a given Team Role type (Belbin, 2009:2).

Belbin’s inventory was originally chosen by the Head of the Programme because the focus was on the universal behaviour of managers not just from a Western perspective with the clusters of behaviour applied to the inventory have been identified as underlying the success of the teams. These are named "Team Roles" and are divided into the following three categories:

<table>
<thead>
<tr>
<th>Action</th>
<th>Shaper (SH), Implementer (IMP), and Completer Finisher (CF)</th>
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</thead>
<tbody>
<tr>
<td>Social</td>
<td>Co-ordinator (CO), Team worker (TW), and Resource Investigator (RI)</td>
</tr>
<tr>
<td>Thinking</td>
<td>Plant (PL), Monitor Evaluator (ME), and Specialist (SP)</td>
</tr>
</tbody>
</table>

Figure 6. Belbin Team-roles (Belbin, 2003).
Appendix Three further describes each category in greater detail but the example above emphasises that the students who displayed the traits of a Monitor Evaluator (ME) were chosen for the role of facilitator. The ME can contribute to a team by being sober, strategic and discerning. They are supposed to see all options and judge accurately. The next role allocation was that of Visualiser and these students displayed the traits of a Resource Investigator (RI). This role can contribute to the team by being an extrovert, enthusiastic and communicative; they explore opportunities and develop contacts. The role of recorder was given to the students that displayed the most dominant behaviour in the GPRI observations with an aim to dilute their influence allowing others to contribute. These were the three behaviours that were focused on in this instance.

**English as the Language of Instruction**

In addition to the results of the Inventory group members were further characterised by a more even distribution of professions, cohort year and languages spoken. The language of instruction at The University of Hong Kong is English but for group work many students naturally spoke Cantonese. The priority for advocates of an English-only approach within this programme was that it could maximise students opportunities to hear and use the target language but as Edwards, Ran, and Daguo (2007:395) highlight, ‘there are considerable pedagogical benefits in being able to rehearse in your own language what you’ve just been discussing or listening to. Norton’s (2000 in ibid) concept of investment should be considered when insisting on English being spoken as he stresses it is:

- useful as when the learners speak, they are not simply exchanging information;
- rather, they are investing in ways in which change over time and space and identify as speakers of a second language in the hope of gaining access to the benefits which accrue to speakers of that language.

Whilst the students were required to speak English when conversing with staff and facilitators, there was a push by teaching staff to carry this over to group discussions (purely as we did not possess the Cantonese skills to converse with or understand at any depth what the students were discussing), and some members were English-only speakers.
Although English was the language of instruction at HKU and the majority of students used this language on a daily basis, it was not ever discussed whether the impact of a students’ language competency impacted upon their ability to join in with discussions. I did ponder this as a contributing element for non-inclusion when a native speaker approached or was a member of a group and Cantonese was being spoken by the majority. Naturally the students spoke their mother-tongue of Cantonese but some members were also non speakers of this language and could only converse in either English or Mandarin. Some students were also reluctant to engage in conversion with myself and I was advised that they are often reluctant to do so with native English speakers in case they made mistakes and lose face. This supports the findings of Pennycook (2007 in Edwards, Ran & Daguo, 2007) in that he states there seemed to be little awareness amongst university teachers of the wider debate concerning the hegemony of English, and that ‘overtones of assimilation and cultural imperialism associated with the mantra that only English should be used in the classroom’

Whilst it is possible to argue that the use of English is important so that students acquire and use relevant target language, there are situations however where the use of Cantonese would allow them to take greater ownership of their learning whilst delving into and participating in discussions more readily without having to find or translate the appropriate language. As facilitators of a programme where English was the language of instruction there needs to be opportunities to ensure that the learning environment reflects students’ diverse workplaces as well as supporting the use of their mother tongue. As such, during the observation of the first cohort language use was noted but within group work situations but was not focused on. In 2006 there was an intake of new students increasing the number of non-Cantonese speakers. English now became the language of group activities with ‘language fluency’ included in the group mix selection criteria thus ensuring at least one non-Cantonese speaker per team.

A full breakdown of the new teams is found in Appendix Four but below is an example of the categories applied. Company mixes were primarily considered in light of the tendency
of the groups to stay with their peers and in some cases supervisors as previously discussed. These new group roles were introduced to the students on day four of the April, 2006 workshop with an explanation citing the Belbin Inventory as the major influence (rather than individual domination). Thirty-five students were involved in the first group work exercise with thirty four in the subsequent activity implementing the restructured groups.

<table>
<thead>
<tr>
<th>Role</th>
<th>Group 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facilitator</td>
<td>Student A (ME)</td>
</tr>
<tr>
<td>Visualiser</td>
<td>Student G (RI)</td>
</tr>
<tr>
<td>Recorder</td>
<td>Student M</td>
</tr>
<tr>
<td></td>
<td>Student S</td>
</tr>
<tr>
<td></td>
<td>Student Y</td>
</tr>
<tr>
<td></td>
<td>Student (AE)</td>
</tr>
<tr>
<td>Language</td>
<td>English Speaker</td>
</tr>
<tr>
<td>Discipline</td>
<td>Building svcs engineer – 1</td>
</tr>
<tr>
<td></td>
<td>Property developer – 1</td>
</tr>
<tr>
<td></td>
<td>Electronic engineer – 1</td>
</tr>
<tr>
<td></td>
<td>C/s Engineer – 1</td>
</tr>
<tr>
<td></td>
<td>Contractor – 1</td>
</tr>
<tr>
<td></td>
<td>Architect – 1</td>
</tr>
<tr>
<td>Cohort</td>
<td>2005 – 3</td>
</tr>
<tr>
<td></td>
<td>2006 – 3</td>
</tr>
</tbody>
</table>

Figure 7. Extract from group re-allocation list.

A second observation using the GPRI was conducted with the following results showing there was a marked decrease from five to two for the number of groups where discussions were previously limited to a few members. Concurrently, members that were isolated /excluded decreased from three to one. Unfortunately there was little decrease in the number of groups where particular members were domineering although there were only three groups now displaying this behaviour continuously during the observation period.
The organisational/maintenance aspect of group process section had the number of groups that displayed members that had the behaviours listed as: conflicting approaches to problem, decisions that had arisen by default/ disinterest and no clear division of labour reduced from two in each category to zero. This clearly highlights that for this exercise the allocation of roles contributed in some way to a greater coherence of approach, an increase in consciously working towards decision making and a general acceptance of allocated tasks.

Observation Two

<table>
<thead>
<tr>
<th>1. Structural/functional/dynamic aspects of group process</th>
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<tbody>
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<td>1.1 All members included/ involved</td>
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<td>2.1 Group limits discussion of peripheral issues</td>
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<tr>
<td>2.5 Ability to adopt alternative route to solution if one is blocked</td>
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</tbody>
</table>

Figure 8. GPRI results administered 30th April, 2006.

Comments by the researcher about the second observation noted that 'compared to the previous day the overall interaction is observed as being greatly improved. There was a
reduction of dominance by 2 members, increase in participation of members that appeared to be reluctant to contribute by adding to concepts, drawings and outlines’ (Observation notes, 30th April, 2006). Conversely, it was noted that ‘facilitation was not remaining neutral and became participatory, unable to draw on those members that were quiet. There appeared to be a slowness to the process, a lack of energy from the facilitator that should be keeping groups energised/focused’ (ibid). This noted slowness was also commented upon by a student in their learning reflections ‘the learning process was slow as we were pressed by time and couldn’t get into proper discussion, considering that initial energy was spent on agreement to roles and principles (Student D, (Group not noted), reflection notes, 30th April, 2006).

Many contributing factors needed to be considered that may have intensified feelings of sluggishness such as it being the last day of the workshop and the low energy levels of all. Also, it was towards the end of day three that the groups were combined to come to an additional consciousness regarding the posed problem. As such, new group dynamics were being formed and there needed to be redefining of group roles and responsibilities. Although the results of the GRPI noted the reduction of inappropriate behaviour, it was still recorded in the reflections with a few students remaining dissatisfied with the function and organisation of the groups: ‘my opinion is that our team was unfocused and without clear facilitation. There was no synergy because there was no group. However, we may have achieved a good product, but I suspect this is due to string individual performance’ (Student G, Group 1, reflection notes 30th April, 2006), and ‘as chaotic as yesterday. The team was not sensitive to its member, as confirmed by the fact that regardless if I were yelling or disappeared for over 5 minutes (went to Starbucks), the team as a whole simply continue and took no action. Dis appointing. (Student F, Group 5, 30th April, 2006). This comment echoed the non-confrontational behaviour that was noted by the researcher and discussed in study one.

Other students’ comments reflected on their role allocation stating that ‘I was asked to act as recorder. I am capable to collect and analyse information but weak in presentation. In
short, there was mismatching between my strengths and tasks. Nevertheless, I had adjusted myself to suit the personality and style of my team mate and thus made some contribution as far as possible’ (Student E, Group 6, reflection notes, 30th April, 2006). This depth of reflection is also expressed when another student commented upon their own contribution in that it was ‘not good! I found it difficult not being facilitator and seeing others take a direction (or no direction) I wouldn’t. However the process was very illuminating and beneficial (Student G, group 1, reflection notes, 30th April, 2006). Analysed data shows that not only were the exercise objectives now being focused upon more, but the ability of individual students to make a valuable contribution to the team and workshop outcomes had been increasingly commented upon. There was a clear shift in the concentration of students concerned about a lack of cohesive group work and direction from the first two days of the workshop to one that showed the influence of defined roles and responsibilities. Even if these role allocations were not wholly agreed upon, students expressed that there seemed to be a greater sense of collaborative and task-focused teamwork.

Conclusion

Certainly for students in ‘China today, learning tends to focus on knowledge content, remains mainly teacher-centred, is competitive, exam-focused, elitist and largely male-gendered’ (Turner, 2006:33). Working in teams comprises of eighty per cent of the MIDM workshop activities and as such is entwined with the philosophy that all students are enthusiastically involved in the learning process thus creating a more satisfying learning experience. Student feedback stated that this was not the case as they expressed their dissatisfaction with the general lack of cohesion and task focus. Collaborative learning relies on students actively helping each other rather than the traditional passive mode of the teacher supplying all of the information. Observation and reflection notes emphasised that the learning really began for these students when the groups reached the performing stage towards the end of the four days. Another factor was that roles and responsibilities had been defined and the majority of the students had adapted to their new positions whilst effectively collaborating. Until that time their focus was on the process or
lack of the formation of the groups rather than their function. At the conclusion of the workshop there was an observed increase in the incidence of negotiation and communication, and as such motivation.

Judging from the comments and observations some students did find this controlled group exercise challenging as it took them out of their personal and cultural comfort zones. Generally though the students acknowledged that the compositions reflected real-world, professional situations. These conclusions support the works of Brookfield (1983), Houle (1980), and Kolb (1984) in that scholarship (in this instance the learning that took place that met the programme and subject aims and objectives) is intrinsically linked to knowledge (which had been constructed throughout the sessions) that has been gained through experiences (these refer to being actively involved in the group work processes undertaken to reach a solution). Experiential learning (PBL) in this context involves the blending of the first type proposed by (Borzak 1981:9 in Brookfield, 1983) that it involves a 'direct encounter with the phenomena being studied rather than merely thinking about the encounter, or only considering the possibility of doing something about it.' This sort of learning is traditionally sponsored by an institution in the acquisition of coursework knowledge, with the second type of experiential learning as 'education that occurs as a direct participation in the events of life' (Houle 1980: 221). Houle proposes that this style of knowledge construction is 'not sponsored by some formal educational institution but by people themselves. It is learning that is achieved through reflection upon everyday experience and is the way that most of us do our learning. (Smith, 2001:n.p.). Additionally, it is the testing of this knowledge with subsequent reflection and future application that supports Kolb’s (1984) notion of abstract conceptualization and active experimentation.

For the researcher the analysed data drew attention to the need to equip groups with skill sets that supported this style of teaching and learning. It was assumed that as these students were employed in practices that relied upon effective collaborative activities that these would be carried over to the teaching and learning environment. Observations revealed
that this was not the case and therefore their readiness for PBL may be inhibited. One vital element that was found to be missing was the structuring of groups to utilise their behaviours in a mutually beneficial manner. This second study has shown that educators should ensure that students possess a clear understanding of the skills sets required to work within the parameters of a group stages (forming and norming for example) and an understanding of how this dynamic is a process that needs to be managed rather than rebelled against.

Students also need a clear appreciation of the necessity for roles and responsibilities so that each member is able to contribute to the shared goals and in some cases challenge behaviours that impact on the group such as leaving during discussions or refusing to listen to others ideals irrespective of how abstract they may be. For this student cohort there is an emphasis on the ‘ritual progress through the stages of learning, accompanied by stoic labour and contemplation, rather than critical engagement with the objects of learning or of those who are teaching’ (Turner, 2006:32). As such, effective management of complex tasks over a number of days needed to be addressed as did basic conflict recognition and resolution (particularly when students go missing or refuse to engage). Once they had acquired these and are equipped with further opportunities to practice them with initial monitoring of sessions and subsequent reflections to ‘iron out’ any further function and process issues; students would therefore be able to focus more on the tasks and outcomes as a democratic, organised and supportive group. Problem-based learning strategies are dependent on all members of the group being able to work together equally and effectively whilst contributing to a solution. Additionally, the individual student plays an active role in the learning process of the group by sharing their findings and trying to integrate the knowledge acquired into a comprehensive explanation for the phenomena or events (Schmidt & Moust, 1998). This dual responsibility and how they support the construction of knowledge that is unique to PBL is a process that students need to be made familiar with early in its application so that they can gain the maximum benefit from this approach. This process could be supported by conducting team building workshops at the beginning of any course with the focus on not just students
familiarisation of their peers and subjects but providing an opportunity for introducing explicit guidelines for group work and a chance to practice these skill sets (as outlined above), and review the process. Once this has been established and implemented, students can begin to comprehend how effective group work enhances the learning process by creating opportunities for discovery through meaningful collaboration.
Chapter 7

Study Three: Action Research

Reflecting upon action has long been viewed by educators as an approach to understanding and implementing changes in practice. The need to implement any transformation stems from a desire to improve both personally and professionally and make a contribution to organisational learning. The most appropriate approach for educators embarking upon this style of investigation and change is through action research. Action research supports the development of professional competencies and organisational learning by aiming to solve complex problems, achieve change, and improve performance at the individual, team and organisational levels (Züber-Skerritt & Perry, 2002). Action research supports the solving of significant real-life problems in a workplace by supporting educationalist and their desire to improve their practice. The contributions that these research findings can make to all stakeholders is reflected their ability to impact upon the everyday practice of educators and institutions in a variety of settings.

According to Kennedy (1997 in Mills, 2007), studies of the connection between research and practice and the apparent failure of research to affect teaching provides the following insights:

- Teachers do not find these findings persuasive or authoritative.
- Research is irrelevant to practice, and has not addressed teacher’s questions.
- Research findings have been expressed in many ways that are incomprehensible to teachers.
- The education system itself is unable to change or, conversely it is inherently unstable and susceptible to trends.
Concurrently, Cohen, Manion and Morrison (2002) suggest that AR is designed to bridge the gap between research and practice thereby striving to overcome the perceived persistent failure of research to impact on or improve practice. This statement provides another rationale for why facilitators choose to be reflective practitioners and utilise AR methodologies to address the intractability of the education system. These statements ‘speak to the desire to put action into action research efforts’ (Mills, 2007:11). By combining diagnosis with reflection and focusing on practical issues that have been identified by participants, issues that were problematic are now capable of being changed (Elliot, 1978 in Cohen, Manion & Morrison, 2002).

Interestingly as an approach to critical study outside of educational contexts, AR tends to be viewed as a methodology without rigour (Scott & Usher, 1999). This poses questions regarding the researcher being an integral component of the investigation process itself or being in a position to manipulate the results? At first glance it appears as if it is just another form of practice-oriented teaching and learning research methodology. Other practice-oriented research reviews and evaluates teaching and learning through a variety of sources including student results, evaluations and measuring the application of learning theories. This practice of review and research does not however necessarily lead to neither change nor offer an opportunity for the practitioner to focus on changing a situation in their own practice. Unlike in other methodologies the researcher’s key role in an AR context is the constant evaluation of the teaching and learning process and as such, offers valuable insights into the phenomena and tested interventions. Action research encourages identified issues to be deconstructed with subsequent reflection on action adding to further evaluation and analysis, and subsequent actions. New themes are able to emerge and be included or excluded in this cyclic process because the knowledge and experience of the researcher is used as a filter for current and future explorations. Additionally the role of the teacher is as a participant-researcher and they possess a greater appreciation of the issues being explored with this knowledge being utilised to facilitate change in education settings and influencing communities of practice. The deliberate application of AR in teaching and learning draws its strength from the defining of issues, taking them through
cyclic processes (as many as several if required) of investigation of action with intent, and
the added dimension of the embedded nature of the researcher in the process. This
uniqueness strives to bridge the perceived gap of research impacting upon practice (Cohen,
Manion & Morrision, 2000) and the critical nature of this research methodology supports
this. These are the key differences from any other form of practice-oriented research.
Action research as an educational investigation was founded in the requirement of linking
practitioner’s identified issues back to curriculum content. Its base is in change that is
derived from practice and in the instance of the TDG would appear to be the most natural
form of research methodology to be employed with a programme that is so reliant on
continuous reflection. Nevertheless, central to this is the need for reviewers and
researchers to understand that AR is not just a one size fit approach to practice-based
research but rather a collection of goals and practices driving change and improvement of
practice. For the first two studies the overriding goals were the development of PBL
scenarios that supported the MIDM and MBA curriculums, whilst assisting students’
progression with their group work and critical problem solving skills. The focus of this
study is to research my professional development utilising AR within the structure of the
two studies. Kemmis and Carr (1988) propose that this approach can be defined as
practical rather than technical or emancipatory because of its focus on curriculum research
which is reflective, deliberate and supported by defensible decisions regarding practice.
Action research is participatory and as I was a doctoral student undertaking a research role
in an environment that was challenging on many levels, the choice of this methodology,
location, participants (including myself), the MIDM programme and TDG requirements
provided a structure that supported all of the studies within the application of three cyclic
steps. This practical approach places a great emphasis on the ‘how-to’ process of the
research and the autonomy of the teacher-researcher/s. The MIDM programme was built
upon the pattern of individual and collective reflective practice (Schön, 1987), and it is
these principles and characteristics that support the use of AR to assist the researcher to
meet the objectives of the teaching development grant by exploring identified issues. The
role of the researcher in this instance was to support facilitators to arrive at sound and
practical PBL judgements that reinforce the TDG outcomes. Often during the TDG
timeframe my role as purely a researcher evolved to one where I was asked to contribute to teaching of research methods, marking assessment tasks, assisting in the development of curriculum documents and supervise students’ final theses. The development of myself as a researcher, my contribution to the construction of programme knowledge and the TDG was enhanced by reviewing my current practices, planning for interventions and reflecting on those in the AR steps.

Whatever importance is placed on enquiry-research there still remains a clear and critical dimension to this methodology; that of analysing existing practices and identifying elements for practical change through a specific cyclical process. The recurring nature of this methodology was originally described by Lewin (1952 in Mills, 2007) as a ‘spiralling’ cyclical process that included planning, execution and reconnaissance, whilst Kemmis and McTaggart (1988 in Mills, 2007) created a well-known representation of this spiral that included the essential characteristics of Lewin’s model but added a first action step, monitoring, reflecting, rethinking and evaluation. The figure below highlights the cyclic nature of this enquiry and how it enhances responsiveness by connecting findings to the next set of actions.

Figure 9. Action Research Spiral. (Kemmis & McTaggart, 1988)
Calhoun (1994 in Mills, 2007) described an AR cycle as selecting an area or problem of collective interest, collecting data, organising data, analysing and interpreting data and taking action. These are just a few of the models that can be employed and are all contextual.

**Deciding the Areas of Focus**

Deciding or identifying an area of focus is the first and most crucial step in the AR process. For this study the following questions/comments were noted whilst undertaking MIDM programme observations with a view to selecting appropriate subjects for blending with the MBA programme as part of the original TDG (previously discussed) and outlined in Appendix Five in the AR steps diagram. The first areas of the investigation were the discussion/negotiating/exploring, assessing opportunities and examining constraints step which was closely tied to the TDG development, my integration into the project and the realisation that there was more than the grant requirements that needed to be addressed. The next step in the process was reconnaissance. Just noting behaviours that could be changed or improved is not enough so preliminary information needed to be gathered and reviewed such that in the first stage of the steps. The resulting information was the catalyst for the first and second study as it had the ‘power’ to impact on the success of the PBL scenarios. From analysing the observation data the below the statement and question were formulated:

- MIDM students were not spontaneously engaging in group activities.
- What is preventing or inhibiting their inclusion?

The creation of these is linked to the first action step by the developing of interventions for ‘a situation one wishes to change or improve on’ (Elliot, 1991 in Mills, 2007). Identifying an issue or area of focus requires careful consideration at the commencement of any action research investigation and the researcher needs to approach it by applying the following criteria:
The identified area involves teaching and learning and includes the researcher’s own practice.

Is within the researcher’s locus of control.

Sustains their interest.

Show a commitment to educational change or improvement (Mills, 2007).

Furthermore the researcher’s own practice needed to be reflected upon to understand the motivation for this research. For example, why did I view this as being such an important issue when it was not directly linked to my TDG responsibilities? Also, I needed to develop a supporting proposal for pursuing any investigation that could be (and was) viewed by some of the TDG principle investigators as a possible distraction from the original TDG brief. By constructing a proposal I was able to document my observations and subsequent concerns requiring an articulation of my rationale. This exercise was very beneficial as it forced me to consolidate my teaching and learning priorities and link these to my ability to put theory into practice. Through this process of self-reflection I discovered that the theories that were impacting upon my own practices were particularly those of Knowles’ (1973, 1985, & 2005), Brookfield’s (1983) and Houle’s (1980) whose andragogic premise influenced my approach to teaching and learning in higher education settings far more that was initially thought. The concept of education occurring through meaningful participation was particularly poignant as I felt that without an environment that maximised opportunities for ‘meaningful participation’ there may be a direct dilution of the experiences for participants. These theorists’ constructivist approaches to teaching and learning supported my experiential learning principles (Duffy & Jonassen, 1992; Kolb, 1984 in Riding, Fowell & Levy, 1995) by suggesting that adults retain more knowledge if they are imbedded in the learning process itself. My educational value system was further expounded through this reflective process by attempting to understanding why I felt strongly about the importance of appropriate cultural curriculum development and the need for students to have meaningful, satisfying experiences. My educational knowledge, beliefs and practices clearly shaped my approach to the TDG in study one and the focus on
productive group work in study two, and is the underlying premise of this action research investigation.

Professional Knowledge Acknowledgment and Application
Brown and McIntyre (1992 in Higgs, Titchen & Neville, 2001:1999; Parry, 2001) propose that professional knowledge or ‘professional craft knowledge’ is that that is largely hidden or tacit, cognitive but not ‘psychomotor, intuitive procedural and practical’. It directs and guides a professional’s everyday activities. Professionals are defined as those individuals who are engaged in a profession or engaging in as means of livelihood such as a professional person possessing distinctive qualifications (Brown & McIntyre, 1992 in Higgs, Titchen & Neville, 2001:1999). In this context my successful mastery of ‘knowledge’ needed to be developed in order to qualify for the grant of an award from a recognised and accredited institution and successfully complete the TDG on behalf of HKU. This developing knowledge can be defined as ‘knowing that’ or profession knowledge. This knowledge is propositional and derived through research and scholarship and available for teaching and learning and is open to public scrutiny (Ryle, 1949 in Higgs, Titchen & Neville, 2001:1999; Parry 2001). Those engaging in professional practice often ‘question and submit themselves to questioning with some embarking upon research because [they] notice things, take cognizance of them, and in doing so intervene or contribute to change’ (Freire, 1998 in Curry-Stevens, 2007:490). It is through this intervention that they educate others and themselves by conducting research to understand what they have yet to know and communicate and proclaim what they have yet to discover. This ‘epistemological curiosity’ results in the production of knowledge that adds to the richness of common sense knowledge that can only be derived from pure experience. This questioning is a result of rapidly shifting paradigms that reflect the changes all societies are encountering. These changes are often unable to be captured through traditional modes of investigation such as the increased use of technology in the everyday practice of educational professionals where they had characteristically been ‘hands-on’. It is assumed that as this escalation of change increases, the value of craft or ‘know that’ knowledge declines as it is not a true reflection of current or future
professional practice. It is the ‘knowing how’ or the non-propositional knowledge acquired by practitioners through practice and experience that corresponds to pre-scientific knowledge that underlies daily practice and is largely hidden (Ryle, 1949 in Higgs, Titchen & Neville, 2001:1999) that is often the only area of research that interests practitioners because of its relevance to their practice. This may be because the practicing of one’s craft often allows little opportunity for the sharing with contemporaries creating a sense of professional isolation. This isolation can lead to a feeling of being in a ‘rut’ without the ability to share experiences and explore new behaviours. This combined with the impact of technology on practice, cries out for the researching of professional practice and knowledge to support practitioners. As Bourn, Bowden and Laing (in Green, Maxwell & Shanahan, 2001:42) state, ‘there is a need for new and up-to-date knowledge of professional practice which in turn creates a need for new means of creating knowledge of current professional practice and the theories of professional practice grounded in that knowledge’. The reasoning process of a professional in practice is largely instinctive. The key aspects of knowing are embedded in action and transmitted by practical example, hence when individuals are learning their craft they are required to spend significant amounts of time learning and demonstrating their knowledge through practice and feedback. However, it is only in professional practice that they are able to gain intuitive solutions and understanding by the application of genuine science of human practice where they cannot be content with merely superimposing a phenomenology on a social topology. It must also elucidate the perceptual and evaluative schemata that agents invest in their everyday life (Wacquant, 1992).

It is the knowledge gained firstly from the ‘know what’ that allows the practitioner to apply the ‘know how’ and move to the knowledge and understanding that interests professional practice researchers; the knowledge gained through the ‘artfulness of reflection’ (Schön, 1983:165 in Higgs, Titchen & Neville, 2001:1999). Understanding this knowledge can be gained using a variety of methodologies dependent on which area of theory the research subscribes to. But it is the resulting action from this knowledge and understanding that has the greatest impact upon practice - ‘to understand is hard. Once one
understands, action is easy’ (Sun Yat Sen, n.d.). Many researchers endeavour to hypothesize and conceptualize practice resulting in, as many inferences as there are professions. Philosophical practice thinkers such as Wittenstein (1958), Dreyfus (1991) and Taylor (1985 all in Schatzki, 2003) suggest that practice produces subjects and objects, highlighting non-intentioned knowledge, and clarifying the conditions of intelligibility. Social theorists such as Bourdieu (1977, 1990 in Wacquant, 1992), Giddons (1979, 1984 in Schatzki, 2003:9), and ethnomethodologists such as Lynch (1977, ibid) state that practices ‘bespeaks such desires as those to free activity from the determining grasp of objectified social structures and systems, to question individual actions and their status as the building-blocks of social phenomena, and to transcend rigid action-structure oppositions’. For example, these socio-cultural and situated-learning theories highlight that learning takes place through participating in communities of practice such as myself from Australia working with Hong Kongese students in China. To support the importance of knowledge gained in these environs, activity theorists and developmental work researchers that bring attention to integrate learning and the development of work place learning (Engeström, 1996, & 2001 in Tynjälä, Välimaa, & Saraja, 2003). Dewey’s notion of learning-by-doing highlights the significance of actual experiences and reflection as do theories of experiential learning such as Kolb (1984). Further, the notion of the reflective practitioner (Schön, 1987) and theories of ‘informal and incidental’ learning (Marsick & Watkins, 1990) support the idea that learning is actually taking place through practice. The constructivist view of learning and cognitive research on professional expertise also provide important arguments for integrating education and practice by stressing the importance of the active role of the Doctoral candidate and the integration of theoretical and practical knowledge (Bromme & Tillema 1995; Leinhardt et al., 1995; Mäkinen et al. 1999; Tynjälä 1999; Tynjälä et al. 1997 in Tynjälä, Välimaa, & Saraja, 2003).

**Defining an Area of Focus**

There were many possible factors that could have contributed to the observed group behaviours and student dissatisfaction with group work processes. The first area of focus that was identified as a possible issue for non-Cantonese speakers was that of students’
group work language use. The majority of the students were not native English-speakers but rather had a collection of Cantonese, Putonghua and Vietnamese mother-tongues. MIDM students received lectures in English and the teaching staff were all native English speakers. A balance needed to be reached that was empathic to the Hong Kongese students native tongues as this is their country (essentially the teaching staff were visitors irrespective if they had residency or not) and participants that were unable to communicate in this language. My first reaction was to lean towards students conducting discussion in their mother-tongue and then presenting their findings in English and making one English only group of consisting of non-Cantonese speakers. All stakeholders needed to be able contribute in group work situations and to ensure that there was equity in the discussions therefore I took the path that did not sit comfortably with me by deferring to the University’s policy of language of instruction. As highlighted in study two, groups were reformed so that English was ‘forced’ on the students in group work situations. This brought issues of colonisation to the forefront and genuinely upset me as I discovered that I did not feel a sense of superiority but rather embarrassment as I did not want to be perceived as a ‘westerner’ or member of the teaching staff able to ‘command’ students on what needed to be done without discussion.

The second area of investigation was the possibility of cultural factors impacting on democratic group work processes such as a general reluctance of Chinese students to question or challenge teachers, supervisors or older persons. This unwillingness to engage in any form of debate was also noted during the initial observational stage. Whilst the teams conducted their discussions regarding the proposed case studies, it was noticed that certain members (mainly younger students), appeared to give greater credence to comments made by more senior male. At first, it was surmised that they may have been acknowledging the others professional experience but once this factor had been documented and focused upon, numerous incidences of these behaviours were evident. These identified areas of focus although appearing to be initially minor on reflection were thought to have implications in the long term with regard to all team members contributing evenly to PBL discussions, and therefore bear on the quality of students’ learning
experience satisfaction levels. It became apparent to me that I was attaching great importance to students’ satisfaction levels and the need for the learning experience to be relevant to workplace situations. The areas of cultural respect, students’ satisfaction with the teaching and learning experience and the practical application of knowledge gain was of great significance to me.

**Action Steps**

Hypothesising that there was a link between students’ behaviour language and culture was not enough. I needed to understand why these areas held such significance for myself and therefore as part of the research process I then embarked upon a formal investigation of similar experiences though a review of literature that concentrated on andragogic practice, learning in higher education settings, investigating professional practice, PBL and Chinese learners in Hong Kong. This phase was difficult as there was limited information pertaining to Hong Kongese students at postgraduate level and group work in Hong Kong. However, invaluable information that confirmed that others researchers/practitioners had similar experiences to mine although in other settings (overseas institutions) with Chinese students was located and reviewed. These behaviours had been recognised by other facilitators as issues that affected group work activities particularly with this student context. From this, an AR plan was then formulated to integrate these questions/comments and implement action/s by making exploratory changes, collecting outcome data, reflecting and building more refined plans for action (Kemmis & McTaggart, 1988).

Appendix Five is Kemmis’ (1988) model that incorporates the essential characteristics of Lewin’s 1948 model by tracking reconnaissance, planning, first the action step, monitoring, reflecting, rethinking, and evaluation. This was used as a guide for facilitators and researchers participating in this research study, highlighting the three action steps undertaken. It illustrates the general idea/reconnaissance that resulted from the initial observations, monitoring of actions, action steps, repeat of monitoring and finally the evaluations as a result of data collected using the tools applied. It gives a clear view of the participatory, cyclic process of repeated planning, action, observation, evaluation and
critical reflection that is so characteristic of this methodology.

The first step ratified the researcher’s initial inclination of the importance of establishing and determining the overall quantity and quality of participation rates and student satisfaction levels of group work activities during the workshops. The results confirmed that the preliminary notions of the existence of factors that were influencing students’ contributions in group work studies. Also, it gave merit to the case for a cycle of successive planning, action and analysis that would lead to an understanding and practical improvement of any phenomena that affected students’ teaching and learning experiences.

The second step results illustrated that significant aspects of effective groups such as member co-operation, task allocation and consultation processes had been observed as inconsistently occurring. With the undertaking of amending group compositions to minimise influencing factors by disbanding clusters of organisations, apportioning tasks based on the Belbin Inventory results and attempting to ensure a common language of instruction was used; an increase in the number of student behaviours that reflected the GPRI’s appropriate behaviours was noted. These interactions now also displayed more structured and focused efforts than with the original non-specific team mixes.

The third step focused on applying the actions that were developed as a direct result of the information obtained and evaluated during the first two steps to further refine group arrangements. These redefined groups were put into practice with the newly developed PBL scenarios in Beijing; again with comparisons and observations focusing on participation and satisfaction rates (this was also discussed in greater details in study one). Although the difference in the quantity of the work between the ‘more dominant’ and ‘shyer’ students can be more apparent in this mode of delivery, the deliberate formations of the groups produced a marked re-balance in student contributions as well as an increase in student team-work satisfaction levels. In addition to group work as a sphere of influence in this collaborative framework, the area of student motivation was an unexpected outcome that stemmed from the produced data but was unable to be explored through a fourth step.
at this time. Programme attendance requirements had a strong bearing on motivation and participation levels with students being divided about the programme’s worth. Participants that were required to attend by their employer (this applied to more than three quarters of the MIDM cohort) stated that they were less enthusiastic about the majority of the programmes team-work activities as it was extra work and their weekend versus the high levels of motivation and frustration due to the attitude of the subsidised students from the full fee-paying students. There was identification by many students of the limitations of time and the impact that it had on their ability to fully delve into a problem and present their findings in a quality manner. This affected their motivation levels to be fully immersed in a process that they viewed as only being able to partially complete. The outcomes of the PBL scenarios did display a strong appreciation of the sociological knowledge associated with the uniqueness of the problems but the students stated many times that the process of producing what they considered to be an appropriate final body of work was hindered by a perceived lack of time both in the exploration and presentation stages. As cited in many post exercise surveys, these comments took precedence over any referring to knowledge acquisition. Intriguingly, the time constraint factor had been highlighted as an area of concern when declared in the initial research application as a defining feature for both programmes.

**Data Collection and Analysis**

Data collection tools used for this study included existing archival sources such as student assessment results, workshop timetables, interviews, observation notes, photographs, students’ reflective journals, with course, self and peer evaluation forms. To measure the group’s performances in the first step an adaptation of the Group Process and Reasoning Instrument (GPRI) (Rolfe, Murphy & McPherson, 1994) (Appendix Two) was developed and applied. To establish a baseline for student participation in group activities this instrument was applied twice during the April 2006 workshop (as discussed in detail in Chapter six).
Further to this, the researcher undertook direct qualitative observations focusing on individual behaviours and how they contributed or not the group work discussions. Having the status of a privileged active observer during the April and June 2006 workshops, I was able to move in and out of the role of working with the students and guest facilitators to observe students’ social as well as academic interactions. I was familiar with Cantonese on an informal level and as such was able to identify the subject topics being discussed in the groups. This allowed me to use observations to establish whether the students kept on track with the discussions or just socialising.

As part of the triangulation of data, students’ daily self and peer evaluation forms were also reviewed to gauge the level of learning satisfaction which resulted in a mixture of qualitative and quantitative data also discussed at length in Chapters Three and Four. All of the resulting data was critically analysed and gave insight into how and what the students’ felt about the group compositions and any changes that were made as well as the PBL scenarios. The emergent themes that were used to assist in the development of future workshops and exercises included the students’:

- level of readiness for self-directed learning and
- clarification of what they considered a satisfactory learning experience.

In addition to the student themes the teaching and learning themes that emerged were:

- the philosophy of group work effectiveness vs. the Chinese cultural context and
- concepts and perceptions of PBL.

This data provided the teaching team with valuable information about the process where as previously the focus was generally on the product. It confirmed my hunch that culture and language was a major influence in effective group work scenarios, particularly when introducing western-based instructional methodologies into a predominantly eastern-based society. Additionally it validated that facilitators involved in this process need to be mindful that this influence if unchecked can contribute to the dissatisfaction of students.
and that even their dissatisfaction is often not often verbalised and is again linked to their dominate culture.

**Investigating Professional Practice**

Scrutinising an area of curriculum practice in Schwab’s (1969 in Kemmis 2003:2) view involves ‘practical reason – teachers make decisions based on very complex reading of the situations they find themselves in’. The decisions made during the studies were indeed based on the complex interpretation of the situations that I found myself in. There were so many factors to consider in addition to the expected teaching and learning issue such as learning styles and ability levels. Culture, language, appropriateness of the material and social norms also needed to be taken into account. What initially appeared as an interesting TDG project concluded with a greater understanding of my practice and an appreciation of the long term consequences of my professional actions. Sometimes these consequences were not immediately obvious and additional time was required to completely comprehend their impact such as in the restructuring of the groups. Thus, Schwab (1969 in Kemmis 2003) argues that the field of curriculum should draw upon the resources of practical reasoning, and that ‘teachers and curriculum developers should learn the arts of ‘practical deliberation’ as a foundation for their life and work of educational decision making’.

These studies linked my theory to practice as they are intrinsically connected and dialectically related. Carr and Kemmis (1986) propose that the relationship between theory and practice might be depicted as T→P, or P→T. For a developing researcher this link is important as it was through investigating my practice that I truly began to understand the driving forces behind it.

The TDG presented me with an opportunity to work within new contexts; whilst this action research linked to my studies afforded me an occasion to delve deeper into my practice through the process of reflection. Without a clear understanding of what one’s professional practice is any AR investigation is fruitless. This reflective process can sometimes be painful as to be asked to review what a practitioner thought was their ‘best practice’ now must be viewed as one that is open to improvement. Being open to
improvement also involves exposing limitations to key stakeholders and taking risks with professional conduct. Educationalists undertaking this methodology must possess the maturity and openness to accept conclusions and possible changes to practice and appreciate the rationale behind these. The idea of Argyris and Schön’s (1974) and Schein’s (1972 in Argyris & Schön, 1974) concept of competence in professional practice applies to myself in that I had the capacity to learn and understand the impact that I could make on a teaching and learning experience (particularly double-looped and my own) which is the very essence of reflective practice. Understanding competence required me to become skilful in the theory of action and the ‘artfulness of reflection’ (Schön, 1983:165 in Higgs, Titchen & Neville, 2001:199). It was these action steps that had their base in my ‘competence taking action and simultaneously reflecting on this action to learn from it’ (Argyris & Schön, 1974:4). By undertaking actions there was a testing and implementation of what I had learned in theory. Added to this is continued reflection upon the theories and informed actions ensuing a repeated cycle of action and reflection appraising the other. This cycle of continuous reflection also contributed significantly to assist stakeholders with the TDG’s PBL outcomes and students with their acquisition of knowledge. This not only assisted in the development and implementation of teaching and learning concepts, but through the application and testing of new learning approaches, facilitators including myself were able to obtain a better understanding of the complexities of the context. The development of my personal philosophy began with researching then ‘building one’s own theory of practice including [the] diagnosis, testing, and accepting personal [of] causality’ (Argyris & Schön, 1974:158). Without embarking upon this journey I would not have truly understood why and what was my philosophy of practice. This process required that I continuously interact with stakeholders to gain empathy for the communities I operated within. These interactions could also be viewed as information gathering where I was able to gain an understanding of the behavioural norms of the student cohort to diagnose this ‘community’ in which I was working to assist in acknowledging the explicit and implicit ‘rules’; further enabling me to make decisions about interventions.
Part of building an understanding of the philosophy of one’s practice is the capacity to test the theories and assumptions of the knowledge claims. Action research’s reflective practices support a flexible approach for the exploration and inclusion of the studies emerging themes with myself as a component of the research. With my inclusion in the process came the realisation of the need for accountability: not just to the stakeholders but myself through my professional values based on thought and action. This action is the result of my theories based on my knowledge about practice:

(including, for example knowledge-bases for practice, professional practice knowledge, reflective practice and the reflective practitioner, the dialectic (as opposed to dualism) of theory and practice (how professional practitioners represent practice in their everyday discourse about practice), and codified knowledge about practice (in knowledge-based theories, disciplines etc.) (Cochran-Smith & Lytle, 1999:254).

For practitioners undertaking action research the limitations of what is ‘good’ professional practice research is not as clearly defined as in empirical techniques. As a result judgments on what constitutes good practice research also requires analysis as the researcher often becomes the focus of these judgments based on their likelihood to achieve high-quality research outcomes. As the majority of education researchers are engaged in practice, good practitioner research should be evaluated on the production of conclusions or approaches drawn from investigations that have engaged practitioners and contributes to profession and practice. Historically research stakeholders will have their own agendas influencing their judgments about the level of contribution made by professional practice researchers. Herein lays the challenge and many untapped opportunities for the professional practice researcher.

**Conclusion**

Professional knowledge consists of different elements usually divided into three main components: (1) formal, theoretical knowledge; (2) informal, often tacit, practical knowledge and (3) self-regulative knowledge (Bereiter & Scardamalia 1993; Eraut 1994;
Traditionally, the different components of expert knowledge have been studied separately in research on learning and expertise. While universities have focused on the acquisition of formal knowledge, the development of practical knowledge has been examined in working-life contexts. Self-regulative knowledge has received attention from both educational and working-life researchers although theorists of adult education have discussed it in terms of reflective thinking and theorists of student learning in terms of metacognitive skills. In recent years attention has begun to be paid to the importance of the integration of the different components of expert knowledge in learning and in the development of professional expertise (Bereiter & Scardamalia 1993; Bromme & Tillema 1995; Desforges 1995; Leinhardt et al. 1995 in ibid). Becoming a professional is not a process of substituting experience for theory but a process of fusing theory and experience (Bromme & Tillema, 1995 in ibid). This process of knowledge encapsulation is a result of repeated knowledge application in the context of practical experience. Leinhardt et al (1995 in ibid) argues that true integration of theoretical and practical knowledge is best promoted when university students transform abstract theories and formal knowledge for use in practical situations and correspondingly, when they employ their practical knowledge to construct principles and conceptual models. Thus, theorizing practice and particularising theory are suggested as the keys to the development of professional knowledge. Experiential learning theorists refer to this same process in terms of reflection: learning takes place through a cycle of experiences, reflection, conceptualisation and experimenting (Kolb, 1984). In order to be a true professional in working life one has to develop situation-specific forms of competence and this is possible only in authentic situations (Tynjala, Valimaa & Sarja, 2003). A consequence of this is the increased need for professions to assume responsibility for presenting and legitimising its unique core knowledge of everyday practice; and how substantially credible and socially valuable intelligence-in-action maybe revealed and articulated to the benefit of the professions themselves, their practice, students and clients (Higgs, Titchen & Neville, 2001). Additionally, this knowledge base in and orientation towards action (Seddon, 1999 in ibid) is able to produce relevant
professional curriculum developed on ‘knowing that’ knowledge validated in a ‘knowing how’ context.
SECTION FOUR

Chapter 8

Conclusion
As discussed selecting AR as the methodology to investigate the introduction of PBL provided an opportunity of growth for the researcher. Furthermore, it assisted in establishing the level of readiness of these students to support collaborative approaches to learning, the importance of effective group compositions and the need for quality PBL scenarios. For the author as a developing educational researcher and facilitator, the process afforded the occasion to discover aspects of my practice that when embarking upon the TDG I felt I lacked. At the commencement of the grant, the aims and objectives appeared to be clear and straightforward: I was to develop PBL pedagogy for post-graduate professional programmes and create a unique study model for students from the two cohorts by combining the benefits from both facilities with a view to a shared curriculum. Professionally and technically I possessed the knowledge to execute this but as is often the case with new projects particularly because I was new to the country and employer, a process of initial familiarisation and assimilation needed to take place. The transition was exciting and daunting and because of this, my confidence levels decreased. Being a reflective practitioner is second nature but too much reflection throughout this period of adjustment led to feelings of insecurity. In the preliminary stages of the TDG investigation my instincts about the need to explore emerging issues and factors that although not directly part of the grant’s objectives could in the future impact upon the success of any shared group work PBL scenarios led to a reflection of my own education beliefs. Schön (1991) states that by knowing what to name and frame is often implicit in our actions and forms a large part of facilitators’ professional experience. By presenting a case to the
programme heads and expending this knowledge through a process of AR made explicit the phenomena of this student cohort and their reluctance to actively engage in group work situations. This then began a dialogue leading to the further investigation of their attitudes and ultimately created insights into the teaching and learning and cultural preferences of postgraduate students in the Hong Kongese context. The third study outcomes were not only reflections of the interventions but also a deliberation of the changing cultural aspects of my pedagogic assumptions. My ability to initiate, facilitate and collaborate a research study that was of theoretical importance also led to functional improvements of my current practice. The AR process assisted in the development of a raison d'être of my vocation. This, combined with a process of critical self-reflection that is so closely linked to any AR investigation helped create a ‘developed, tested and critically-examined rationale’ (Kemmis & McTaggart, 1988) for my area of practice. The strength of AR with these studies was that it used narrative and descriptive approaches of the collected data to understand the way things were and what could be learnt from the perspectives of the research participants. The participatory nature of AR not only provided this but created a community of learners from all stakeholders. This mode of study gives weight to how and what to implement for change and less of a ‘philosophical' bent. As such it assumes that once the focus was chosen, data collection techniques determined, data analysed and interpreted, and action plans developed based on findings that the academic lives of the students were more satisfactory; with the researcher acquiring an awareness of an aspect of my craft of teaching.

**Result of the Studies**

The three studies highlighted that the dominant cultural beliefs of the students did at times create conflicts with the underlying philosophy of PBL within this Hong Kongese design and construction student context. Before the TDG’s PBL scenarios could be successfully implemented these cultural factors needed to be tentatively explored to explain the differences in Hong Kongese student approaches to collaborative learning situations. By not exploring these differences Western-based educators deny themselves opportunities to enrich a body of knowledge from societies that were not initially considered. Cheng (1995
in Walker, Bridges & Chan, 1996) also articulated this by stating that a reliance on Western educational theories and approaches runs the risk of ignoring prospective valuable contributions that Eastern intellectual traditions and practical experience can make. By examining these factors explanations regarding how they influenced the preparation and practices of interdisciplinary problem-based Western teaching and learning methodologies into Eastern contexts were proposed. This is further supported by Edwards, Ran and Daguo (2007) in that they emphasis that there is a real danger that university teachers may pathologise differences between Chinese and Western styles of student learning and that their studies highlight the evidence of sterotyped assumptions concerning rote learning in focus group discussions.

The first possible conflict that was investigated was the Confucian belief that knowledge was imparted to a student or in this study, younger or less senior members of staff by teachers or older, wiser mentors. If a student was required to construct their own knowledge through exploration there was a general lack of confidence in their ability to do effectively and a sense of cultural inappropriateness prevailed. The title of this thesis is a Chinese expression that reflects the philosophy of PBL in that by ‘falling into a ditch it makes you wiser’ supporting an idea that for learning to be meaningful it must be discovered by participants through experiences. The steps of these discoveries required learners to examine real-life design and construction industry problems by identifying what knowledge they currently possess, allocating tasks to team members to fill the knowledge gaps and developing solutions through a process of collaborative debate. The learning is constructed throughout the process and it is in the course of the testing of these evolved theories and hunches that students are able to compose the bodies of knowledge required. Problem-based learning demands a high level of social skills; accepting duties and responsibilities towards others; ethical considerations; task-oriented interaction and ‘norming’, whilst still addressing the issues of diversity and difference. This did not appear to be a key issue with this Chinese collectivist culture but rather other skills such as managing group dynamics when they arose calling upon leadership and organisation, management of task/time, self and others were all deficient in the observations and
confirmed by the initial GPRI data. The highly structured relationships of the Chinese culture values of harmony, face-saving and filial piety were evident whilst working with this group of postgraduate students. These characteristics included always referring to the senior member of the group and unwillingness to disclose or approach behavioural issues with acute humbleness when individually praised. Effective group work is not something that comes without a great deal of preparation and experience and is fundamental to the whole process of PBL. The single most important finding of these studies was undoubtedly the centrality of establishing effective teams if PBL was to deliver the desired teaching and learning outcomes.

Earnwaker, 1992 (in Turner 2006:28) stresses that ‘teaching and learning implications that stem from ‘Western’ cultural pedagogy are far away from which many students from non-Anglo cultures are accustomed’. This highlights that institutions cannot assume that one-size pedagogy fits all. As the analysed findings demonstrate PBL can provide a context for developing a core understanding of interdisciplinary programme outcomes with Hong Kongese postgraduate students but there are implications for a number of dimensions within teaching and learning that need to be considered if delivered in this context. Problem-based learning in this instance was challenging as it was delivered within the framework of modularity. In the framework of a modular Masters programme, the composition of the curriculum as a part-time course delivered in four-day workshop blocks was constantly commented upon by the students as a factor that inhibited their ability to investigate issues to any depth. The reduced amount of time that could be reasonably allocated for groups to report their findings and host question and answers sessions was also highlighted. With its focus on ‘managing knowledge’ rather than simply acquiring it, PBL does appear to offer a basis for addressing some of the issues of selecting, delivering and sharing curriculum content as per the original TDG’s focus. However, the modulation of the MIDM workshops and structure of the sessions significantly inhibited exposure to PBL and its benefits in terms of the fragmentation of the students’ experiences and the time constrained for solution presentations. Additionally, evidence suggested that this method of instruction was perceived by some students (particularly those fee-paying) as a
form of ‘compensatory’ education as they were seeking an affirmation of their academic programme status. They stressed their dissatisfaction that they were not learning any new information by having to construct their own knowledge and were reluctant to accept that the knowledge transfer that occurs in PBL from the content and process was a valid form of academic rigour. Equally, many of the learners enrolled in the course were sponsored by their employer rather than out of an intrinsic motivation to undertake a Master’s programme. These students expressed informally that their attendance was out of a work-based obligation and so asking them to work towards knowledge acquisition rather than just supply what was needed to pass was taxing. There was evidence that some students were ‘just doing what is necessary to pass and what the teacher required, not asking questions, keeping opinions to oneself’ (Biggs, 1999; Gay, 2003 in Turner, 2006:42), so by asking them to be active participants in the learning process ‘was an example of the essential unchanging conceptual framework with which participants evaluated their learning experiences’ (Turner, 2006:42).

Problem-based learning is based upon the idea of developing an awareness of the conditional and pragmatic nature of knowledge production and as such these research findings form insights into the nature of Hong Kongese students’ perception of knowledge and its production. Turner, 2006:47) comments that the Chinese student groups he was observing were:

generally successful in their studies...it was clear however, that much of what they experienced in terms of learning remained relatively superficial, at the level of skills and knowledge acquisition or surface learning, which confronted notions of the deeper or transformational learning achievable within post-graduate study.

This does support the findings of the first and second study in that students learning comments reflected a general focus on the interaction of the groups and occasional references to the application of skills such as ‘six thinking hats’ and very little comment on the learning itself. Although not investigated further but based upon the comments; as a form of valid knowledge construction PBL in this instance did not seem to support these
students notion of what was a valid form of learning and assessment as they placed a greater value on more traditional processes such as individual essays and grades. The construction knowledge through experiential opportunities in this instance did have the ability to be an effective teaching and learning tool to achieve the grants ideal cross-fertilisation model. Nevertheless, the challenge of implementing the grant was to establish the influence that both the students’ cultural and contextual circumstances had on the development of new PBL scenarios. Additionally but to a lesser extent, the programme’s delivery and timetabling also had some bearing on the evolution and sharing of solutions within these group work conditions and needed to be reflected on. As PBL is fundamentally a co-operative learning activity that promotes the collection exploration of problems; the learning is therefore conducted within self-guided group settings (Walker, Bridges & Chan, 1996). Experience showed that students even these at postgraduate level needed a degree of scaffolding to ensure that there existed some form of understanding regarding group work processes. This should be conducted to reduce any preconceived notions or experiences of the ineffectiveness or unfairness that students’ retained of this learning tenet from the past. Moreover, learners need to be able to comprehend the need for individual and collective task responsibilities for an even contribution towards knowledge construction. Entirely autonomous, self-directing groups are an ideal that facilitators and students strive for but the reality is not usually that. This study has shown that unless tasks and roles are clearly defined, not all members are willing or able to be a part of this process. Intriguing to me was that to achieve a level of independence that was desired for the TDG’s PBL scenarios to be successful, group compositions and roles were imposed by the researcher. This may have reinforced the cultural belief that affords a status to the ‘teacher’ of being in control of the learning process. By understanding that relationships are paramount to this collectivist culture provides some appreciation of the observed behaviours.

Professional Practice Considerations
The question of collectivism and its consequence became apparent over the period of observation and problem development, and presented a number of dilemmas for the
researcher. Initially the concept of the TDG appeared to be straightforward but even in the early stages there was a premonition that by focusing only the tangible delivery, intangible obstacles were not being considered or voiced. There was an assumption that the student cohort possessed high levels of motivation for learning and attendance and would be satisfied with a curriculum that conflicted with their time-honoured cultural norms. Problem-based learning stresses the importance of the collaborative construction of knowledge whilst a Hong Kongese society values its distinctly hierarchical order based on collectivism. By way of exploring these conflicts in the course of the three action steps, the acquisition of a basic understanding of the extent of influence that cultural norms can have on PBL in this context was attained. Linking these factors are ‘implicit post-imperial assumptions within underlying pedagogical frameworks that construct one-way flows of learning benefits from the university to the intern student rather than more reciprocal learning cultures’ (Humfrey, 1999 in Turner, 2006:28). In terms of the MIDM students, the studies provided initial frameworks for understanding one way to conceptualise cultural differences. By beginning to be aware of this scope of influence at least from this small student cohort, we received a glimpse into the dimensions of the collectivist cultural values that students hold in high regard: that of harmony; piety and status. In this culture it was the status defined either through age, gender (male) or management seniority that was evident with this group. The acceptance of these norms was important to maintaining these highly regarded relationships so changing or openly challenging them even when it was clear that certain behaviours were obstructing the cohesive nature of some of the groups was not customary. Judging by student comments group solidarity was as important as the task outcomes. Although the MIDM students had been utilising problem-based type scenarios, the majority of the knowledge was drip-fed to them over the four days of the workshops without any questioning of the facilitator or content. Generally polite discussion ensured or the more dominant member was left to ‘get on with it’ without any confrontation during the group work activities. Critical to exploring this factor further with a view to contributing to the grants’ aim of developing a shared curriculum and testing the merits of any interventions was the evolution of the researcher’s practice through the application of the three action steps.
In the course of practical theory development, informal theories can be continuously subjected to particular and universal analysis. Particular where experiential comparisons can be made and universal where formal theory relationships can be identified (Brookfield, 1992). By conducting the analysis, an appreciation was developed of the construction of a body of knowledge and ones’ practice. The inductive nature of AR supported the situational knowledge gained that the researcher developed as a result of my theoretical position and experiences. By exploring my intuition through the planning of interventions, the resulting critical evaluations had the capacity to transform both the participant and participant-researcher’s knowledge. To truly understand the student cohort that was the subject of the studies and whether the researcher was allowing preconceived biases to sway the grants’ outcome, a cycle of participatory research was embarked upon. The body of knowledge that was constructed by way of testing these hunches contributed an appreciation and understanding of the persuasive nature of cultural influences on students’ readiness for self-directed learning and further solidified what I considered to be a priority in teaching and learning situations. Education emphasises the person in whom changes occur in the acquisition of the knowledge, skills and attitudes and is a process or act involving a change in behaviour (Knowles, Holton & Swanson, 2005). Throughout the action steps the researcher was able to document and critically analyse the impact that this reflective process had throughout the personal and social adjustments that were made during this course of change. The learning process that occurred not only contributed to the construction of the practitioner’s knowledge in this instance, but ultimately continues to do so as I have opted to pursue employment in another higher education setting in the Middle East.

The connection between theory and practice and the process of plan, act and observe, reflect and plan again relied on the ability of myself to make decisions about the experiences encountered founded on well-informed research. The goal to utilizing this style of research was to test ideas in practice as a means to improve social conditions and increase knowledge (Kemmis & McTaggart, 1988) of design and construction in postgraduate education in a Hong Kongese context. The overall theme of the three
studies’ findings was the interconnected premise of the influence that cross-cultural norms had on group work processes and its ability to sway the student’s readiness to accept PBL’s andragogic processes without intervention. With this in mind, implementing any ‘Western-style’ exploratory teaching and learning practices that rely heavily on autonomous groups and the inter/self-dependence capabilities of students in an Eastern collectivist context should be approached with caution. It does raise the issue of the extent to which ‘both the institutions and the people within them are aware or equipped to ensure that culturally different students groups receive equal access to apparent education opportunities’ (Turner, 2006:28). The creation of a body of knowledge and the academic satisfaction of Hong Kongese students can be accomplished through the application of PBL’s constructionist epistemologies; but only if the culturally-constrained factors that obstruct group work processes are considered.
Appendices
Appendix One

Ethical Clearance from The University of Hong Kong
August 17, 2010

Ms. Ann-Marie Parkes
Education Faculty
Abu Dhabi Womens College
P O Box 41012
Abu Dhabi
United Arab Emirates

Dear Ms. Parkes,

Reference No. EA120810: Application for Ethical Approval

I refer to your application for ethical approval of your project entitled “Andragogy: how falling into a ditch makes you wiser”.

I am pleased to inform you that the application has been approved by the Human Research Ethics Committee for Non-Clinical Faculties regarding the ethical aspect of the above-mentioned research project.

Yours sincerely,

[Signature]

Professor J. Bacon-Shone
Chairman
Human Research Ethics Committee for Non-Clinical Faculties
Appendix Two

Group Process and Reasoning Instrument – MIDM workshop April 2006
<table>
<thead>
<tr>
<th>Structural/functional/dynamic aspects of group process</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>All members included/involved</td>
<td>Members isolated/excluded</td>
</tr>
<tr>
<td>All members attentive in posture</td>
<td>Some members inattentive in posture</td>
</tr>
<tr>
<td>Widespread interaction between members</td>
<td>Discussion limited to few members</td>
</tr>
<tr>
<td>Freedom to express ideas thoughts</td>
<td>Group rejection of non-conforming ideas</td>
</tr>
<tr>
<td>Evenly distributed discussion</td>
<td>Domination of group by 1 or 2 members</td>
</tr>
<tr>
<td>Ability to resolve conflict/disagreement</td>
<td>Conflict/disagreement disrupt or interfere with progress</td>
</tr>
<tr>
<td>Critical consideration of all ideas</td>
<td>Uncritical acceptance and/or rejection of ideas</td>
</tr>
</tbody>
</table>

2. Organisational/maintenance aspects of group process

| 2.1 Group limits discussion of peripheral issues | Group readily diverts from main line of problem |
| 2.3 Group demonstrates coherence of approach | Group appears to have conflicting approaches to problem |
| 2.4 Group consciously works toward making decision | Decisions arise by default/disinterest |
| 2.5 Tasks clearly allocated/accepted with group | No clear division of labour |
| 2.6 Ability to adopt alternative route to solution if one is blocked | Able to proceed along only one route |

3. Procedural/reasoning/critical thinking aspects of group thinking

| 3.1 Recognition of appropriate cues in problem presentation | Failure to recognize important cues |
| 3.2 Development of broad based proposition | Proposition generation limited in scope |
| 3.3 Proposition generation using all available/relevant data | Proposition do not take into account all relevant data available |
| 3.4 Proposition well grouped or organized | No apparent organization of proposition developed |
| 3.5 Group attempts to identify an order of priority for proposition | No apparent organization of proposition in order of priority |
| 3.6 Frequent re-formulation | Absence of reformulation |
| 3.7 Linking between data researched and proposition | Seeking of data without clear reason |
| 3.8 Group applies tool sets | Group fails to applies tool sets |

Assessor’s name: ___________________________ Date: ____________

(Adapted from Rolfe, Murphy, & McPherson, 1994)
Appendix Three

Belbin Team Role Self-Perception Inventory Breakdown
Belbin Team Role Self-Perception Inventory Breakdown

<table>
<thead>
<tr>
<th>Team Role</th>
<th>Contribution</th>
<th>Allowable Weakness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plant</td>
<td>Creative, imaginative, unorthodox. Solves difficult problems.</td>
<td>Ignores incidentals. Too pre-occupied to communicate effectively.</td>
</tr>
<tr>
<td>Resource Investigator</td>
<td>Extrovert, enthusiastic, communicative. Explores opportunities. Develops contacts.</td>
<td>Over-optimistic. Loses interest once initial enthusiasm has passed.</td>
</tr>
<tr>
<td>Co-ordinator</td>
<td>Mature, confident, a good chairperson. Clarifies goals, promotes decision-making, delegates well.</td>
<td>Can be seen as manipulative. Offloads personal work.</td>
</tr>
<tr>
<td>Shaper</td>
<td>Challenging, dynamic, thrives on pressure. Has the drive and courage to overcome obstacles.</td>
<td>Prone to provocation. Offends people's feelings.</td>
</tr>
<tr>
<td>Monitor Evaluator</td>
<td>Sober, strategic and discerning. Sees all options. Judges accurately.</td>
<td>Lacks drive and ability to inspire others.</td>
</tr>
<tr>
<td>Teamworker</td>
<td>Co-operative, mild, perceptive and diplomatic. Listens, builds, averts friction.</td>
<td>Indecisive in crunch situations.</td>
</tr>
<tr>
<td>Implementer</td>
<td>Disciplined, reliable, conservative and efficient. Turns ideas into practical actions.</td>
<td>Somewhat inflexible. Slow to respond to new possibilities.</td>
</tr>
<tr>
<td>Completer Finisher</td>
<td>Painstaking, conscientious, anxious. Searches out errors and omissions. Polishes and perfects.</td>
<td>Inclined to worry unduly. Reluctant to delegate.</td>
</tr>
<tr>
<td>Specialist</td>
<td>Single-minded, self-starting, dedicated. Provides knowledge and skills in rare supply.</td>
<td>Contributes on only a narrow front. Dwells on technicalities.</td>
</tr>
</tbody>
</table>

(Belbin Associates, 2009)
Appendix Four

Group Role Allocation
<table>
<thead>
<tr>
<th>Facilitator</th>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
<th>Group 4</th>
<th>Group 5</th>
<th>Group 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student A ME</td>
<td>Student B ME</td>
<td>Student C ME</td>
<td>Student D SH</td>
<td>Student E SH</td>
<td>Student F PL/SH</td>
<td></td>
</tr>
<tr>
<td>Visualiser</td>
<td>Student G RI</td>
<td>Student H SH/CF</td>
<td>Student I SP</td>
<td>Student J CF</td>
<td>Student K</td>
<td>Student L SP</td>
</tr>
<tr>
<td>Recorder</td>
<td>Student S</td>
<td>Student T</td>
<td>Student U</td>
<td>Student V</td>
<td>Student W</td>
<td>Student X</td>
</tr>
<tr>
<td></td>
<td>Student Y</td>
<td>Student Z</td>
<td>Student AA</td>
<td>Student AB</td>
<td>Student AC</td>
<td>Student AD</td>
</tr>
<tr>
<td></td>
<td>Student AE</td>
<td>Student AF</td>
<td>Student AG</td>
<td>Student AH</td>
<td>Student AH</td>
<td>Student AI</td>
</tr>
<tr>
<td>Language</td>
<td>English Speaker</td>
<td>Mandarin speaker</td>
<td>English speaker</td>
<td>English Speaker</td>
<td>English/Cantonese Vietnamese speaker</td>
<td></td>
</tr>
<tr>
<td>Discipline</td>
<td>Building svcs engineer – 1</td>
<td>C/s Engineer – 1</td>
<td>Architect – 1</td>
<td>C/s Engineer - 2</td>
<td>Environmental engineer – 1</td>
<td>C/s Engineer - 1</td>
</tr>
<tr>
<td></td>
<td>Property developer - 1</td>
<td>Property developer – 1</td>
<td>Building svcs engineer – 1</td>
<td>Quantity surveyor - 1</td>
<td>Contractor - 2</td>
<td>Architect - 1</td>
</tr>
<tr>
<td></td>
<td>Electronic engineer - 1</td>
<td>Contractor – 2</td>
<td>Architect - 1</td>
<td>Architect - 1</td>
<td>Urban planner- 1</td>
<td>Architect -1</td>
</tr>
<tr>
<td></td>
<td>C/s Engineer – 1</td>
<td>Interior designer – 1</td>
<td>Contractor - 1</td>
<td>Contractor - 1</td>
<td>Architect -1</td>
<td>Electronic engineer - 1</td>
</tr>
<tr>
<td></td>
<td>Contractor – 1</td>
<td>Finance – 1</td>
<td>Quantity surveyor - 1</td>
<td>Building svcs engineer – 1</td>
<td>Building svcs engineer – 1</td>
<td>C/s Engineer - 1</td>
</tr>
<tr>
<td></td>
<td>Architect – 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Contractor - 1</td>
</tr>
</tbody>
</table>
Appendix Five

Action plan steps
**Action Steps**

**Discussing/negotiating/exploring, assessing opportunities & examining constraints**

All teaching staff acknowledges that there are issues impacting on the learning experience

Collaborate with teaching team to establish the AR focus and allocate roles within the research experience

The issues provide an opportunity to enhance the learning experience and contribute to scholarly research publications

The investigation will provide valuable data to support development of a learning tool and can be undertaken during class time without disruption

There may be reluctance for Faculty to accept findings as original research funding was for the establishment of cross-faculty courses

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**What is happening now? General idea/reconnaissance**

- Students unwilling or reluctant contribute to group discussions
- Domination by some members to the point of excluding peers
- Dominant members are either workplace supervisors or older members of group
- Language use excludes peers from participating or joining certain groups
- Group composition comprises of workplace colleagues and/or occupations

**Field of Action**
**First Action Step**
- Develop amended Group Process and Reasoning Instrument (GPRI) to monitor student inclusion

**How can the effects of the actions be monitored?**
- Comments in students’ reflective logs
- Immediate verbal feedback
- Course feedback forms

**Monitoring**
Apply the Group Process and Reasoning Instrument during four day April workshop

**Evaluation**
- Review Group Process and Reasoning Instrument (GPRI) results
- Review student logs and comments for additional data
- Interpret data and identify themes

**Revised General Plan**
- Amend group compositions based on Belbin Personality Test results, occupation, language spoken, and employer, and implement new group compositions
- Continue to monitor in individual inclusion and contribution using GPRI
- All three members of the main teaching team to be actively involved
How can the effects of the actions be monitored?
• Comments in students’ reflective log
• Immediate verbal Feedback
• Course feedback forms

Monitoring
• Teaching team mentor students in their new roles
• Application of 2nd GPRI to monitor inclusion

Evaluation
• Review Group Process and Reasoning Instrument (GPRI) results
• Review student logs and comments for additional data
• Analyse antecedence and consequences
• Interpret data and identify additional themes

Revised General Plan
• Apply amended group compositions to newly developed PBL scenarios
• All three members of the main teaching team to be actively involved in the monitoring and facilitation of PBL scenarios
Third Action Step
New group compositions within the context of the newly PBL Scenarios and workshop F.

How can the effects of the actions be monitored?
• Comments in students’ reflective log
• Immediate verbal Feedback
• Course feedback forms

Monitoring
• Teaching team to mentor groups during the PBL process
• Review student course feedback in reflective logs, daily sheets and self/peer feedback

Evaluation
• Review PBL assessment task outcomes
• Analyse student logs and comments for additional data
• Appraise antecedence and consequences
• Interpret data and possible additional themes

(Adapted from Kemmis & McTaggart, 1988 in Mills, 2007)
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