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Supporting Teacher Education through a Combined Model of Philosophical, Collaborative and Experiential Learning

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Abstract
This paper provides insights into teaching and learning based on the analysis of an accredited professional development program, entitled the Postgraduate Certificate in Third Level Learning and Teaching, aimed at lecturing staff/faculty in Irish higher education. The program has its theoretical basis in the Kolb Experiential Learning Cycle (Kolb, 1983), combined with principles of collaborative learning and a philosophical understanding of teaching in higher education. An action research study was conducted to investigate the lecturers' perceptions of the program, with a particular focus on how support could be provided to them through a combined model of learning. As a core of the program is the importance of developing a personal philosophy of teaching, this was considered an integral aspect of the study. Philosophical perspectives are key to successful curriculum design in this context because values and beliefs affect the development of curriculum at various levels and it is important for program participants to be able to defend their own thinking and principles.

Keywords
Experiential learning; collaboration; curriculum design; philosophy of teaching; teacher education

I Introduction

This paper will report on the integration of collaborative learning within an experiential learning cycle of a Postgraduate Certificate Teacher Education program in Ireland and the program tutors' own learning as teacher educators and reflective practitioners in Irish higher education. An action research study was conducted to explore the lecturer's self perceptions of change on teaching practice (if any) by the program; a particular emphasis in the study is the development and support of a personal teaching philosophy.

The paper aims to focus on the learning experience of the participants of this program and explore if their teaching skills are continually improved through a combined process of reflection, development of awareness of current ideas about teaching, and peer collaboration. The context of this program is a continual improvement exercise on the part of the lecturer. It is hoped that this work engages in the scholarship of learning and teaching through involvement in an active investigation of effective learning and teaching practices, including critical analysis, evaluation, and communication of findings. This work is open to review and critique by peers and accessible for exchange and use by members of a scholarly community with the goal the improvement of student learning.

This study can contribute in a number of ways to the literature on learning and teaching in higher education. First, increased self-reflection by teachers in higher education settings can provide the basis for the continual refinement of an individual's instructional practices. Teachers, instructors, and professors are required to fulfil many roles and perform many duties that may be considered ancillary. At the core of the roles and duties is the actual practice of teaching and the primary purpose of this teaching practice is to facilitate and foster student learning. As a teacher, one should be willing to engage in the rigorous self-examination of one's own teaching philosophy, methodology, and effectiveness. Second, it can provide educational professionals (teacher educators) with a relatively clear understanding of the fundamental principles for effective instructional practice. Today, educational developers also perform many roles. During the last several decades, internationally, the transformation in the roles of teacher educators has paralleled the shift from inservice education focused primarily on individual teacher change to a more comprehensive, systemic focus on the entire organization and the individuals who comprise it. Today, teacher educators emphasize developing learning organizations and learning communities. The peer collaboration aspect of this study will be of interest in this respect.

The paper begins with an overview of the higher education context and rationale for the teacher education program. The review of the literature then concentrates on the importance of a philosophical basis for curriculum design. A subsequent section details the core of the study, by discussing the combined collaborative, experiential and philosophical model for teacher education. Finally, implications for pedagogy and practice are considered in the wider context of how this study can inform other related disciplines.

II Context and Rationale for the Program

The higher education system in Ireland is broad in scope and encompasses the university sector, the technological sector (Institutes of Technology), the colleges of education and private, independent colleges. The institutions which fall within the first three groupings are

autonomous and self governing, but substantially state funded. In comparison to faculty elsewhere, lecturers in Irish higher education are in the main equivalent to assistant professors.

Currently there is no professional training requirement for higher education lecturers in Ireland as far as their teaching is concerned. Thus, there are scores of unqualified teachers in third level (higher education) in Ireland, who are required to learn on the job, and thus, the program is offered to appropriate staff of both universities and institutes of technology. This is in line with the recommendations of the Colloquium on University Teaching and Learning held in Dublin in December 1998. Their recommendations included one which sought "*to facilitate further inter-institutional collaboration in development of a core curriculum for the professional development of staff*"" (Colloquium, 1998, p. 20).

There is growing recognition within the sector for the need for training for lecturers and other academic staff/faculty who have a teaching component to their work. With the many demands on the time of today's lecturers, there are also recommendations for a progressive shift from formal, institution-bound teaching to technology-facilitated learning (Skilbeck, 2001).

The program at the heart of this study is located within a Faculty of Academic Affairs in an Institute of Technology. It has been in existence since 2000, and has currently over 180 successful graduates. Each year, program participants are drawn from very diverse fields and have spent varying lengths of time as lecturers. There are a range of participants, from newly appointed lecturing staff to the institution, to those that have been teaching for anywhere between 5-25 years. The teacher educator's experience of working with the participants is that this multi disciplinary setting provides for interesting and critical discourse about teaching and learning. In terms of their subject disciplines, there is an eclectic mix, with many fields being represented in apprentice, undergraduate and postgraduate education: aeronautical engineering, architecture, art and design, bakery studies, biology, business studies, chemistry, economics, electrical engineering, fabrication and welding, fashion and textiles, film and media studies, fine art, graphic design, hotel and catering management, marketing, music, nurse tutoring, optometry, professional cookery, physics, science librarianship, social care, transport engineering, visual communication. Participants also include librarians, IT trainers and other academic support staff. Until 2007, all participants have been self-selecting and choose to come on the program. However, since that time, the institution in which the program is located has introduced a mandatory element for newly appointed lecturers, who have to undertake the program within the first two years of their position. This is a potentially future source of research on the program, as it may introduce a different dynamic to program motivation, participation and engagement.

There are a repertoire of teaching and feedback methods on the program. It is delivered via a series of interactive workshops, microteaching tutorials, peer observations and seminars and followed up by small group discussion sessions, both online and face-to-face with program colleagues. The focus is the preparation of educators in teacher education programs in colleges of education and includes a vision of these teachers as architects of new directions for today's higher education sector. It is important to encourage teaching that develops critical and independent thinking in its students and research that

informs the teaching process and it is proposed that this program is an important step toward these goals. An overall goal of the program is that it acts as a catalyst within the various institutions represented, encouraging these lecturers to reflect on all aspects of learning and teaching provision, including curriculum design and assessment and to engage in dialogue with others in their departments about these areas. By spreading this on-the-ground enthusiasm, the goal is that the management of the institutes will support the full scale implementation of good practice in these important areas in higher education teaching practice today.

The author is one of a team of four teacher educators (referred to as tutors in the paper) who have designed and who teach on the program. All were responsible for designing and moderating this course. Team teaching figures strongly in the moderation of the progam because as a Centre for Learning and Teaching, we favoured teacher collaboration and collegiality, and it is an area that we wished to promote to the teachers who came on the program. We agreed that it was important to bring a variety of perspectives to the subject under consideration. All tutors are jointly responsible for course content and assessment. However, they take turns presenting material appropriate to their individual areas of specialization. Careful planning is essential, and this approach depends for its success on the compatibility and mutual respect of those involved.

It was anticipated by the design team that over time those who have completed this program would have a positive impact in higher education in Ireland by modelling good practices in teaching that enhance learning, and by generating increased interest and dialogue in teaching and learning within their own departments in their various higher education institutes. The challenge for those of us concerned to develop teaching in higher education is to firstly engage academics in conversations about teaching and learning. Rowland (2001) concludes from the experience of working with different groups of lecturers that they learn much from each other by drawing upon these differences and that the mixed grouping allows for practices and assumptions to be challenged by others from different backgrounds and this echoes our experience. Indeed Fullan (1993) maintains that a high quality teaching force, always learning, is the *sine qua non* of coping with dynamic complexity; there are no substitutes to having better teachers. This program is about making the career-long continuum of teacher learning a reality.

The program was designed with two core modules: 'Learning and Teaching in Higher Education' and 'Designing Curricula and Assessment Strategies'. Each module is of 15 weeks duration, and the participants meet for a face to face class session for three hours of each of these weeks; independent learning is fully encouraged outside of this schedule. The second module which is the focus of this paper is an introduction to curriculum design and assessment strategies. The aim of the module is to facilitate lecturers to take a competent active role in the development of high quality curricula in their own contexts.

III Review of the Literature

It is noted that making trans-national comparisons of teacher education is important. Consequently, a number of past and recent reviews of teacher education programs internationally is presented and discussed. A secondary focus of the literature reviewed in this paper is on higher education teaching philosophies and their relationship to curriculum

design. This is because this relationship informed thinking and enlightened practice for the teaching team on the program; specifically about developing instructional repertoires, understanding curricular foci, gaining clearer perspectives as to what works with different types of learners, as well as developing an awareness as to the reasons why some methods work and others do not.

There have been a number of existing reviews of such programs, at over a decade apart (Carroll, 1980; Weiner and Lenze, 1997). However, it can be argued that these reviews provide a lack of evidence and lack of theoretical underpinning, and have not added sufficiently to the area. Rust (2000) reported lack of interest in researching the value of such programs. Since then, educational developers in Stockholm University have conducted recent empirical research into how first-level course participants, whose training in university pedagogy is compulsory, consider their teaching has changed since program completion (Adamson and Duhs, 2004). Their focus has been how they can extend the impact if their work to embrace more members of the university community, and how teachers can gain departmental support for innovative steps to improve student learning.

Similarly, the experiences of lecturers completing a teacher training certificate at South Bank University have been captured in research from its 1992 inception (Britton, 2004). This study raised some interesting issues in conducting such insider research; might respondents give "right answers" to please us? And what of the "problem of maintaining the balance between the level of detachment we would aspire to as researchers and the support we would wish to offer as educational developers" (McDowell, 1996, p.140).

Whilst acknowledging that this is an issue, it is argued here that such insider research is valuable because it draws on the experience of practitioners as complete members of their organizations and so makes a distinctive contribution to the development of insider knowledge about organizations and organizational change. An important message from Newton's research (2001) is that there are considerable merits in close-up study and insider research into 'views from below', and that there is scope for much wider application in a variety of higher education contexts and work environments.

A research study into initial teacher training programs in higher education at the University of Sussex used a model based on the work of Ho, Watkins and Kelly (2001) for assessing impact on a number of key areas: conceptions of teaching of course participants, impact on teaching practices, impact on student learning and impact on departments, and exploring what happens to course participants when they return to the cultures of their home departments (Thew and Clayton, 2004).

This current Irish research can be placed in the context of a wider study by Gibbs and Coffey (2004) whose research looked at the impact of initial training programs such as this in 22 universities in eight countries, and support for teachers in researching the impact of changes (to assessment, teaching or other aspects of course design) on student learning processes and outcomes. Some of the findings of this study revealed that trained teachers rated better on all six scales of the instrument used, but that the type of course made no difference on impact. The conclusions of this study suggest currently that there is very little empirical evidence concerning the impact of educational development practice; it recommends that it is not impossible to obtain evidence of impact and such evidence can be quite influential when credible. It is with these conclusions in mind, that this current study in an Irish context may be considered.

More recently, Santhanam and Suri (2008) have also conducted research on a Graduate Certificate in Higher Education program delivered across campuses in Malaysia and South Africa, in addition to urban and regional campuses in Australia. Similarly, in Estonia, the training courses for university lecturers are designed to support their professional development, improve their teaching skills, and expand their professional competence (Remmik and Karm, 2008). Their research shows that some academic-development activities result in conceptual changes among academic staff (changes in thinking and practice along with changes in their approach to teaching and learning).

The research reported on in this paper does not extend to a consideration of actual measurement of impact of the course as it has been suggested that any consideration of 'impact' needs to question the various agendas and (sometimes competing) discourses which educational development has supported, or in which it finds itself caught up. The assessment of impact must take account of the distinctive cultures in which we work and the contexts of organisational change we have to negotiate (Gibbs *et al*, 2004). It is argued here that this will form part of a wider research study across learning and teaching in the institution.

However, it is suggested that this research in an Irish context has implications for other such programs delivered in the UK and further afield as it based on the premise that we need to analyse the pedagogical base for why we, as educational developers, do what we do – our underlying theories of learning and the rationales we offer for continuing, or changing, what we do. Ultimately, this research aims to address, for the learning and teaching centre involved, is its practice inherently valuable and who values it?

The philosophy of education can be considered an individual's vision about the purpose and process of education. Understanding one's philosophical orientation to teaching, provides one with a foundation from which decisions may be made regarding appropriate and important content and its subsequent instructional methods (Olivia, 2005). Carbone (1991) posits the term 'teacher as philosopher' due to the strong link between teachers' values, curriculum design and implementation. Using a teaching philosophy to provide evidence of a teacher's sincerely-held beliefs, codify pedagogical thinking at a particular time, examine teaching practices and monitoring one's development as a teacher can all influence curriculum design.

The model of curriculum design for this program was chosen to support teachers in identifying ways to best create an environment that interests, challenges and enthuses their students while also ensuring, where possible, that what is learned is engaging and relevant. Teaching has been defined as the facilitation of student learning. Ramsden (2003) believes it embodies all that we do "to make student learning possible" (p. 7). This involves helping students to become critical thinkers, to develop the inclination to critically evaluate the activities of the wider academic and general community, and to take responsibility for their own learning. Learning at a deeper level involves an awareness that accepted "knowledge" may be both fallible and ambiguous. Also necessary is the ability to communicate and work with others in the community, and the emotional resilience needed to work on an issue or problem for a period of time without necessarily reaching clear conclusions.

The rationale behind each participants' approach to learning and teaching, in essence, consists of how they conceptualise student learning, the values and beliefs they bring to their teaching and how these inform the programs they design and implement with

their own students. Their philosophy may have been influenced by their reading or in discourse with colleagues, but primarily may stem from their own experiences. It is vital that participants consider how these experiences have shaped the way that they expose students to what they think it means to work in the discipline.

Students have knowledge, views and experiences to share that are valuable and worthy of consideration and opening up our classes to the voices of our students is sending a very powerful message to them as it is through talking with others, articulating their views and concerns that students are enabled to make sense of new information. The model has been influenced by the work of Vygotsky (1978) as it was important to give due recognition to the social dimension of learning and provide multiple opportunities for teachers on the program to develop understanding through the medium of discussion with peers and tutors.

The following section is a discussion of collaborative and experiential learning in the context of the program.

IV Designing for Collaborative and Experiential Learning

The module is designed to enable participants to creatively explore and utilise a range of ideas on designing curricula as well as to understand the use of different types of assessment. The involvement of students in a 'real life' curriculum project is the catalyst for student collaboration. Various philosophers and educators believe that experience is an essential element of learning and among that group is John Dewey one of the most influential educational theorists of the twentieth century. Dewey (1938) argued that there is an intimate and necessary relation between the processes of actual experience and education. For Dewey the type and quality of the experience was fundamentally important and he advocated a purposeful and holistic experience developed with forethought and planning. Vygotsky's work is emphasised in the program by placing an emphasis on activity as the basis for learning and for the development of thinking alongside strong emphasis on the role of communication and social interaction and the importance of cooperatively achieved success.

The design focus was on the importance of fully integrating the curriculum design process within the experiential model of learning on which the program was moulded, taking full account of the program aims and learning outcomes, assessment strategy and issues of participant motivation. However, it was important to create a learning environment where the participants would learn in community and the enquiry based curriculum project brief was designed taking cognizance of this and the participants were assigned to groups to complete the task. The process of generating a program framework document was an empowering if at times painful experience for the groups. The enquiry based collaborative project replaced the competition between individuals for knowledge with a pedagogy that placed emphasis on knowing and learning as communal acts requiring many voices and experiences.

> The competitive individualism of the classroom is not simply the function of a social ethic; it reflects a pedagogy that stresses the individual as the prime agent of knowing. But to say the obvious, knowing and learning are

> communal acts. They require many eyes and ears, many observations and experiences. They require a continuous cycle of discussion, disagreement and consensus over what has been seen and what it all means. This is the essence of the 'community of scholars' and it should be the essence of the classroom as well (Palmer, 1997, p.204).

There was a desire to create a space for these lecturers to think, to question, to learn together through dialogue and discussion and hopefully to experience the kind of professional learning which Walker (2001) describes so eloquently.

> The 'space' of collaboration provided the safe space for dialogue and development, and our shared commitments to student learning held it all together (p.38).

It was sought to incorporate principles of group learning into the program. In dividing the class into groups, consideration was given to the optimal group size and decided on groups of seven as in smaller groups there is a greater likelihood of trust, close relationships and consonance of aims (Jacques, 2000). The task specified for the group was topical and relevant and the curriculum project represented one module of participant work. A tutor was attached to each project group but each participant was expected to work as a collaborative partner within his/her group facing the learning issues together and sharing the decision-making. There would be time allocated each week for the group to discuss and progress their curriculum brief and the group-work was to be seen as a coherent mode of learning in its own right and not seen in isolation from the rest of the curriculum or its associated culture.

As facilitators it was evident that the group learning provided an environment where creative strengths and attitudes emerged during discussion as part of a collective effort. It was interesting to watch in the sessions as individuals offered ideas and half formed concepts to the group and the group shaped these ideas and concepts to arrive at a collective understanding and a higher conceptual level than might be possible in an individual project.

The design and implementation of this program for academic staff/faculty has fully integrated a range of learning experiences in teacher education and the learning has been stimulated and delivered by tutors with an academic background in teacher education themselves. The program was modelled on Kolb's Experiential Model of Learning which encompasses learning methods based on the experience of the learner.

> We were convinced that it is important to draw upon the learners' prior experience and to provide opportunities for them to be actively in what they were learning. We also agreed, however, that experience alone is not the key to learning (Boud *et al*, 1985).

Relevance and application of learning are important features and reflection is fundamental to the process. As the program was designed to support the learning and teaching process at third level, some considerable time was spent looking at the best national and international practice in the area. It was considered important to introduce to the program

creative approaches to curriculum design, alongside common instructional and curriculum design models in use in higher education today. The participant's own attitudes and experience of curriculum design were a vital facet to these discussions. Dialogue in the project groups included the participants' experiences of designing for interactivity, assessment and evaluation. Underpinning all of this were explorations of emergent philosophical issues.

There was flexibility to allow participants to have part-ownership of the curriculum group process and product. They were given an opportunity to discuss and input into how the group project would be formatively and summatively assessed. The rationale for this was to enable them to have a part to play in the choosing of roles, or the intended outcomes of the project. Extensive tutor and technical support of the group work process was provided. The participants have formal contact with the tutor at different stages of the project. This takes the form of group tutorials, and, if requested, meetings with other participant groups. This contact is to help to avoid or sort out problems in the group dynamic while the group work is being carried out.

An interdisciplinary focus was important in the collaboration. The program team took the initiative to make connections with other departments within the institute and elsewhere in the higher education community in Ireland. Visiting experts in the area were invited into the program to discuss their views with the participants and tutors.

V A Model of Collaborative and Experiential Learning

The conceptual model that underpins this postgraduate teacher education program reflects the philosophical foundations of the profession. Experiential learning theory defines learning as "as a process of conflict confrontation and resolution among four basic adaptive modes or ways of relating to the world." (Kolb and Fry, 1975, p.37). Kolb and Fry (1975) argue that the learning cycle can begin at any one of the four points - and that it should really be approached as a continuous spiral. However, it is suggested that the learning process often begins with a person carrying out a particular action and then seeing the effect of the action in this situation. Mezirow (1991), Freire (1985) and others stressed that the heart of all learning lies in the way we process experience, in particular, our critical reflection of experience. They spoke of learning as a cycle that begins with experience, continues with reflection and later leads to action, which itself becomes a concrete experience for reflection. This theory suggests that the learning process often begins with a person carrying out a particular action and then seeing the effect of the action in this situation. In defining the cognitive processes of learning, at over twenty years old, this theory, whilst not without its critics (Rogers, 1996), remains popular as it has helped move educational thought from the locus of the instructor back to the learner.

Figure 1 presents a schematic diagram of the curriculum model. Included in the diagram are the key program features: participants' defining attitudes, beliefs, and approaches as teachers and a cycle of experiential and collaborative learning.

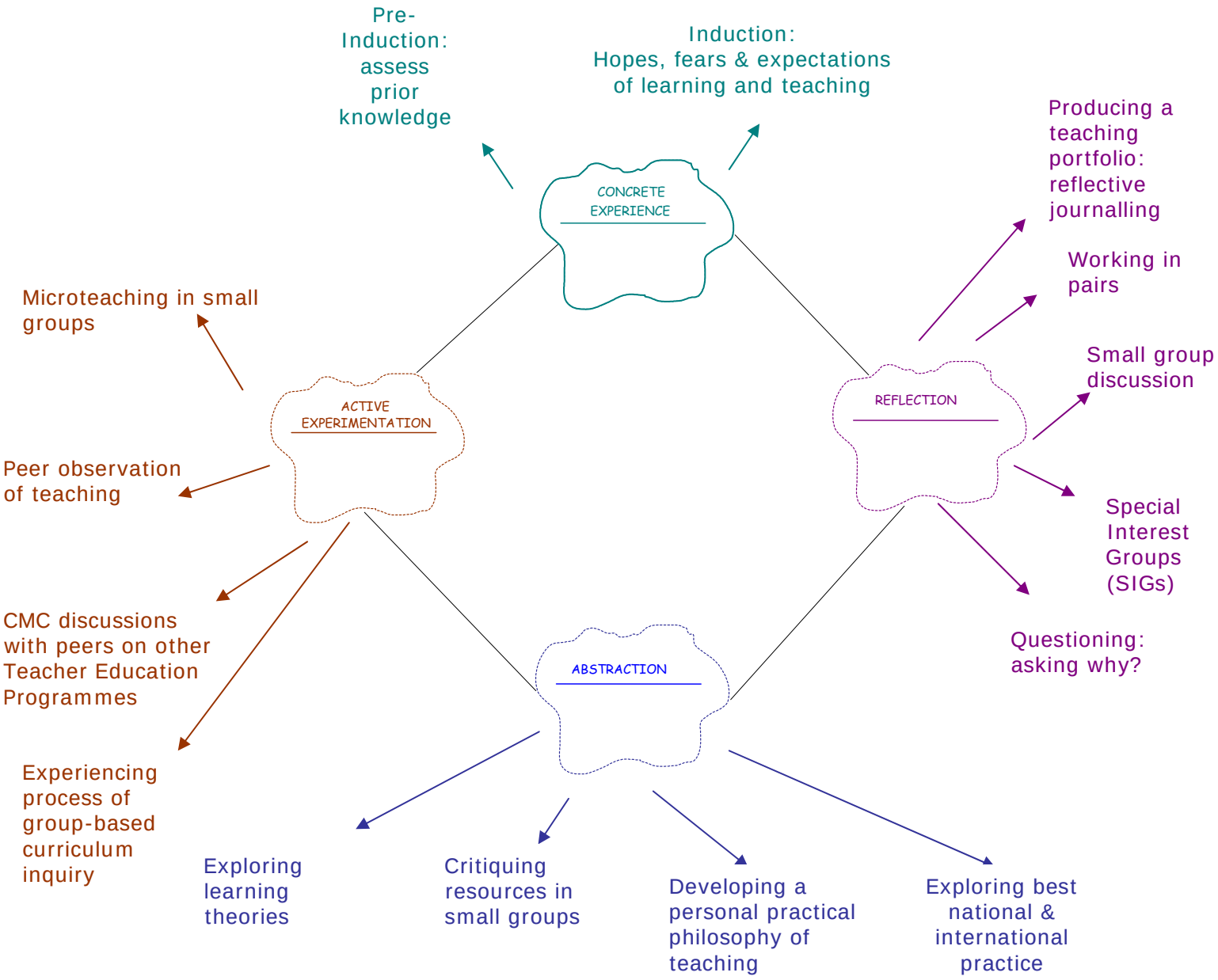

Figure 1
Philosophical, Collaborative and Experiential Learning in the Context of the Programme

Each of the four stages of Kolb's experiential learning cycle are considered along with the components of the program designed to facilitate the learning; they are presenting using colour coding: concrete experience (green); reflection (purple); abstraction (blue); active experimentation (brown). The model depicted in Figure 1 is now discussed below.

A Concrete Experience

The learning in this Postgraduate Teacher Education program begins with the real experience of the lecturers in their role as teachers and facilitators of learning in their institutions. The participants' concrete experience of using curriculum design needed to be taken into account, and the facilitated inputs by the tutors then restructured around the participants. Tutors were aware of the participants current knowledge of curriculum design through a process of discussion in group tutorials.

Early on in the program, there was time given for discussion of issues relating to the structure, objectives, content and delivery of third level education, and also issues relating to the appropriate background for teachers delivering instruction in this area. It is known from psychology that students learn best when motivated by interest and empowered by knowledge they take on a conceptual challenge to solve a problem or accomplish a task that is just out of their reach. Equipped with meta-cognitive skills, they set goals and work with human and informational resources to assess their progress towards the completion of the task. Once completed, the learner is eager to share this new knowledge with others. This is how the participants chose to work on the curriculum project. Such collaboration made it easier to facilitate collective sense-making round the curriculum design task.

B Reflection

The participants were facilitated to reflect on their experiences of curriculum and through the group-based enquiry project; throughout links were made to the theories and principles of curriculum design. If critical reflection is to occur, it is important to cultivate the relationship between teacher and students and among students themselves. One of the main features of self-reflection is for individuals to have the freedom to make a choice for themselves rather than to have to conform to the influence of the tutor or other students and so the structure of the group must allow equal power relationships between group members. The idea was for them to be able to confirm their strengths, raise questions, improve their practice and innovate. This reflection took many forms including, individual and group exercises, but the reflection step of the Kolb Cycle also concentrated on the participants working in pairs, taking part in group discussions, and the setting up and maintaining of special interest groups in key areas of curriculum design such as designing for key skills and integrating learning technologies into the curriculum. Throughout, they were actively encouraged to reflect on any innovations they were attempting for the first time, especially if it did not go according to plan; if problems arose, they questioned it and reflected on what went wrong and why, in order to try again. Reflective journaling as part of the production of a teaching portfolio was a significant feature of the program. Dewey (1933) defined reflective thought as "active, persistent, and careful consideration of any belief or

supposed form of knowledge in the light of the grounds that support it and the further conclusions to which it tends" (p.118). Building upon this, Boud *et al*. (1985) address the need for participants in a program such as this to return to experience, attend to (or connect with) feelings and evaluate experience - this latter point involves re-examining experience in the light of one's intent and existing knowledge. It also involves integrating this new knowledge into one's conceptual framework.

C Abstraction and a Philosophical Underpinning

The generalisation and abstraction took many forms including exploring the academic literature on curriculum design in higher education, investigating best national and international practice in order to benchmark their work, critiquing resources, exploring learning theories and developing both a personal and collective practical philosophy of teaching. The participants were encouraged to ask questions about the theories of learning and teaching from the viewpoint of their current practice. They also theorised from reflections on their own teaching practice.

As part of the abstraction step to the Kolb Cycle, several other key themes in curriculum were integrated to the group project. The themes of equity in higher education, and the psychology of learning, were explored by all the groups, and there was a sense of them contributing and sharing papers between groups that they found interesting and relevant. Throughout the duration of the program, the participants themselves can be called upon to present case studies unique to their subject area. Several of these can be directly related to the creative design of a new third level curricula, including aspects of the participant's practice that was innovatory for them. There is an outlook on the program that much that can be learned about learning and teaching will come from fellow participants rather than solely through the conduit of the tutors; and this outlook is endorsed by the tutors themselves. Dissemination of all program materials, including the case studies is encouraged at all times. This can be a dynamic resource and the participants will be strongly encouraged to continue its use.

D Active Experimentation

Active experimentation was a major key to the learning in this module. Participants were invited to explore different ideas and methods in the preparation of the program framework document they were required to produce.

Microteaching was developed in the early and mid 1960's at the Stanford Teacher Education Program. It is used in this program as it offers a concentrated, focused form of peer feedback and discussion. The essence of each micro lesson is an opportunity to present a sample "snapshot" of what/how each participant teaches and to obtain feedback from peers in a small group about how it was received. It is a chance to try teaching strategies that the participant may not use regularly. This is a safe time to experiment with something new to them or to get feedback on a technique they have been trying but are not sure about its effectiveness.

The process of peer observation on the program involves peers that review a teacher's performance through classroom observation and exploration of instructional

materials and course design. Observations of classroom behaviour are intended for reviewing the teaching process and its possible relationship to learning. The focus is on verbal and nonverbal behaviors of both the teacher and the students in the classroom.

Computer Mediated Communication (CMC) software was discussed and demonstrated prior to the module beginning. This was very useful for providing real-time or time-independent communication amongst the group members and staff within and between institutions. Participants were encouraged to set up online discussion boards to be used as a forum to discuss their module group projects at each project milestone. The participants in the groups were all located at different campuses and the CMC software gave them an opportunity to continue their group work at times when it was not convenient to meet up face to face. This was important as the Web is now causing educators to re-think the very nature of teaching and learning. Claims have been made that the Web can free teaching and learning from the physical boundaries of classrooms and time restraints of class schedules. Learning resources of the college and other institutions can be augmented by learning resources of the world via the Web. Overall, the web-based instruction enables greater individualisation and flexibility for participants whilst also creating an increased demand for self-directed learning, and offering the potential to support collaborative learning.

> Learning in this stage takes an active form - experimenting with, influencing or changing situations. You would take a practical approach and be concerned with what really works... (Kolb, 1983, p.4)

VI Participatory Action Research Study

The research has extended over a period extending from 2005-2006. An interpretivist, participative approach was adopted for the study. A participatory action research approach would assist in enhancing the understanding of the module context both for myself, as module tutor, and the participants. The phenomenological meaningfulness of lived experience, people's interpretations and sense making of their experiences in a given context constitutes an appropriate and legitimate focus for social inquiry (Greene, 2007). Understanding meaning as the goal of interpretivist inquiry is not a matter of manipulation and control, particularly with respect to method; it is rather a question of openness and dialogue. Central to this study was the concept of learning and working with other people, therefore it was important to concentrate on eliciting the reality of the participant experience on this module. When change is a desired outcome of the research, as it was in this study, some participative form of action research is often indicated. In this study, 'participative' is interpreted as a partnership between the teacher as researcher and the academic staff/faculty as participants.

Participatory action research was chosen ultimately as the methodology for this work, because the issues that had emerged from past evaluations of the module were very important both to the researcher and tutors on the module, and equally important for the academic staff/faculty who participated in the module. This form of action research is research *with* rather than *on* other people. It was explained to the participants how it was hoped to improve the educational situation for them in the module *here and now*. The

intention was to create a structure for partnership between the researcher and the group currently undertaking the module. This would help to increase the honesty with which the group members reported information as it was to their benefit to have accurate information on which to make changes. The acquisition of specialised and detailed information from participants would provide a basis for analysis and elucidatory comment on the topic of enquiry. A process of concurrent analysis involved data transformation from the raw state to a form that allowed them to be used constructively to make changes as the module progressed and, ultimately, to re-design the module.

A Research Design and Methods

Data were collected through questionnaires and focus groups in the time frame 2005-2006. Each method was chosen for the opportunity it could offer to capture the participant's own thoughts and experiences of the combined approach taken to the program delivery which was central to this study. With a focus on the participants' experience of the module, it seemed clear that the study could either be based on observation or interrogation of the participants, or a combination thereof. Creswell (1998) has advocated that the backbone of good qualitative research is extensive data collection typically from multiple sources of information.

The three methods of collecting data for this study (qualitative questionnaires, focus group interviews and textual analysis of the tutor's reflective journal) were continuously complemented by prolonged immersion in the literatures of the field. Figure 2 provides an outline of the research design for the study involving four different phases of planning for the data collection, actions inherent in the collection of relevant data, analysis of data and making recommendations.

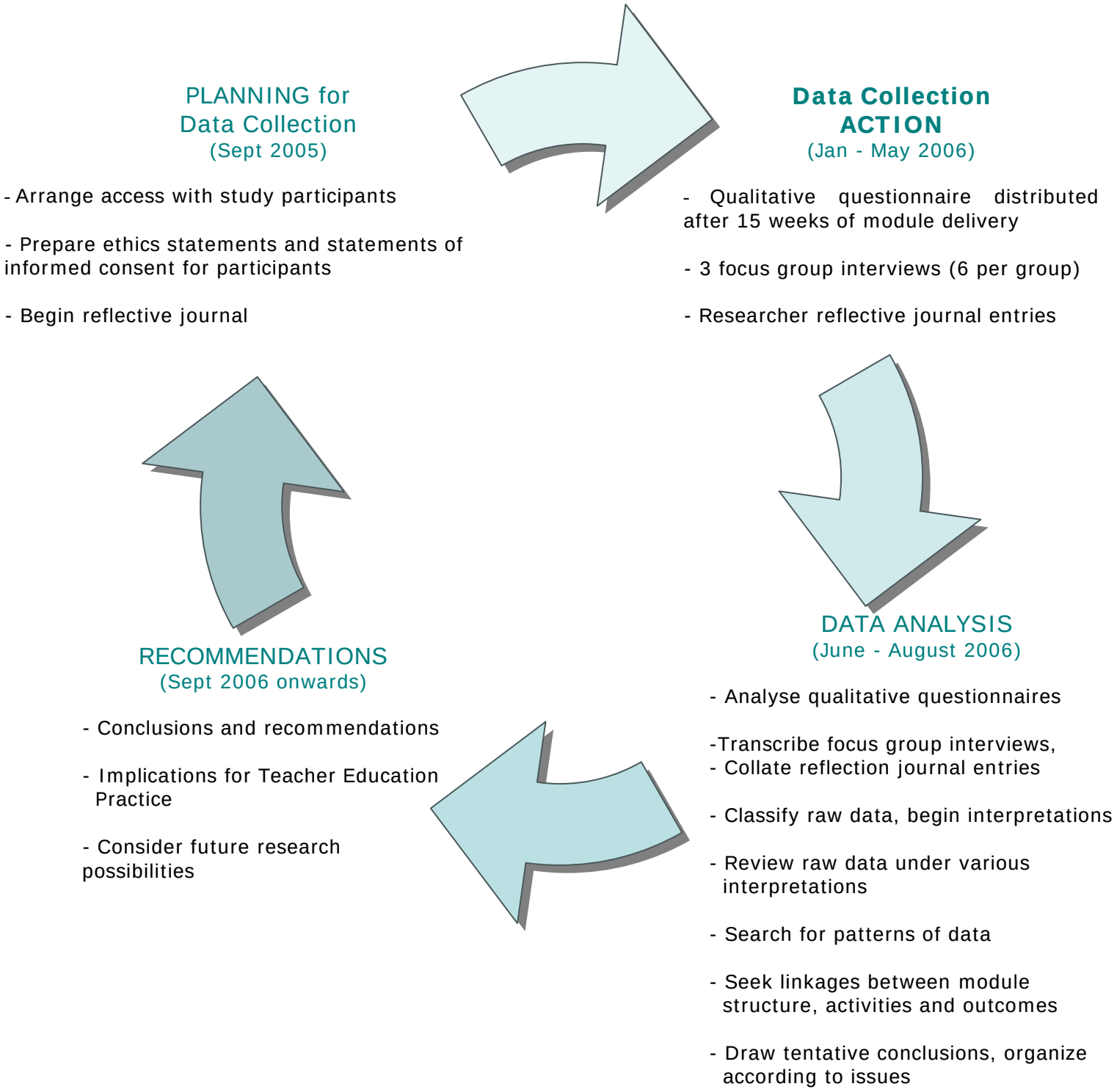

Figure 2 Different Phases of the Study

A qualitative questionnaire was presented to 60 participants in the final week of the module over the period in the academic year 2005-2006. Participants were drawn from a number of disciplines: social science, business, chemistry and the apprenticeship fields. Three semi-structured focus group interviews were then held one week after the module ended in May 2006, with six participants in each group interview. Focus group interviews are a form of evaluation in which groups of people are assembled to discuss potential changes or shared impressions (Rubin and Rubin, 1995). As a general rule, focus groups are an appropriate research vehicle when the goal of the investigation is to gain an understanding of the why behind an attitude or behaviour (Greenbaum, 2000). The focus group discussion was structured on three areas: the improvement of practice (through the curriculum design focus of the module), the improvement of understanding (through experiential and collaborative learning on the module), and the improvement of the situation in which the action takes place (based upon the philosophical focus of the module).

In each of the three focus group interviews, the researcher adopted the role of moderator, facilitating initial discussions among the group participants and introduced the topics to be discussed. The aim was to be non-directive, allowing the group discussion to develop its own dynamic and pursue topics as they arose and captured the interest of the group. Stewart *et al.* (2007) suggest that the moderator is often quite nondirective with respect to the discussion, letting it flow naturally as long as it remains on the topic of interest. However, it was important to recognize that the amount of direction provided by the moderator does influence the types and quality of the data obtained. The moderator took on a non-directive stance in the focus group interviews in the sense of not having to probe for more information on a given topic as the participants often stimulated one another's responses and even posed questions to one another. There were times when it was important to encourage the participants to shift positions from their role on the module as learners to their professional role as educators, in order to explore alternative perspectives, contradictions and ambivalences, where they occurred. The idea of shifting positions was important to show how the individual participant could hold different ways of interpreting their experience on program. Investigating questions in the focus group interviews provided rich, or as Geertz (1973) termed it 'thick', detailed data which was valuable to complement what was obtained from the responses emanating from the qualitative questionnaires. Charmaz (1995) believes "rich data reveals thoughts, feelings and actions as well as context and structure…affording the researcher a thorough knowledge of the empirical world or problem that is being studied" (p.33).

As moderator, I was mindful throughout the focus group interviews that the participants may not have heard the question through the same meaning-frame as myself and indeed in some instances, this was found to be the case. They may also not have known why they experienced things in the way that they did. The moderator's task was to elicit information that illuminated an understanding of the research topic without shutting down useful information by bluntly asking those questions. So open questions were used to invite the participants to be receptive and expansive and to make associations between different experiences on the module and where possible, avoided questions that elicited *yes* or *no* answers. There was also an intention to avoid straightforward *why* questions because as Hollway and Jefferson (2000) pointed out, "they can invite intellectualisations or

rationalizations of problems and are often uninformative in terms of the research questions" (p.26). In a study by Ryan *et al*. (2004) on how adult education tutors facilitated transformative learning in the classroom, it was concluded that the low quality of data collected from focus group interviews was due to the asking of too many *why* questions on too many occasions and the researchers did not ask for enough stories and critical incidents which would have most illuminated the research objectives.

There was a certain amount of difficulty in trying to direct the discussion to topics relevant to the research without disrupting the social dynamics of the group. Although having said this, the value of free association (apparently illogical connections) that some of the participants seemed to favour was useful. Glaser and Strauss (1967) have suggested that the researcher needs to continue gathering information until reaching the saturation point, where newly collected data is redundant. Lincoln and Guba (1985) put it this way: "the criterion invoked to determine when to stop sampling is informational redundancy, not a statistical confidence level" (p.203).

Albrecht *et al*. (1993) suggest that criticisms of this method centre on the nature of the interaction and how it affects what people say within a group, as opposed to what they say in individual interviews. An illustration of this is the group creating consensus to the extent that it prevents individuals from saying things they might say in a one-on-one interview. To overcome this, the moderator stressed that a range of different responses to given situations on the program was welcomed. By adopting a reflexive perspective in this participatory action research study, the researcher accepted the challenge to see how varied results from the focus group responses may contribute to a more complete and valid analysis.

To complement the end-of-module questionnaire and the focus group interviews, as a teacher-educator, a reflective journal was kept of tutor interpretations of how the module was progressing. Writing down thoughts about this module was a way of introducing the researcher to the discipline of critical reflective thinking. The journal was used to store personal accounts of tutor 'observations, feelings, reactions, interpretations, reflections and explanations' (Elliott, 1991) to help reconstruct the research position at any given time.

The selection, design and implementation of these research methods were based on practical need and situational responsiveness (Patton, 1987) rather than on the consonance of a set of methods with any particular philosophical paradigm. However, in interpretivist study, it is important to authenticate the interpretations as empirically based representations of program experiences and meanings, rather than as biased inquirer opinion. As the issue of validity of evidence can be difficult and complex (Macintyre, 2000), it was considered important to have a form of triangulation in place. Coupled with this was a belief that it was important to situate the researcher in relation to the participants in this study - to tell the story of the designer and tutor of this module and to ask questions which emanate from a desire to understand the participants' lived experiences.

Follow-up interviews with these participants will be an interesting aspect to a future study to investigate whether their perceptions of impact of the programme have been sustained.

B Reliability, Validity, Verification

Validity and reliability are critical issues in research studies (Creswell, 1998). These criteria were originally developed to measure the trustworthiness of methodological instruments, which have a deductive or positivistic view of science. The appropriateness in the evaluation of qualitative research has been questioned in the past and reported by both Punch (2000) and Morse and Field (1999); therefore it is proposed that the model for qualitative data analysis created by Lincoln and Guba (1985) will serve to achieve rigour in this study. According to this model there are four aspects related to validity and reliability. These are credibility, applicability, consistency and neutrality.

It is generally argued that validity is more likely if a variety of methods are used; in this study qualitative questionanires, focus group interviews and reflective journal entries were employed. Hine (2000) suggests that such verification of qualitative studies usually depends on the breadth of observations that the research carries out. In this research, the teacher-educator has been a tutor on the module examined for eight years and has therefore managed to develop deep understandings of what goes on. Such sustained and involved presence in this program has allowed the verification of many observations and facilitated the drawing of authentic understandings and conclusions.

In considering the validity of this present study, a number of key areas were explored: how might the results and conclusions be incorrect? What are the plausible alternative interpretations and validity threats to these and how did were these dealt with? How can the data collected support or challenge the researcher's ideas about what was going on? Why should the results be believed? This researcher concurs with Davies (1999) in his argument that a study has produced valid knowledge when it has honestly examined and made visible the analysis and the basis of the researcher's knowledge claims are in reflexive experience.

In considering the reliability of this study, it is important to ask if the research findings are repeatable and how accessible are they to other researchers, in the sense of would another researcher of the perception of impact of teacher education programs, under the same circumstances, make the same observations leading to the same set of conclusions. It was important to be concerned about reliability within the confines of this study in the sense of continually cross-checking information obtained and interpretations developed. This was accomplished in this study by returning to the same topic and posing the same research objectives, under varying circumstances during the duration of the module, alongside checking verbal and written assertions with observations. Of course reliability within the context of this interpretative study should not be interpreted to mean absolute consistency. Even the most homogeneous group of academic staff/faculty will contain varying perspectives. Such variation, if it can be explained, may be as informative as great agreement on a particular interpretation. In fact, too much consistency in responses, as found by Kirk and Miller (1986) in their urban middle class Peruvian study, may indicate carefully rehearsed answers that are intended to conceal rather than clarify.

Given the fundamental importance of reflexivity in this participatory action research study, it is clear that in the strictest sense the criterion of reliability is not applicable, in that no study is formally or perfectly repeatable. Davies (1999, p.90) asserts that as with all

knowledge, we must accept the incomplete and contingent character of qualitative research methods and believes this can be done without sinking into a relativistic hole in which no evaluation or improvement in knowledge is possible.

In qualitative research, rigour is judged according to trustworthiness, which is the degree to which a study's findings represent the experience of the participants. It is established through credibility, auditability, fittingness and confirmability. Credibility is established when the study participants recognise the research findings as an accurate representation of their experience; this is sometimes referred to as a member check or respondent validation. Auditability (or confirmability) is established when a knowledgeable reader or another researcher can follow thinking, decisions and methods of the researcher. Fittingness (or transferability) is established to the extent that other practitioners can use the study findings. Confirmability (or dependability) is established when it is obvious that the findings, conclusions and recommendations of the study follow logically from the data.

In this study, the subjective, partial and open-ended nature of the interpretation of the participants' responses and focus group interview discussions is acknowledged and it was the researcher, not the participants that interpreted the data of the discussions (even though they participated in participant verification sessions). The findings were interpreted in the light of the teacher education literature. It is also acknowledged that other interpretations of the data are possible. This study concurs with Morse *et al.* (2002) that as a qualitative researcher, it is important to reclaim responsibility for reliability and validity by implementing verification strategies integral and self-correcting during the conduct of inquiry itself. Cutcliffe and McKenna (1999) also put forth a compelling argument for this position and encourage researchers to return to the participants to attempt to gain verification. Any findings that were not recognised by the participants were identified and if disagreements existed, these were reported.

A two hour participant verification session was held with two of the three focus groups in this study on 5th and 8th February 2007 respectively; the majority of participants attended, and both were audiotaped. The participant verification sessions were held to check, confirm and be certain about the findings from this study. Each session began with a clarification of the research objectives and participants were given an overview of the research design. The themes of the study were presented for discussion at the opening of the sessions (they had been previously emailed to all participants two weeks in advance of the sessions). The participants were asked to reflect individually on the themes for twenty minutes and asked to note down their thoughts. They were then asked from having been participants on the module and from having read the themes to comment on what had been written by the researcher. They were encouraged to make their general comments first and then to comment on each interpretive repertoire and this lasted 70 minutes.

Melia (1982) refers to a testing out/validation process that occurs in qualitative research where refining and checking the credibility of propositions, themes and categories that emerge in the data collection can be verified in subsequent interviews. As a consequence one of four responses can be obtained: firstly the participant agrees with the authenticity of the data and the representativeness of the interpretation and adds nothing new; at this stage the categories may have reached saturation; secondly the participant agrees with the authenticity of the data and the representativeness of the interpretation and adds further refinement and understanding to the category (this is a crucial component of

category refinement); thirdly the participant disagrees with the authenticity of the data and the representativeness of the interpretation redirects the researcher's enquiry; fourthly the participant disagrees completely with the authenticity of the data and the representativeness of the interpretation and the researcher should completely rethink this line of enquiry.

The main way that standards were achieved in this study and to address the issue of small sample size was through the triangulation of data from different sources. Involving the participants themselves in articulating the emergent categories in subsequent verification sessions also strengthened internal validity, which LeCompte and Goetz (1982) have called the match between observations and developing theoretical ideas.

VII Data Analysis and Findings

The analytical approach used on all the data collected relied on categories developed through the literature and through my previous experience tutoring on this program. This analysis involved a process proposed by Miles and Huberman (1994): data reduction, data display and conclusion drawing and verification. As Cameron (2001) advised, thematic analysis involved finding patterns and proposing interpretations of the patterns together with accounts of the meanings and ideological significance of these patterns. Smith (1992) has described such thematic content analysis as a qualitative method of data analysis that is designed to extract consistent themes from a wide range of written or verbal communication. The use of direct quotes is used extensively in this section of the paper to provide evidence of both the shared enthusiasm for the Teacher Education program and also some real concerns voiced by the participants. Whenever possible by using the words of the participants themselves, key issues will be highlighted. For inclusion of all participant quotes, the following applies:
FG = Focus Group Interview (indicated by 1, 2 or 3 depending in which group the participant belonged)

Several interlocking major themes emerged from analysis of the 60 questionnaires and interviews of 18 participants: developing philosophy, self perceptions of program impact and a balance of experiences.

Developing a philosophy

Prior to starting this program, the participants had been asked whether they ever had the opportunity to explore their teaching philosophy:

> My philosophy was entirely down to what I learned from the best lecturers I had in the past.
>
> (Participant 3, FG1)

> I can look back and see that I was applying a philosophy but it was being done unconsciously. I would have been expressing it in changes I was making to the course I was teaching and in conversations and discussions with my colleagues, particularly in reviews and the design of new courses and in course team meetings.
>
> (Participant 5, FG2)

The main components of a teaching and curriculum philosophy identified by participants were: the aims of higher education, personal core values in relation to teaching and learning and putting this into practice, consideration of how students learn; reflection on past learning and identifying progression, consideration of a variety of teaching strategies and how and why to use them to improve the learning environment; the goals of teaching.

Developing a philosophical understanding for curriculum design happened in a number of stages: understanding what a philosophy is; reflection on current teaching practice; reflection on peer observation of teaching and critical appraisal of the observed teacher style. A number of interesting insights were offered by participants in relation to how they evolved their philosophies:

> For me, the foremost thing to do was some soul searching.
>
> (Participant 1, FG1)

> I came up with a suitable metaphor to describe how I viewed the teaching and learning process; this took time but it helped to think about how I felt as a learner – in the past and on the course – and what I thought was important for being taught effectively. The reading that we were doing as part of our program and the peer discussions in class helped me enormously.
>
> (Participant 20, Module Evaluation, 2005)

> It took me a bit of time to get my head around this and I wasn't particularly comfortable with it. I was certainly conscious of the need to prepare the ground for students' workplace duties when they finish the course. I thought about what I wanted to try to get across to the students (I know this is very teacher centred) particularly about preparing them for workplace.
>
> (Participant 32, Module Evaluation, 2005)

> I wanted our group's curriculum project to be so innovative but we ended up with a more traditional one – would loved to be have been like the teacher in Dead Poets Society!
>
> (Participant 5, FG1)

The core ideas in developing one's philosophy of teaching were identified by participants through designing curriculum based on a model of experiential and collaborative learning. These were equality, integrity, honesty and quality; and learning being an evolutionary process.

> In our group we asked ourselves if the existence of a philosophy statement would affect one's teaching practice or if the journey to defining a statement was the real benefit.
>
> (Participant 4, FG1)

> The core ideas came from my understanding of how learning happens, and this was based on Kolb's Cycle; I then looked at my lesson plans and described how I incorporated each learning process (wanting to learn, learning by doing, learning by feedback and digesting what has been learned); I also discussed what I thought

> it was important that learners gained and that learners will encounter a period of disequilibrium before they understand something and making allowances for that.
>
> (Participant 17, Module Evaluation, 2006)

Discourse with peers was a key feature of developing a philosophy to underpin teaching and the design of curricula:

> I spoke a lot with my fellow program participants yes but not so much with colleagues in my department as I assumed they weren't on the same wavelength with regards to teaching and learning.
>
> (Participant 1, FG3)
>
> In talking to others I realized I had a philosophy deep down, I only needed to express it. One member of staff whilst reflecting on past experiences with me became upset at the realization of what went on in that department in the past and had put it from memory – or so they thought. Talking about it and reflecting back on it brought out all the emotions again.
>
> (Participant 3, FG2)
>
> There were 4 of us in the office preparing our teaching philosophies at the same time. We had open discussions about the topic but with some reserve. During the initial period I felt it was a very personal thing and was sensitive to criticism. The openness helped develop a deeper understanding of points of view and my own understanding of my philosophy.
>
> (Participant 2, FG2)
>
> It was great to get other ideas especially from the more experienced staff on the program who discussed teaching methods that have provided a better learner center environment.
>
> (Participant 6, FG3)
>
> Verbal interaction with others in the group to explore what I had written was an important component of this process.
>
> (Participant 2, FG1)

Self perceptions of program impact

The central impact on curriculum design, teaching practice and student learning were identified as: constructive alignment of teaching and philosophy, increased confidence in teaching and the curriculum design process, a renewed focus on student centred learning and an increased enthusiasm for teaching.

> When designing new modules, I have to make sure that the teaching methods are consistent with my philosophy. I have something to measure my practice against.
>
> (Participant 1, FG1)
>
> I am now confident about my teaching because I have thought about it and know why I take the approach that I do. I am also equipped to reflect on changes and new situations and review my teaching philosophy in that context. In addition, I am

confident about discussing my approach with colleagues and have found that such discussions are often very fruitful.

(Participant 6, FG3)

This has made me focus even more on the learner and from that point of view has been very rewarding. It brings me back to basic principles and to concentrate on the learners needs and not my own. It has also made me much more interested in my own job and has made it more of a vocation. The students also notice the difference in my style; if I were to do it again I would have involved my students directly in the process of writing my philosophy.

(Participant 45, Module Evaluation, 2005)

I now consider how students need to interact with the material in order to develop their own learning. Prior to this I was a traditionalist when it came to my teaching style.

(Participant 3, FG2)

I now approach it in a way that I believe that I would like to learn and how I should have been taught with more care and compassion for my learning needs - not just the didactic manner that we were taught which was assessed purely through examination and success was based purely on regurgitating what was taught and not learned.

(Participant 5, FG1)

I now know why I do this job. I have a better understanding of what I am about as a human being. It was always there but was undiscovered. I feel a lot more confident in my teaching and am more comfortable in the classroom. I always considered the students as individuals with their own perspective but now I understand why both student and lecturer think the way we do. We are influenced by the world around us. I now consider several teaching strategies for each class as the students require customized learning.

(Participant 2, FG3)

I believe it has helped to keep me focused on my role as a teacher. My philosophy is not at the front of my mind on a regular basis but is there in the background none-the-less. A colleague of mine recently applied for tenure and asked for my advice. I asked him what his philosophy of teaching was and did he ever write a philosophy. He seemed surprised at my comment and admitted he had never thought of his teaching philosophy. I wonder if he'll get the job?

(Participant 6, FG2)

I am reminded of my philosophy in indirect ways, by the reactions of students to my classes and comments they pass about other approaches, by thinking of 'why' some lecturers present material in certain ways and so on. I think it is useful to take time out and review and re-understand your teaching philosophy. My approach to teaching and designing curricula is much more confident following writing my philosophy.

(Participant 53, Module Evaluation, 2005)

> I have set goals for improvement, and approach the design of my classes in a more structured and thoughtful manner. Through reflection I am learning from my experiences. I use a greater range of teaching methods and constantly evaluate outcomes.
>
> (Participant 17, Module Evaluation, 2005)

The nature of change from all respondents was cited as improvement/benefit in their teaching practice and/or the learning environment. Fullan (cited in Bennett *et al*, 1992, p.112) states that any change can be examined with regard to difficulty, skill required, and extent of alterations in beliefs, teaching strategies, and use of materials. The innovations cited by the respondents were largely curriculum or classroom focused changes. The characteristics of the changes can be looked at in terms of their size, complexity, prescriptiveness and practicality for the teachers involved. Simple changes may be easier to carry out, but they may not make much of a difference. Practical changes are those that address salient needs, that fit well with the teachers' situation, that are focused and that include concrete how-to-do-it possibilities. Successful organisations are those that encourage cultural change and improve organisational effectiveness through the development of a shared vision which is seen to emerge from the personal visions held by individuals within the organization (Broadbent, 1998).

The individual teacher's characteristics can play a role in determining implementation of change. Some teachers, depending on their personality, and influenced by their experiences on this course, are more self-actualised and have a greater sense of efficacy, which leads them to take action and persist in the effort required to bring about successful implementation of change. In the final analysis, according to Fullan (cited in Bennett *et al*, 1992, p.117), it is the actions of the individual that count. All participants on the course were aware that change involved learning to do something new. This, alongside having a work environment that could stimulate continuous improvements was an important factor emerging from this research.

Balance of experiences

Not all experiences of the program were perceived as positive. Within this, there is also attentiveness to the idea that almost every important learning experience we have ever had has been stressful. This means that the capacity to suspend belief, take risks and experience the unknown are essential to learning. Under conditions of uncertainty, learning, anxiety, difficulties and fear of the unknown are intrinsic to all change processes, especially at the early stages (Fullan, 1993, p.25). As indicated by some of the respondents, some form of conflict is essential to any successful change effort; change itself is learning.

> It was a very painful process for me; I examined my mind like never before. My beliefs were not all misguided. My equality paper was good therapy. My recording of new teaching practice was enlightening and I also received valuable feedback from peers and tutors to guide me along the way.
>
> (Participant 2, FG2)

> The year presented laborious challenge after challenge for me but there is no doubt now that the 'light bulb' has been lit! Hopefully more illumination is around the corner.
>
> (Participant 5, FG3)

Developing a personal philosophy of teaching, which is informed by and contributes to the organizational, community, societal and global contexts of education is an important facet of the work of the Postgraduate Certificate in Third Level Learning and Teaching. When these teachers work on personal vision-building and see how their commitment to making a difference in the classroom is connected to the wider purpose of education, it gives practical and moral meaning to their profession. The program uses the Teaching Portfolio as a vehicle to get them started on this, by enabling them to pursue learning through constant inquiry; thereby they are practicing what they preach, benefiting themselves and their students by always learning.

When one teacher collaborates with another, or many teachers work in a new alliance with each other and external partners, they are enlarging their horizons as they lengthen and strengthen the levers of improvement. When many educators act this way, systems start to change, and according to Fullan (1993, p.145) become the environments that prod and support further growth and development.

However, with all the emphasis we place on collegiality and collaboration, the capacity to think and work independently is also essential to educational reform. Meaningful reform can escape the typical teacher in favour of superficial, episodic reform (Fullan, 2001, p.36). It is important for these teachers to be aware of false clarity whereby they think their practice has changed, but it has only occurred in a superficial way. This point can be made to future course participants now as a result of this study.

C Consideration of study limitations

Whilst studies of this kind are useful in helping practitioners vicariously gain insights into their own practice, the findings of this study should be taken as tentative. Knowledge about the ways in which lecturers learn on professional development programs should help us in our practice as teacher educators and stimulate both discussion and debate about the purpose of asking participants to engage in this form of learning.

Three challenges were encountered during the study. First, the impact of the researcher's subjectivities both on the participants' behaviour and on interpretation of the data need to be acknowledged. Many participant statements fitted into several themes, which meant accepting the ambiguity and inextricable complexity of experience. Taking this into consideration, themes identified emerged from the analysis and were refined through subsequent conversations with the participants in a verification session in February 2007.

Second, the study was small scale; focusing on the self perceptions of 60 participants enabled the performance of an in-depth analysis of the data, yet the small number of participants limits applicability of the findings.

A final challenge concerned the notion of addressivity of 'compliant talk' by the participants in the study. Due to the dual role in the relationship between the researcher as

tutor and the lecturers who were learners on the program and participants in the study, it is acknowledged that the possibility that the participants may have said what they thought you wanted to them to could be considered a limitation. However by building triangulation into the research process this possibility was lessened.

IX Implications for Pedagogy and Practice in Teacher Education

Uncertainty is characteristic of the future context of higher education. It can, however, be expected that the context of practice will not become less complex or less demanding of the professional. This teacher education program recognizes a number of traits that participants bring to academic practice: as professionals, they succeed in constantly coping with the changes and challenges the future context of practice present; they succeed in developing into an expert that can competently fulfil all their responsibilities; they never stop learning; and they succeed in maintaining their professional competence.

Similarly to Quinn and Vorster (2004), this program encourages reflective practice rather than solely developing generic skills and techniques in the professional development of lecturers. Exploring personal knowledge systems and practices accumulated through experience can lead to more significant changes in professional practice. Reflection does take place in an informal, individualised manner with most participants, but an intentional professional development activity in reflective practice may make it more systematic and deliberate. Reflection should, however, be supported by theory and collegial interaction in order to challenge or confirm the validity of their experiences and practices. It is contended that the program under study facilitates the professional development of lecturers in terms of curriculum design, reflection, developing knowledge within the field of higher education and providing professional accreditation.

However, it is accepted that attaining a qualification does not guarantee the maintenance of competence or expertise. Satisfaction and participation are not sufficient indicators of effective teacher education. Research should not only focus on formal programs, as a major part of continuing learning takes place through informal and self-directed means. Evaluation research such as this study, will further lead to the identification of practice problems and issues, which will support the identification of new educational services that are needed. Proper evaluation will form the cornerstone for the improvement of professional practice and it is also essential in terms of accreditation (McDonald, 2001; Calman, 2000; Daley and Mott, 2000).

This final section of the paper considers the consequences of the findings of this study for transfer to other programs in multiple disciplines. The findings emerge under two areas: pedagogy and practice. Pedagogically, design issues centred on whether the real life group project would make the participants' learning more accessible and whether it would promote improved learning. It was vital to promote best practice in the integration and use of curriculum design to the program, so that the participants in turn could apply what they had learned to their own teaching situation for their own students.

Times have changed and students now need to be able to think flexibly and creatively, solve problems and make decisions within complex multidisciplinary environments. The participants were made aware of this through the program and the need for integrating different instructional methods, techniques and strategies. They in turn,

discussed the areas of student responsibility and initiative, generative learning activities, authentic learning contexts and teaching strategies, and co-operative support from peers. Interaction is a critical component of the learning environments because learning on the program occurs in a social context through collaboration, negotiation, debate, and peer review.

The program aimed to make the participants aware that introducing new forms of curriculum design can be exciting and rewarding, but it also can be complex and time consuming. Not only does it involve them acquiring new knowledge and developing a range of new skills, it also requires that they become "expert" in a new way of teaching and their students become proficient in and enthusiastic about a new way of learning. At the same time, from a practical perspective, they may have to enthuse their colleagues in their departments about the benefits of adopting a particular approach.

In terms of student learning, it is suggested that such collaborative curriculum project work allows teachers to explore and discover a variety of perspectives, learn about teaching in different ways, engage in complexity and ambiguity, recognise the gaps in their understanding, learn by teaching, develop listening, explaining and questioning skills, develop a sense of group identity, increase their emotional connection with a topic, exercise leadership and other roles and form independent judgements.

An enquiry based collaborative group project can change the classroom dynamic and replace the competition between individuals for knowledge with a pedagogy that places emphasis on knowing and learning as communal acts requiring many experiences and observations. As well as benefits in terms of knowledge and understanding, learners have identified participation, a sense of belonging and a deeper learning experience as important dimensions of the collaborative group learning experience.

The combined experiential, philosophical and collaborative learning cycle will continue to be the model under which the program is implemented as the capacity of this method to encourage learning is evident from our experiences as tutors. The participants appreciate the active, theoretical, experiential and collaborative nature of this work and the safe and conducive environment in which it takes place.

> When individuals enter a learning environment and begin the process of listening, thinking and reflecting, they become engaged in a constant attempt to capture the meaning of what is being said and done. This is an ongoing process in which the learners try to link in any new information or behaviour with the things they 'know' or understand to be the case already (Spinks and Clements, 1993, p.178).

The program will continue using opportunities to enable the participants to move from examining their concrete experience of learning and teaching, supported by a range of learning experiences, through the steps of abstraction, reflection and active experimentation. This will be achieved through the participants developing their lifelong learning skills and strategies, such as setting learning objectives, action planning, learning-strategy selection and assessment, information handling skills, developing understanding, linking theory to practice, practising discussion, argument, and articulation of ideas,

practising teamwork, resource selection and evaluation, time management and reflective learning. Indeed, Crossley and Watson (2003) make the case for improved dialogue and a strengthening of the relationship between theory and practice as the way forward in improving educational policy and practice. This program is an important step toward these goals.

The academic staff/faculty participants on this teacher education program care about teaching and learning as serious intellectual work. The goal of the program is to continue to foster inquiry and disseminate findings about what improves and articulates higher education learning and teaching. It is hoped that this study will promote cross-disciplinary conversation to create synergy and prompt new lines of inquiry into the future.

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