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THE MASTER TEACHER PROGRAM: PROFESSIONAL DEVELOPMENT FOR CEGEP TEACHERS

(LE MASTER TEACHER PROGRAM: PROGRAMME DE PERFECTIONNEMENT PROFESSIONNEL POUR LES ENSEIGNANTS AU COLLEGIAL)

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The Master Teacher Program: Professional Development for CEGEP Teachers

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ABSTRACT

Key words: Master Teacher Program; teacher perspectives; reflections on teaching and learning; professional identity; qualitative research

Teachers' perspectives on teaching and learning in higher education have been identified as a critical area of research. This qualitative study was designed to answer the following question: How does reflecting on teaching and learning within a two year period in a professional development program (the Master Teacher Program, or MTP) contribute (or not) to teachers' changing perspectives on teaching and learning? I interviewed six Quebec CEGEP (college) teachers on five different occasions, as they completed the first four courses in the MTP. The participants, all female, were from several Anglophone CEGEPs. As well, they taught in different disciplines and programs, and had various years of teaching experience. Repeated, semi-structured interviews were analyzed, using the dual processes of categorizing and connecting (Maxwell & Miller, 2008). Results converged to reveal four patterns and three major dimensions. Through categorizing, four patterns emerged that described a process of movement from teacher to learner-centeredness. I used the four metaphors of awakening, stretching, exercising, and shaping to represent these four patterns. Furthermore, I corroborated these findings by examining participants' concept maps and their reflective journals. I found additional evidence for the four patterns in the narrative summaries that I constructed, using connecting strategies. These narratives also exposed some of the more contextualized aspects of the evolution in teacher perspectives. In addition to the four patterns, three major dimensions related to teacher perspectives emerged. The participants reported that they had become more aware of the learner and the learning process, more intentional in curriculum planning and teaching, and they increased in self-

knowledge, and in particular, in their sense of identity as teacher professionals. Reflection on practice functioned as a major factor underlying changes in perspectives. Time was also a significant factor. Findings showed that it took at least one year for most of the participants to link theory with practice, before they reported implementing changes in pedagogy. Therefore, changes in perspectives preceded changes in practice. The results of this study suggest that professional development programs, such as the MTP, can help teachers evolve as effective practitioners. Moreover, such programs can also help to foster a sense of professional identity among CEGEP teachers. Future research can further clarify relationships among perspectives, teaching experience, and disciplinary background, and continue to explore incentives for teachers in higher education to participate in professional development.

RÉSUMÉ

Mots-clés : Master Teacher Program ; conceptions des enseignants ; réflexion sur la pédagogie et l'apprentissage ; identité professionnelle ; étude qualitative

Les conceptions des enseignants en matière de pédagogie et d'apprentissages au niveau de l'enseignement supérieur sont considérées comme un domaine très important de recherche. L'objet de cette étude qualitative était de répondre à la question suivante : dans le cadre d'un programme de perfectionnement professionnel (*Master Teacher Program* ou MTP), au cours d'une période de deux ans, quel est le rôle joué par un processus de réflexion sur la pédagogie et l'apprentissage dans les changements conceptuels des enseignants en matière de pédagogie et d'apprentissage ? Je me suis entretenue à cinq reprises avec six enseignantes de niveau collégial au Québec (cégep) ayant terminé les quatre premiers cours du MTP. Les participantes (toutes des femmes), enseignaient dans des disciplines, dans des programmes et dans des collèges différents et leur expérience en enseignement variait. L'analyse des entrevues, répétées et semi-structurées, a été effectuée en jumelant les doubles processus de catégorisation et de mise en relation (Maxwell et Miller, 2008). Les résultats de ces deux processus ont fait apparaître quatre profils et trois dimensions majeures. Les quatre profils issus de la catégorisation décrivent un mouvement du centre d'action et d'influence qui se déplace de l'enseignant à l'apprenant alors qu'il était à l'origine positionné sur l'enseignant. J'ai employé quatre métaphores, celle de l'éveil, de l'extension, de l'exercice et celle de la mise en forme afin de représenter ces quatre profils. De plus, j'ai corroboré ces conclusions en examinant les cartes conceptuelles des participantes ainsi que leurs journaux de bord. J'ai trouvé des confirmations supplémentaires des quatre profils dans les résumés narratifs que j'ai rédigés à l'aide de stratégies de mise en relation. Ces récits ont également permis de dégager des aspects plus contextuels de l'évolution des conceptions des enseignantes. Outre les quatre profils, trois dimensions majeures reliées aux conceptions des enseignantes sont apparues. Les participantes ont indiqué être devenues plus conscientes de l'apprenant et du processus d'apprentissage, mieux cibler leur planification de classe et leur enseignement. Elles ont développé une meilleure connaissance de soi et plus particulièrement une conscience plus grande de leur identité professionnelle d'enseignante. La réflexion sur la pratique a été un facteur sous-jacent déterminant pour acquérir de nouvelles perspectives. Le

temps a également été un facteur important. Les conclusions ont indiqué qu'il a fallu au moins un an à la plupart des participantes pour effectuer des liens entre la théorie et la pratique et pour voir apparaître des changements dans leur pédagogie. Les changements conceptuels ont donc précédé les changements de pratique. Les résultats de cette étude suggèrent que des programmes de perfectionnement professionnel, tel que le MTP, peuvent aider les enseignants à devenir des praticiens efficaces. De plus, de tels programmes peuvent favoriser le développement de l'identité professionnelle chez les enseignants en enseignement supérieur. Des recherches ultérieures pourraient clarifier davantage les relations entre les conceptions, l'expérience d'enseignement ainsi que la formation disciplinaire, et elles permettraient d'explorer les mesures incitatives pour amener les enseignants en enseignement supérieur à participer à des activités de perfectionnement professionnel.

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CHAPTER ONE: INTRODUCTION

Relevance of Topic

In this first chapter I introduce my research topic which concerns professional development in higher education, and in particular among CEGEP teachers in Quebec. I situate myself within this inquiry and state my research questions. I outline the specific professional development program, the Master Teacher Program (MTP), which is the subject of my study. I also provide an overview of the seven chapters of this report.

After decades of investigation in the field of education, researchers have established clear links between the quality of teaching and student learning outcomes. Since the 1990s, a substantial amount of new information based on the social constructivist approach to learning has emerged, and this has had profound implications for teachers and teacher preparation (Bransford, Brown, Cocking, & Donovan, 2000). Most of this research, however, has focused on primary and secondary teacher education, where the emphasis is placed on pedagogy. The situation is different in higher education (i.e., post-secondary, including college and university) where faculty are disciplinary experts, and in spite of a lack of grounding in pedagogy, they are expected to be able to teach effectively. Beaty (1998) has referred to this assumption as double professionalism. However, according to the author, current research suggests that expertise in how to teach is as important as expertise in one's discipline.

Over the past few decades, teaching has assumed an increasingly important role in higher education, challenging the central position traditionally held by research (Nicholls, 2000). In North America, the work of Ernest Boyer (1987, 1990, 1998) and the Carnegie Foundation for the Advancement of Teaching have been instrumental in extending the notion of scholarship to include teaching in one's discipline. The Scholarship of Teaching movement that has resulted has increased the status of teaching in higher education. Simultaneously, changing student needs and the resulting changing landscape in higher education (Nicholls, 2001) have led to demands for greater accountability in the areas of both teaching and student learning. In fact, the teaching situation in higher education, including both colleges and universities, has been described by some as problematic, and the need for

change as urgent. Christopher Knapper (2005) referred to outdated teaching practices in Canadian universities. He stated that faculty resistance to improving teaching practices can be linked to a lack of formal preparation for learning to teach in higher education, the absence of accreditation for minimum levels of competence, and the lack of faculty involvement in continuous professional development. New faculty members are particularly vulnerable. Emerging from disciplinary-specific, research-oriented preparation in graduate school and often faced with an overwhelming teaching load, they resort to survival mode in their teaching. The combination of these factors does not foster teaching practices that develop complex levels of thinking among students in higher education (Saroyan & Amundsen, 2004).

Colleges and universities, in particular in North America, have responded to the challenge to improve their teaching by establishing various programs for staff development (Bedard, 2006). These range from brief workshops, to semester-long courses, to more comprehensive programs (sometimes mandated) of accreditation. According to Griffin (as cited in Sprinthall, Reiman & Sprinthall, 1996), many of these programs are unsuccessful because they do not meet teachers' needs. These needs include the fact that learning to teach is a process that evolves over time and is enhanced through interactions with competent peers. Further, programs should be embedded in relevant theory and research, so that teachers can establish clear links from theory to practice and from practice to theory, a situation, according to Sprinthall et al., that yet has to be realized. Without a doubt, programs for staff development that integrate these criteria need to be developed, implemented, and evaluated.

Ramsden (1992) has suggested that teaching in higher education will only improve as teachers develop increasingly sophisticated professional skills. One area of particular importance that underlies the process of teacher development concerns academics' perspectives on teaching and learning. Perspectives play a critical role in the decisions teachers make about teaching and learning (Saroyan et al., 2004). They act as filters, and in order to understand teaching from the teacher's point of view, it is necessary to probe these beliefs (Hativa, 1998). Clark and Peterson (as cited in Hativa) have situated perspectives within the domain of teacher thoughts, the other major domain being teacher actions. At the pre-college level, a substantial body of research on teacher thinking and beliefs exists. In

contrast, at the college level, very few studies have been conducted into teacher perspectives and beliefs, and how this might impact on teaching practice (Fang, 1996).

Saroyan et al. (2004) define the term perspective as a conception or belief that can be conscious or unconscious. While a teacher might readily refer to a conscious perspective or belief to explain their behavior, an unconscious perspective may exist as tacit knowledge that can be uncovered through a process such as reflection (Kane, Sandretto, & Heath, 2004). According to McAlpine, Weston, Beauchamp, Wiseman, and Beauchamp (1999), reflection is seen as an ongoing process between thought and action that teachers use when they think about teaching and learning. I am interested in exploring the impact of a professional development program on CEGEP teachers' beliefs or perspectives, i.e., their predisposed ways of thinking about the nature of teaching and learning. These beliefs can also entail their thoughts about their students and their own teaching performance. Since these beliefs can be both conscious and unconscious, in line with research by Saroyan et al., I will use the word perspectives throughout this study when I refer to beliefs, or to predisposed ways of thinking. When I cite the literature however, various terms including beliefs, conceptions, perspectives, and approaches may appear. I will use the term reflection to refer to the process that teachers use when they think about and attempt to uncover their perspectives on teaching and learning.

Kember (1997) analyzed 13 empirically derived qualitative studies on academics' conceptions about teaching and learning that were conducted during the 1990s. His analysis showed teacher development in higher education progressing from a teacher-centered to a student-centered focus. Further, the author concluded that there is a relationship among conceptions about teaching, approaches to teaching, and student learning outcomes, although the mechanism underlying this relationship has not been detailed. Kember underscored the importance of examining teachers' underlying conceptions about the nature of teaching and learning. He stated that it is only when teachers' underlying beliefs are altered, that corresponding changes in teaching strategies and student learning outcomes will occur. As well, McAlpine and Weston (2000) have maintained that "fundamental changes to the quality of university teaching … are unlikely to happen without changes to professors' conceptions of teaching" (p. 377). Other researchers including Hativa (1998), Samuelowicz and Bain (2001), and Trigwell, Prosser, and Taylor (1994), have also stressed the importance of

attending to college and university teachers' conceptions about teaching, since this influences the nature of the strategies they employ. These studies highlight the importance of investigating perspectives on teaching and learning.

One of the methodological limitations that was apparent in Kember's (1997) review of studies on teachers' conceptions about teaching and learning is that several of these studies were based on single interviews with multiple professors. Their responses to interview questions were pooled, and based on this, a continuum from teacher to learner-centeredness was established. Thus the process underlying changes in individual teachers' perspectives was not uncovered. In order to reveal this process, it would be necessary to conduct multiple interviews with individual teachers, over time.

A second question that has arisen concerns the amount of time that is necessary to bring about changes in teachers' perspectives. Efforts to change these perspectives usually take place within the framework of a course or a program, although, according to Kember (1997), few documented attempts to promote teacher conceptual change through such measures currently exist in higher education. As well, the few professional development initiatives that have attempted to do so, have posited differing time frames. Bowden (as cited in Kember) maintains that a sustained effort over a lengthy period of time is required to bring about significant changes in teaching and learning. McAlpine et al. (1999) also stressed the need to study the evolution of teacher beliefs over time. Martin and Ramsden (as cited in Kember) recommended a period of at least one year, while Sprinthall et al. (1996) suggested at least nine months. Thus an investigation into the impact of a professional development program on teachers' perspectives that would span a period of at least one year is warranted.

Various theoretical frameworks can shed light on the process of change in teacher perspectives in higher education. Prominent among these are Ramsden's (1992) theory of teaching in higher education which focuses on the impact of teacher cognitions and beliefs on student learning. Ramsden suggested that teacher beliefs evolve from a preoccupation with self, to a focus on student learning. Mezirow's (1981) theory of transformative learning outlines three phases of change in the evolution of perspectives or beliefs. According to this theory, change occurs when we first become aware of and dissatisfied with the beliefs that guide our practice, begin to challenge these beliefs, and finally restructure them, if necessary.

Furthermore, reflection is a primary means of bringing about this awareness. McAlpine and Weston (2002) have shown that pedagogical knowledge and experience can enhance teacher reflections. We need to further explore the role that both pedagogical knowledge and experience play when teachers reflect on their perspectives on teaching and learning. As well, we need to uncover the process that is occurring among individual teachers in higher education, over time, as they confront and reflect on their perspectives on teaching and learning within a professional development program. Therefore, a comprehensive analysis of this process needs to be elaborated.

Situating Myself within This Research

I am a teacher in the Quebec CEGEP system. CEGEP is an acronym for Collège d'enseignement général et professionnel, or College of General and Vocational Education. The CEGEP system was launched in 1967 and is exclusive to the province of Quebec. All students in Quebec who wish to pursue post-secondary studies attend either a two year, pre-university program, or a three-year, technical program at the CEGEP level. Therefore, this post-secondary educational institution serves as a bridge between high school and university for some students, and provides others with professional training. Like most of my colleagues, I pursued higher education in my chosen discipline (Psychology), and I have almost 35 years of teaching experience in this field. Although I also earned a Master's degree in Education with a specialization in collegial studies in the 1970s, I have had little formal pedagogical preparation. Other than occasional short-term participation in college professional development activities, my source of knowledge as a teacher is based on my own experiences as a learner, as well as an ongoing and essentially privatized assessment of what works and what does not work in the classroom. This has amounted to a trial and error model of teaching.

Despite this fact, I have always enjoyed teaching, and over the years I have established a solid reputation. One area of particular interest for me has been that of student learning and I have spearheaded a number of research projects in this domain, based primarily on a behavioral approach to learning (Kerwin, 1974; Kerwin-Boudreau, 1982, 1985, 1986; Kerwin-Boudreau & Bateman, 1981; Kerwin-Boudreau & Woodruff, 1980; Woodruff & Kerwin-Boudreau, 1981). Over the past decade however, I began to notice

changes, within both the student body and myself. Students, who for so many years had seemed to be so receptive, presented increasing challenges as learners. I also began to question my classroom pedagogy, as I felt that my largely behavioral background no longer sufficed. I set out to find answers to some of my deep-seated questions and concerns about the nature of teaching and learning.

Some answers came through my involvement with a professional development program, originally known as the New Teachers' Program. This program was intended to provide Anglophone CEGEP teachers in Quebec with a background in pedagogy for the college classroom. Due in part to my reputation as an experienced teacher, in the fall of 2001, I was asked to help design a course for this curriculum.

My involvement with this curriculum has contributed to my personal evolution from course designer to researcher. I began to think about my teaching not as a series of individual classroom challenges to be resolved, but rather as an intricate interlacing among instructional strategies, learning outcomes, and assessment tasks designed to meet these outcomes. I witnessed my own beliefs about teaching and learning shift, in response to exposure to educational theory, through personal reflection on these issues, and through discussions with peers. In an attempt to explore these issues further, I resigned from the curriculum committee and, after a 23 year hiatus, again embarked upon graduate studies. These studies have not only afforded me the opportunity to satisfy my own quest for life-long learning, but also provided me with the opportunity to investigate what I consider to be a core pedagogical issue, the evolution of teacher perspectives on teaching and learning. These perspectives are fundamental in that they both serve as our compass and define our practice. I set out to explore the impact of a specific curriculum, the Master Teacher Program (MTP), on teachers' perspectives on teaching and learning. Meeting this objective has informed and deepened my own teaching practice.

Research Questions

In this study I explored college teachers' changing perspectives over time, in response to a professional development program, the MTP, in which over 100 Quebec Anglophone CEGEP teachers are currently enrolled. This program seeks to promote the scholarship of

teaching by providing CEGEP teachers with the knowledge, competencies, and personal qualities that effective teaching at this level requires (Bateman, 2002). I decided to conduct a qualitative study of six teachers over a period of two years, as they completed the first four courses in this program. These courses are intentionally structured to maximize the process of transformative learning (D. Bateman, personal communication, March 2006). The overarching question that guided my research was

1. How does reflecting on teaching and learning throughout the first four courses which cover a two year period in a professional development program (MTP) contribute (or not) to teachers' changing perspectives on teaching and learning?

More specifically, I was also seeking to answer the following questions:

2. Are there common themes related to teachers' perspectives on teaching and learning that emerge from the data? How do teachers understand these?
3. Are there distinctions related to individual teachers' perspectives on teaching and learning that emerge from the data? How do individual teachers understand these distinctions?

Hence my goal was to uncover and to comprehend the process related to teaching and learning that has occurred both among and within these teachers. I believe that what has emerged in my study will contribute to the literature on teacher perspectives in higher education, in particular at the college level. In addition, this study should also make a contribution to the theoretical and practical literature on improving teaching in higher education. The study is unique because it explores teacher perspectives in response to a particular professional development program (the MTP) within the CEGEP system, a topic that has not previously been investigated.

The Master Teacher Program

In this section, I provide an overview of the Master Teacher Program (MTP) and I describe its history, rationale, objectives, and overall structure. I also report on current and projected program statistics. I then briefly describe the first four courses in the MTP, which

are the focus of my research and which are considered the core of the program. This information is based on an interview with the Curriculum Coordinator, Dr. Dianne Bateman, which I conducted in June 2006, as well as an article written by Bateman in 2002. I supplemented this information through e-mail correspondence with the Program Coordinator, Mrs. Denise Bourgeois. As well, I interviewed each of the teachers who taught the four core courses in this program. I also examined the documents related to each course including course objectives, readings, and assessment tasks. In addition to providing me with critical background information, these data helped me to formulate preliminary questions for my five semi-structured interviews with my research participants.

Overview

The MTP is a professional development program tailored specifically for Anglophone college teachers within the Quebec CEGEP system. The program is unique in that its curriculum has been designed and is taught by well-reputed, experienced CEGEP teachers, many of whom have been instrumental in building the college system. The aim of the program is to pass on the requisite knowledge and skills that characterize good teaching to a new generation of college teachers (Bateman, 2002). Affiliated with the Performa Program at the University of Sherbrooke, participants can earn either a Diploma in Education (DE) after accumulating 30 credits or a Master's in Education (M Ed) after 45 credits. The MTP's strong academic component is based on contemporary theorizing about how people learn (Bransford et al., 2000), and in particular, how adults learn (Mezirow, 1992).

History and Rationale

The inspiration for this program has been credited to Denise Bourgeois, the MTP's Program Coordinator (D. Bateman, personal interview, June 2006). In the late nineties, she foresaw that within the current decade there would be a massive exodus of experienced teachers retiring from the CEGEP system. The knowledge and proficiency that these teachers had accumulated over the years, particularly with respect to competency-based education as a result of their work on the reform in Quebec education in the 1990s, was at risk of being lost with a generation of new, inexperienced teachers. Simultaneously, within the educational system in general, there were calls for greater teacher accountability. At issue was the

question of how best to harness the collective expertise of these experienced teachers, and to transmit this to the next generation of new teachers (Bateman, 2002).

A needs assessment conducted in the fall of 1998 confirmed that new faculty could benefit from formal assistance (see Bateman, 1999). The solution came in the form of a professional development program. Originally entitled the New Teachers' Program (NTP), its purpose was to offer assistance to new teachers. Dr. Dianne Bateman was asked to oversee curriculum development for this program. The original organizers took advantage of the existing structure for professional development courses that was already in place through the Performa Program at the University of Sherbrooke. However, unlike previous Performa courses that were critiqued for their lack of structure and rigor, the designers of the NTP curriculum sought to develop, first and foremost, a cohesive program within a solid academic framework. The deans of the Anglophone CEGEPs supported the project, financial support was granted, and the project was underway.

This program was designed to meet the needs of both experienced and new teachers alike. Experienced teachers who were close to retirement were recruited to serve on course committees to help design and oversee the curriculum, and, in some cases, to teach the courses. This involvement helped to both validate their contributions to the profession as well as reduce their sense of professional isolation. It was expected that new teachers who enrolled as students in the program would benefit from this accumulated expertise, thereby shortening the time that it takes to evolve from a novice to an expert teacher (Bateman, 2002). Through the NTP, both groups were given the opportunity to reflect on their ideas about teaching and learning in community with colleagues.

Objectives

The overall purpose of the program was to "develop in each new teacher the ability to simultaneously observe, monitor, analyze, and adjust when necessary, the complex intellectual, psychological, and emotional processes that occur in their respective classrooms" (Bateman, 2002, p. 2 of 6). The ultimate goal for the master teacher is to be able to execute such processes both individually and collectively within the classroom. Throughout this process, teachers are encouraged to become aware of their existing beliefs about the nature of teaching and learning. Because the program views teaching as

scholarship, in that it is based upon ongoing inquiry and reflection, teachers' beliefs regarding teaching and learning are challenged, and they are encouraged to restructure these in line with current thinking about how people learn (Bransford et al., 1999). This includes a move away from traditional notions of teaching as knowledge transmission, to teaching as a means of engineering student learning. The process of identifying, questioning, and eventually transforming such beliefs takes place over time, and in response to a curriculum and to assignments that are carefully designed to bring about such change. Based upon theories of transformative learning (Mezirow, 1992), it is assumed that changes in teachers' beliefs will precede changes in their classroom behavior.

In terms of specific objectives, this professional development program is designed to offer direct and practical assistance to new teachers. The curriculum is structured so as to provide them with knowledge of how students learn, the various factors that influence learning, as well as the appropriate use of instructional strategies and assessment techniques. Thus, both disciplinary knowledge and knowledge of pedagogical processes are stressed. A second objective is to reduce the trial and error process that many new teachers experience while learning to master their craft. The active involvement of students in the learning process is emphasized, as is the importance of developing a learner-oriented, as opposed to a teacher-oriented pedagogy. Finally, the sense of professional isolation that teachers, especially in higher education, so often report is reduced. This traditional apprenticeship model set within a solid academic framework allows both new and experienced teachers to join forces in order to promote their profession (Bateman, 2002).

Structure

From its outset, the program sought to embody a sense of mutual ownership. A Consortium of Anglophone CEGEPs including Champlain, Dawson, John Abbott and Vanier College was established to oversee it. Later on, Marianopolis, Heritage, and Centennial College joined in. A steering committee, composed of local representatives from member CEGEPs, was established and meets regularly to administer the program. Over the years, the program has evolved to include a principal curriculum coordinator and four other coordinators.

An exit profile detailing the knowledge, competencies, and personal qualities that effective CEGEP teachers exemplify was constructed in stages. Four major areas of expertise, including professionalism, content knowledge, content-specific pedagogical knowledge, and general pedagogical knowledge served as a basis for curriculum design, and a series of eight courses was proposed. A sense of mutual ownership was further elaborated by recruiting faculty members from the various Anglophone CEGEPs to sit as members of course committees to develop the curriculum. Thus, the program grew out of the joint wisdom and expertise of faculty from the various CEGEPs.

Expert teachers sitting on the course committees were invited to identify what effective CEGEP teachers know and are able to do. Working in conjunction with the curriculum coordinator, each course committee established the learning outcomes, learning tasks, assessments, course readings, and methodology for each course. This collaboration evolved into a full academic program designed to enable teachers to acquire the requisite knowledge and skills that effective college teaching requires (Bateman, 2002).

In addition to developing the curriculum, individual course committees are also responsible for overseeing its implementation. Committee members meet each semester to supervise any changes to the curriculum, and to meet with teachers to discuss course feedback from students. Thus, curriculum development is both a collaborative venture and subject to ongoing scrutiny. Course committees also meet to interview prospective teachers who might be interested in teaching the courses. Course teachers are carefully selected in order to ensure that the program's philosophy of student-centered learning is modeled in their classrooms. As well, teaching experience is mandatory. Successful applicants are either currently involved or they become involved in course committees, and in some cases are encouraged to audit the course before teaching it. Thus, faculty development takes place not only at the level of the program participants, but also informally with the program teachers (D. Bateman, personal interview, June 2006). For example, on June 12, 2008, a pedagogical day was held for the teachers and Steering Committee of the MTP. The theme of the day focused on the importance of curriculum coherence in achieving program effectiveness. Although all courses leading to both the DE and the M Ed must be approved by the University of Sherbrooke, the curriculum and hiring of teachers are the responsibility of the Consortium.

What originated as the New Teachers' Program evolved into the Master Teacher Program (MTP), as more experienced faculty enrolled as student recruits, and its appeal broadened to include the intentional cognitive development of both new and experienced teachers in the CEGEP system. At the core of this program are the first four courses. These are College Teaching: Issues and Challenges, Psychology of Learning for the College Classroom, Instructional Strategies, and Assessment. These courses have been intentionally structured so as to encourage the transformational learning within teachers that this program seeks to accomplish. That is, teachers are encouraged to reflect on their perspectives on teaching and learning, and to reconsider these perspectives in light of current findings from cognitive science. The four core courses are compulsory for all students, and must be taken in a sequential fashion.

In addition to the four core courses, a series of eight other courses ranging from one to three credits leads to the DE. Prominent among these are two portfolio courses, one after the first four courses have been completed, and one at the end of the diploma. In each of these courses, teachers prepare and present a teaching portfolio which documents their evolving understanding of the complexities of teaching and learning within the college classroom. As well, the MTP curriculum models the program approach, in that courses focus on constructing knowledge within one's discipline, across one's discipline, and across one's program. The objective is to expose teachers in the MTP to the types of experiences they should be having in their respective classrooms, departments, and programs, thereby encouraging them to recreate these within their respective workplace. Finally, students who wish to continue beyond the initial 30 credits for the DE may opt for an additional 15 credits that form the research component of the program. This consists of four sequential courses that culminate in an individually supervised research project. In all, a total of 17 courses ranging from one to three credits have been developed, approved, and are currently offered (see Appendix A for a complete listing). However not all courses are offered each semester.

Statistics

The first cohort began the MTP in January 2000. Since that date, 17 cohorts, up to and including the winter 2008 semester, have started the program. As of January 2008, there were 136 active students in the program. At this time, 22 students had finished the DE. Of

this group, 18 were in the last stages of their research, leading up to the M Ed. Since it began, the MTP has offered 140 courses, including tutorials.

Core Courses

Synopses of the four core courses that were studied in this research project are presented below. These synopses are based on calendar descriptions of the MTP courses.

College Teaching: Issues and Challenges (PED 873: 3 credits)

This first course provides an overview of the program and is designed to offer practical and meaningful advice to college teachers. Participants are introduced to the organizational and educational principles of the CEGEP system, begin to reflect upon their own educational philosophies and beliefs, and become involved in the process of curriculum planning and implementation.

Psychology of Learning for the College Classroom (PED 866: 3 credits)

This course focuses on the cognitive nature of what is to be learned, how learning occurs, and the social, cultural and psychological factors in both student and teacher that influence learning. Participants are encouraged to translate this theory and research into practical classroom applications that will provide them with tools to deepen their understanding of student learning.

Instructional Strategies for the College Classroom (PED 872: 3 credits)

Participants learn how to select instructional strategies to suit particular classroom situations, taking into consideration factors among students such as ability, attitudes toward learning, background knowledge, and social identity. Furthermore, participants are encouraged to design instructional strategies that foster active learning.

Assessment as Learning (PED 840: 3 credits)

This course views effective assessment as an integral and an ongoing part of the instructional process. Assessment is viewed as a way to judge student progress and increase

student learning. Participants reflect on assessment at the classroom, program, and institutional levels.

Overview of Report

In this study I explored CEGEP teachers' perspectives on teaching and learning in response to a professional development program, the MTP. I tracked teachers' perspectives as they completed the first four courses in the program, and results revealed changes both across participants and within individual participants' stories. I organized this report in the following manner.

In Chapter One, I have provided an overview of my rationale for this study, have positioned myself within this research, and have stated my research questions. Also I have described the MTP, with particular attention to its origin and rationale. In Chapter Two, I situate my questions within a conceptual framework. I provide an extensive overview of the literature on professional development in higher education. I examine the role that reflection plays in professional development. I also explore the literature on reflection and teacher beliefs. In Chapter Three, I outline the methodological approach which I have undertaken in this study, in particular my process of participant recruitment, selection, and data collection. I also describe the dual complementary processes of categorizing and connecting (Maxwell & Miller, 2008) that I employ in my analysis of the data. In Chapter Four, I report on the results of categorizing the data using the constant comparative method as outlined by Maykut and Morehouse (1994) and by Charmaz (1996, 2000, 2005). In Chapter Five, I describe narrative summaries that emerged through connecting strategies. In Chapter Six, I interpret the findings from these two analytic processes. In Chapter Seven, my concluding chapter, I discuss directions for future research and outline some of the limitations of my study.

CHAPTER TWO: LITERATURE REVIEW

In this chapter, I explore the research on professional development, with a particular focus on higher or post-secondary education, including college and university levels. I outline the issues and concerns that are currently being discussed and I describe several models of teacher development. This literature is extensive, in that it entails various functions that faculty members engage in throughout their career, from teaching to researching to administrative duties. Since a thorough analysis of these three functions is beyond the scope of this chapter, and since my research interests are concerned with teacher perspectives and their impact on teacher development, this discussion will focus on the professional development literature as it relates to pedagogy, or teaching in higher education.

I have divided this chapter into five parts. In the first part, I introduce the idea of professional development in general, followed by its meaning and its relevance to the teaching profession, and its role in relation to life-long learning. I also examine issues surrounding the changing terrain of professional development in relation to higher education. In parts two and three, I analyze the literature on professional development. I have based parts two and three on a model that was proposed by the philosopher Gilbert Ryle (as cited in Sprinthall et al., 1996). Ryle distinguishes between two types of knowledge. The first type is theoretical knowledge, or knowledge about a phenomenon. The second type is applied knowledge, or knowledge as applied to a given phenomenon. Therefore, in my analysis in part two, I focus first on knowledge about, or the theoretical knowledge base that is related to professional development in teaching in higher education. Then, in part three, I focus on applied knowledge, and I examine some of the existing programs of professional development in higher education. In part four, I explore the area of teacher reflection as a specific subcomponent of professional development programs, and particularly in relation to teacher perspectives and teacher change. In part five, I provide a number of conclusions based on this review of the literature, with particular relevance to professional development, teacher reflection, and teacher perspectives in higher education.

Overview of Professional Development

Ernest Boyer of the Carnegie Foundation has described an ideal vision of professional development in the following quote:

> All faculty, throughout their careers, should themselves remain students. As scholars they must continue to learn and be seriously and continuously engaged in the expanding intellectual world. This is essential to the vitality and vigor of the undergraduate college. (1987, p.10)

Boyer suggested that academics from pre-training to retirement should adopt the stance of the life-long learner. This is especially relevant in light of changing trends in higher education over the past few decades, which have led to demands for increased accountability in the areas of both teaching and student learning.

However, reality is far from this ideal, as witnessed by the reluctance of many teachers in higher education to become involved in professional development initiatives (Knapper, 2005). Several reasons have been suggested to account for this lack of participation. It may be that, as things stand, there are simply not enough incentives for faculty members to become involved. Another reason could be that change is difficult under the best of circumstances. William Perry's rhetorical question, "If development is so good why doesn't everyone just grow?" (as cited in Sprinthall et al., 1996), alludes to the difficulty underlying the change process. Additionally, many professional development programs have been criticized for not meeting teacher needs. Sprinthall et al., in their comprehensive review of the literature on teacher professional development, pointed out that "No linear model from theory to practice or from practice to theory has yet been articulated" (p.667). Nicholls (2000) further stated that the connection between teaching and the learner is often not understood. Hence, it is important to explore the conceptual and theoretical literature on professional development in higher education, as well as to examine the programs themselves, in an attempt to isolate critical elements that have been linked to teacher change and development. It is also important to explore incentives that will encourage teachers to participate in these programs and remain life-long learners.

Professional Development, Teaching, and Higher Education

Across all areas of proficiency, professional development can be understood as the advancement of particular competencies in a given field. Watkins and Drury (as cited in Beaty, 1998) outlined major areas to which professionals need to attend. These include being open to new learning, developing interpersonal as well as self-management skills, and becoming competent in one's chosen domain. According to Eraut (as cited in Beaty), in order to accomplish these goals, aspiring professionals require access to three major areas: a sufficient knowledge base, a variety of practical experiences, and a group of supportive peers. Eraut has also suggested that one must be equipped with an open attitude, one that is both capable of integrating feedback from others and of reflecting on one's own. Brown, Bucklow, and Clark (2002) have emphasized specialist knowledge and training as hallmarks of professionalism.

Typically, colleges and universities serve as the main providers of continuing professional development (CPD) for most professions. However, these institutions play an ambivalent and a marginal role in terms of providing their own teachers with CPD, which Clegg (2003) has claimed is due to a number of unresolved tensions in higher education. For example, Nicholls (2000) referred to the controversial debate in higher education between research which has conventionally occupied the central role, and teaching which is increasingly viewed as the core of effective learning. Menges (as cited in Menges & Austin, 2001), has defined teaching as "the intentional arrangement of situations in which appropriate learning will occur" (p. 1125). According to this definition, teaching and learning are two sides of the same coin and one cannot effectively consider one without the other. The primary objective of teaching is the improvement of student learning (Ramsden, 1992). A clear relationship has been established among student conceptions of learning, their learning approaches, and learning outcomes. Clear links have also been established between the quality of teaching and student learning outcomes (Kember, 1997). Kember points out that what is not clear is how teachers' conceptions about teaching influence their teaching approaches and practices, and how these, in turn, influence student learning. The connections among these factors need to be investigated.

Although teachers devote entire careers to developing ways to improve student learning, ironically, the concept of teacher as learner has largely been ignored. Nicholls (2000) raised this issue when she stated that if the goal of teaching is to improve student learning by changing the way students think, should we not also be focused on the same processes in teachers, i.e., by changing the way they think about teaching and learning? She sees this as a "powerful route to professional development" (p. 375). As well, Lieberman, Saxl and Miles (2000), maintained that more of a focus needs to be placed on support for teachers, and in particular, support for their learning through CPD.

Several authors, including Nicholls (2000) and Clegg (2003), have alluded to the complex relationship that exists between CPD and teaching. Nicholls defined CPD as "the enhancement of the knowledge, skills, and understanding of individuals or groups in learning contexts that may be identified by themselves or their institutions" (p. 371). The fact that teachers engage in CPD for different reasons which include improvement, remediation, retraining, certification, and rejuvenation further complicates the issue. Additionally, with the research focus on faculty development ranging from organizational to institutional to personal to professional development, a multifaceted scenario has evolved (Riegle, 1987). In spite of this ambiguity, Nicholls has recommended that faculty professional development should be ongoing and long-term, if teaching institutions wish to remain competitive and able to adapt to changing circumstances. Eraut (as cited in Beaty, 1998) has stated that if faculty members in higher education want to become learning professionals, they must be prepared to become professional learners. This is because learning is both the subject and the method of their work.

Criteria that define the post-secondary teacher as a professional have been articulated. Ernest Boyer has described these criteria as "a command of the material to be taught, a contagious enthusiasm for the play of ideas, optimism about human potential, the involvement of one's students and, not least, sensitivity, integrity and warmth as a human being" (1987, p. 154). Paul Ramsden (1992), in his definitive work, *Learning to Teach in Higher Education,* cited six key principles of effective teaching. These principles are a clear explanation and stimulation of student interest, concern and respect for students, appropriate assessment and feedback, clear goals, and reflection on practice. Similar traits have been expressed for the community college teacher. According to Horan (1991), effective college

teachers possess an in-depth knowledge of their subject matter, know and use a variety of teaching techniques, show an interest in teaching, are organized, respectful, and interested in students, encourage student participation, and monitor learning to provide feedback. Chickering and Gamson (1987) cited seven principles of good practice that include encouraging student-faculty contact, encouraging student cooperation, facilitating active learning, providing prompt feedback, focusing on time on task, communicating high expectations, and respecting individual differences. Michael Fullan (1993) referred to the teacher as a change agent, whose role is to make a difference in the lives of students. He suggested four attributes that the teacher professional needs in order to bring about this change. These are a personal vision, a spirit of inquiry that includes a commitment to lifelong learning, a mastery of both pedagogy and disciplinary knowledge, and the capacity to work with others. Knapper (2004) has organized current findings on effective college teaching into a series of 17 precepts. These include among others, promoting active learning, modeling learning, and providing frequent and alternate forms of assessment. A recent study by the Parity Committee (2008) entitled *Teaching at the College Level: Profile of the Profession* describes teaching at the CEGEP level in Quebec as “a professional act that calls upon a diversity of competencies, particularly educational and pedagogical expertise” (p. 49). It also refers to the importance of teacher reflection. These descriptions share common criteria of teacher excellence. This suggests that a core of characteristics that define effective teaching in higher education can be established.

Moreover, research (e.g., Chickering & Gamson, 1987; Knapper, 2004; Ramsden, 1992) has clearly linked this core to positive outcomes for students. According to Ramsden, both students and teachers are in agreement with this basic core. It is also important to note, as several models of teacher evolution including Fuller (1969) and Ramsden have detailed, that these criteria are developmental, that is, they evolve over time. For example, new faculty members have more problems diagnosing and dealing with student difficulties and assessing student performance (Menges & Austin, 2001). The process of becoming a teacher professional is long-term and continuous. This process spans the period from the initiation of practice, which may or may not involve teacher preparation, to retirement. The classroom provides professional educators with a unique laboratory to learn from their teaching, in that it allows them to continuously upgrade their teaching skills. Teachers learn both formally and

informally, on the job and from the job (Nicholls, 2000). Nicholls has suggested that this is key to one's development, and in fact, if an educator is not engaged in this process of upgrading skills, this signals the absence of both professional development and life-long learning. Hargreaves and Fullan (1992) have also emphasized the need for teachers to be involved in the enhancement of knowledge and skills. This involvement is an essential component of a teacher's life-long learning, and it has implications for long-term student development.

After decades of research, the relationship between the quality of teaching and student learning outcomes has been firmly established. However, much of this research has focused on primary and secondary education, in which teachers are provided with extensive preparation in pedagogy. The situation in higher education is different. Faculty emerge from graduate schools prepared as disciplinary experts, but they lack grounding in pedagogy. For example, new CEGEP teachers generally lack preparation in the pedagogical and instructional aspects of teaching (Parity Committee, 2008). In spite of a lack of grounding in pedagogy, teachers are expected to know their discipline and be able to communicate this knowledge effectively to their students. Beaty (1998) has referred to this presumption as a double professionalism. This expectation exists despite research that clearly demonstrates that, irrespective of the level of education, learning to teach is a process that evolves over time. It involves the gradual acquisition and practice of a number of complex skills as well as a clear understanding of how people learn. New faculty members in higher education are rarely equipped with this background knowledge, experience, and expertise.

The situation is such that novice teachers in higher education typically lack the pedagogy necessary to promote a learner-centered environment in the classroom. A learner-centered approach is one in which faculty members think about how their decisions and actions about teaching will influence student learning (Saroyan et al., 2004). Faced with an overwhelming teaching load and equipped with little more than their disciplinary-specific knowledge, new faculty members often adopt what the authors refer to as survival mode. Their objective is to deliver the content, and to do so, they use the pedagogy that is most familiar to them, usually the lecture. This does not foster the complex levels of thinking that students need in order to develop as effective learners. It is important to encourage teachers early in their careers to become involved in CPD. According to Saroyan et al., the earlier that

faculty members make the connection between instructional strategies and student learning outcomes, the more likely they are to develop a learner-centered approach to their teaching.

Furthermore, the lack of pedagogical skills in higher education does not only apply to new teachers. In 2002, a group of 3M, award winning Canadian professors gave Canadian university teaching a grade of C-. This rating was based on the quality of the learning experience, the state of professional development among faculty members, and the degree of focus that is placed on teaching and learning. The experience of many students is that of sitting passively in lectures, rarely engaging in meaningful learning tasks (Charbonneau, 2003). In a keynote address in 2005, Christopher Knapper, Professor Emeritus of Psychology at Queen's University, also described the teaching situation in higher education, with particular reference to Canadian universities, as problematic and the need for change as urgent. Saunders and Hamilton (1999) have referred to the situation as paradoxical, in that institutions that profess to be dedicated to developing the highest levels of intellect have the least amount of CPD for their teachers. It would appear that establishing a learner-centered environment is a challenge for many teachers in higher education.

Since the 1960s, institutions of higher learning have gradually begun to place more emphasis on professional development for teachers. A number of authors, including Professor Gill Nicholls in her 2001 book, *Professional Development in Higher Education,* have described some of the reasons underlying this change process. One reason is that student numbers have increased substantially and this has led to larger classes and an even more diversified population, including students of multicultural origins, as well as many part-time students, adult learners, special needs students, and increasingly a majority female undergraduate population. This situation, which Nicholls has referred to as the "changing landscape in higher education" (p. 76), has led to demands for better teaching being raised by students, government, and employers alike. In some cases, funding and promotions for academics have been linked to teacher accountability. Romainville (2006), in his text (with Rege Colet) entitled *La Pratique Enseignante en Mutation à l'Université [The Evolution of Teaching at the University Level)],* also refers to the new brand of students that teachers are faced with in higher education. These students differ in terms of background and ability, level of motivation, and their overall views of the purpose of education. In addition to the increasingly diversified student population, Saunders and Hamilton (1999) as well as

Poellhuber (2001, 2002) have cited factors such as the knowledge explosion, accompanied by a surge in information technology as reasons that have led to the necessity to develop more diverse teaching strategies. Nicholls referred to some of these curricular changes, including non-traditional methods of assessment such as peer and self-assessment, which have been linked to increased student learning. Finally the multi-tasking, including publishing, teaching, and service that most academics are faced with, led Knight (1998) to view CPD not as a luxury but rather as a necessity to simply remain afloat and to ward off what he referred to as "continuous professional obsolescence" (p.2). Yet others have contended that this very multi-tasking is what leaves little time for academics to invest in their own learning (Brancato, 2003). Regardless, it seems clear that in today's climate of accountability, teachers in higher education are being increasingly required to demonstrate proof of having attained competency in the practice of their profession. This competency is expected in spite of the fact that often teachers have received little, if any, formal instruction in pedagogy. The push for quality control has fueled the need for institutions of higher learning to offer some form of staff development. According to Nicholls, no longer can teaching in higher education be referred to as the hidden profession.

Researchers have identified five types of knowledge that professional development programs address, in order for college and university teachers to operate as effective professionals. First, teachers need classroom management skills, or techniques that will allow them to function effectively in the classroom. These include communicating effectively with both individuals and groups, and learning how to select and to implement appropriate instructional strategies. Beaty (1998) has pointed out that classroom management skills can only be learned through experience in the classroom, coupled with feedback from mentors. Elsewhere, Wilson, Shulman, and Richert (1987) have referred to this type of knowledge as general pedagogical knowledge or "knowledge of pedagogical principles that is not bound by topic or subject matter" (p. 114). Although this knowledge of general teaching methods is essential to effective teaching, Lee Shulman (1987) has stated that it is not enough. He underscored that good teaching involves much more than a generic set of pedagogical skills, and, if teaching is to be effective, it needs to be connected to its discipline.

According to Beaty (1998), teachers have come to higher education with a scholarly background in their given discipline. A deep knowledge of one's discipline, known as

content knowledge, is essentially what distinguishes the expert from the novice. Experts organize this deep knowledge in such a way that they are able to identify patterns, easily retrieve their knowledge, and flexibly apply it to new situations (Bransford et al., 2000). But just as classroom management skills alone do not guarantee effective teaching, content knowledge alone is likewise insufficient. Beaty has stated that teachers in higher education must also develop a third type of knowledge, professional knowledge, that is, knowledge of how students learn. Wilson, Shulman, and Richert (1987) have referred to this as knowledge of learners. It includes “knowledge of student characteristics and cognitions, as well as knowledge of motivational and developmental aspects of how students learn” (p. 114). Many new teachers in higher education lack this knowledge of learners. In order to promote student learning, they need to know how learning happens and how their teaching affects this learning. Thus, effective teaching in higher education requires general pedagogical knowledge, deep content knowledge, and professional knowledge or knowledge of how students learn.

Furthermore, because each discipline is unique, both in terms of its content and its organizational structure, Beaty (1998) stated that teachers must go beyond this professional knowledge and learn to “create a synthesis between their knowledge of the discipline and their knowledge of how students learn” (p.100). Shulman (1987) referred to this fourth type of knowledge as pedagogical content knowledge. It entails a deep understanding of how one’s discipline is organized as well as the ability to communicate this framework to new students. Because each discipline is organized in a distinct, ready-made fashion, this framework provides expert teachers with a particular way of thinking about issues. Parker Palmer (1998) referred to this critical process as “teaching from the microcosm” or identifying the critical “grains of sand” (p. 122) through which members of a given discipline view their world. As well, this type of knowledge implies a sensitivity toward how students learn in one’s discipline, an awareness of which concepts are particularly easy or difficult to master, and an ability to teach these to students of different ages and backgrounds by organizing their curriculum and structuring the learning activities accordingly. Other researchers, including Bransford et al. (2000), have also identified pedagogical content knowledge as the intersection between disciplinary knowledge and pedagogical knowledge. A fifth and final type of knowledge cited by some researchers is knowledge of self. This

involves "teachers' knowledge of their personal values, dispositions, strengths and weaknesses, and their educational philosophy, goals for students, and purposes for teaching" (Grossman, 1995, p. 20). It appears that an integration of classroom management skills or general pedagogical knowledge, deep content knowledge, knowledge of learners, pedagogical content knowledge, and knowledge of self are the hallmarks of effective teaching in higher education. Several other researchers have referred to these and to similar types of knowledge (Kreber & Cranton, as cited in Kreber, 1999; Saroyan et al., 2004). For example, Saroyan et al. discussed four types of knowledge related to teaching. These include subject-matter knowledge, pedagogical content knowledge, knowledge of the learner, and knowledge of context, that is, an awareness of factors influencing both students and teacher that might have an impact on teaching. There appears to be a general consensus in the literature about the different types of knowledge that are required for effective teaching.

Thus, learning to teach in higher education involves the successful integration of professional knowledge and professional skills. Moreover, this process is viewed as ongoing and long-term. Based on her interviews with 19 CEGEP teachers, Lauzon (2006) outlined four general stages that teachers experience as they develop as professionals. These include an initiation phase, commitment to the profession, professional development that is oriented by a project, and developing a deeper understanding of one's pedagogy. Furthermore, the author states that one's professional identity as a teacher is constructed both individually and socially. Such complex learning requires time and effort and cannot take place through sporadic and brief exposure to professional development initiatives (Martin & Ramsden, as cited in Kember, 1997).

In addition to the critical areas outlined above, Brancato (2003) has noted that successful programs must also recognize teachers as adult learners. The study of adult learners is known as andragogy, or education for the adult, in comparison to the more commonly-used term pedagogy, which technically refers to education for the child (van Manen, 1997). Nicholls (2001) has drawn upon the research of theorists such as Brookfield, Jarvis, and Knowles, and synthesized five distinct themes related to adult learners. These include the fact that such learning should be life-long, can occur across a variety of settings and circumstances, is dependent upon one's background knowledge, beliefs and skills, originates in a problem-oriented context, and is proactive and self-directed. In addition to

considering their status as adult learners, Brancato has noted that successful professional development programs must also provide teachers with opportunities to link their new learning to their discipline. In order to meet these challenges, Brancato described how the university or college can be transformed into a learning organization, using Senge's five-component model. According to Senge's model, institutions should encourage faculty to aim for a high level of mastery in their discipline. Faculty members should also be encouraged to work together through team teaching, peer coaching, and the use of master teachers as mentors. Furthermore, by supporting both faculty reflection and the critical analysis of one's philosophy of teaching and learning, changes in deeply engrained beliefs can gradually be observed. Senge has suggested that the university or college can also strive to build a shared vision, one in which each member's involvement is critical to the success of the whole organization. The final point of his model involves systems thinking. Faculty should see themselves as partners with students in the learning process, and the classroom viewed as their joint research laboratory (as cited in Brancato). Brancato's research underscores the importance of institutional support for faculty professional development in higher education.

The Scholarship of Teaching in the US, Europe, Internationally, and in Canada

In America, much of the momentum for raising the status of teaching can be traced to the work of Ernest Boyer and his landmark 1990 report, entitled Scholarship Reconsidered. In his report, Boyer recommended that academics should move beyond the traditional notion of equating scholarship with research alone. He suggested instead that scholarship should be extended to include research on teaching in one's discipline. Boyer broadened the notion of scholarship to include four forms of knowledge: discovery or basic research including research on one's teaching, application or professional service, integration (e.g., textbook writing and other interdisciplinary work), and teaching itself. He viewed all of these forms of knowledge as distinctive ways of knowing, and as a part of the dynamic process of scholarly work. By cultivating these four forms of knowledge, the academic would develop in a much broader sense. He encouraged academics to view teaching and research as complementary forms of scholarship, and to explore the links between educational research and their teaching practice. He also encouraged universities to restructure their reward systems so as to reflect the central role that both teaching and research can play (Nicholls, 2001).

Boyer (1990) is credited with popularizing the term, scholarship of teaching. He felt that teaching involved much more than transmitting knowledge. He viewed knowledge as continually being examined, extended, and transformed through classroom debate. He outlined three characteristics of the scholarship of teaching: its synoptic quality or ability to weave together the strands of a discipline, its capacity to teach one's discipline (pedagogical content knowledge), and its inquiry into student learning (as cited in Nicholls, 2001). Although Boyer's notion of the scholarship of teaching assumes effective teaching, this was not the primary focus (Kreber & Cranton, 2000). Rather, the focal point is discovery research that entails some public account of teaching. This public account is open to evaluation, in a form that others can build upon, and it involves inquiry. Knapper (2005) proposed seven guidelines to operationalize the concept, scholarship of teaching: it must be evidence-based, documented, replicable, include conceptual underpinnings, assess both process and outcomes, allow for reflection, and effect change. Others have identified criteria for the scholarship of teaching that include becoming involved with the scholarly contributions of peers on teaching and learning, and reflecting on teaching and learning in one's discipline (cited in Healey, 2003). Given the emphasis on both teaching and learning, the term scholarship of teaching has been extended and is often referred to as the scholarship of teaching and learning (Cambridge, 1999).

In response to Boyer's (1990) Carnegie Report, a decade of research activity into the scholarship of teaching ensued. Authors including K. Patricia Cross, Pat Hutchings, and Lee Shulman have made significant contributions to popularizing teaching as a professional activity, publishing extensively for example, on student outcomes research and classroom assessment techniques. As the new president of the Carnegie Foundation, Lee Shulman (1993) insisted that if teaching was to be viewed in a scholarly fashion, it had to meet three essential criteria. Like Boyer, he maintained that teaching had to be reconnected to a discipline, since as a part of pedagogical content knowledge it could not be viewed in a generic fashion. It also had to be demonstrated and documented through some artifact, as would be required with research. Finally, it had to be held up to public scrutiny by one's peers and assessed, in the same way that research findings are. Shulman stated when teaching is subjected to the rigors of the scientific method, it will be considered on a par with scholarly research.

In its work over the past 15 years, the Carnegie Foundation has helped to transform the image of teaching from one of knowledge transmission, to a scholarly activity that can be held up to critical scrutiny. In 1998, the foundation launched The Carnegie Academy for the Scholarship of Teaching and Learning (CASTL). Its higher education program promotes the scholarship of teaching and learning, and publishes an extensive annotated bibliography that outlines the research in this area (Hutchings, Babb, & Bjork, 2002). The work is eclectic and includes a variety of methods of study that range from narrative, to case study, to more traditional control group studies. Additional resources related to the scholarship of teaching and learning can be found in journals such as the *American Association of Higher Education (AAHE) Bulletin, Change,* and *To Improve the Academy*. The Carnegie Foundation also launched the Carnegie Scholars Program. This program advances the scholarship of teaching by bringing together scholars to study teaching and learning in their discipline. This is because faculty members are much more likely to be responsive to new ideas concerning pedagogy if these are shown to work within their particular discipline (Shulman, 1987).

In addition to the work of the Carnegie Foundation for the Advancement of Teaching in the United States, a number of parallel initiatives have evolved in Europe. Until recently in the UK, little formal training was available for faculty in higher education (Brown et al., 2002). The 1997 Dearing Report recommended that all institutions of higher learning in the UK either develop or gain access to teacher preparation programs. A professional body, the Institute for Learning and Teaching (ILT), was founded in 1999 to oversee this process. The ILT offers a model for professionalizing teaching in higher education with CPD at its core. The mandate of the ILT is threefold: it accredits instruction programs for teachers in higher education, it supports research, and it stimulates innovation in higher education (Nicholls, 2004). Reflection and a student-centered approach to teaching and learning are also key components of this mandate (Brown et al.). Although the ILT claims to be committed to furthering teaching excellence in higher education and promoting institutional self-regulation, it has been critiqued on several counts. For example, Biggs (2001) sees the ILT as nothing more than an attempt to "operationally quantify indicators of teaching, in order to arrive at an artificially construed, cost-benefits analysis" (p. 222). Nicholls has claimed that Boyer's term, scholarship of teaching, has been misrepresented by the ILT.

In contrast to the situation in the UK, little formal pedagogical preparation for teachers in higher education is currently in place in Francophone universities in Europe, although this issue has been raised since the early 1990s (Parmentier, 2006). The author maintains that in his native Belgium as well as elsewhere in French-speaking Europe, the quality of teaching is dependant largely on factors such as individual motivation and experience. He examines the crucial role that universities can play by describing five measures currently in place at the Université catholique de Louvain in Belgium, that are designed to enhance pedagogy. These measures include the creation of a university chair in pedagogy, the creation of a university institute of pedagogy, and adequate funding for pedagogical innovation. For example, between 1997 and 2001, the university has supported 172 pedagogical projects (Frenay & Paul, 2006). Although these five university-wide measures are multidimensional in nature and difficult to assess in the short term, Parmentier maintains that creative and strategic institutional planning such as this is necessary, in order to improve the quality of teaching in higher education in the long term.

Internationally, as well, the professionalism of university teaching is underway. For example, the International Consortium of Educational Development in Higher Education (ICED) was formed in 1993 to oversee teaching (Healey, 2003). In South Africa, a set of standards for a competency-based national qualification for lecturers in higher education has been established. Curricular work around these standards is ongoing at various universities, and Quinn (2003) has reported on one such course initiative at Rhodes University. In Australia, the West Committee has also raised concern for the quality of teaching in higher education, and the work of both Ernest Boyer and Paul Ramsden has been instrumental in addressing this issue. Most universities in Australia have staff development programs and sponsor a range of professional development activities. For example, Johnston (1998) reported on the Centre for the Enhancement of Learning, Teaching and Scholarship (CELTS) at the University of Canberra which offers regular workshops, individual consultations, and resource materials, and it also advises the university on policy decisions.

In 1991, the Association of Universities and Colleges in Canada (AUCC) published a report on the state of higher education in Canada. Its author, Dr. Stuart Smith maintained that teaching in Canadian universities is seriously undervalued. A follow-up communiqué in 2003, prepared by a group of award-winning Canadian professors, barely gave Canadian

university teaching a passing grade (Charbonneau, 2003). In spite of this dismal showing, a number of support services are available for faculty members at Canadian universities, and their mandate is to support the scholarship of teaching.

One organization, the Society for Teaching and Learning in Higher Education (STLHE) is comprised of academics that are committed to improving teaching and learning in higher education. STLHE encourages the scholarship of teaching by providing teachers with a forum for disseminating educational information and exchanging ideas. It sponsors an annual conference, a series of workshops, an electronic bulletin board, and a bi-annual newsletter titled *Teaching and Learning in Higher Education*. In addition, it publishes a number of guides on key pedagogical issues and it sponsors scholarships to honor teaching excellence and educational leadership in Canadian universities. Another support service is an online training Web site that is available at http://www.facultydevelopment.ca. It aims to improve post-secondary teaching, to help teachers integrate technology into their teaching, and to create virtual teaching and learning communities. As well, several universities including the University of Alberta, the University of New Brunswick, and York University offer teaching diplomas to interested faculty and graduate students. Furthermore, most universities have faculty development centers that provide pedagogical support, including courses on learning to teach, for both new and experienced faculty. For example, McGill University's Teaching and Learning Services (formerly known as the Center for Teaching and Learning) is the oldest faculty development center in Canada, and it has been in operation for over 30 years. It offers both individual and departmental consultations on pedagogical matters, as well as workshops and a 30 hour course for faculty members (McAlpine & Saroyan, 2004). Professional development programs are also available for Canadian college teachers. For example in Quebec, the MTP provides pedagogical preparation for Anglophone CEGEP teachers while a similar program known as MIPEC (Microprogramme (ou module) d'insertion professionnelle en enseignement au collègial [A module for the professional initiation to college teaching] is available for Francophone CEGEP teachers.

Professional development initiatives such as these can serve as excellent vehicles to promote the scholarship of teaching (Nicholls, 2001). However, in spite of the research-based evidence on effective teaching in higher education that has accumulated over the past several

years, Knapper (2005) has stated that new faculty members in Canada do not receive adequate training for their teaching. Furthermore, much of the research on effective teaching has taken place outside North America, in Europe, Australia, and Asia. It would appear that much work remains to be done locally in order to encourage a culture of scholarly teaching that will inform good practice. There is a need to end what Parker Palmer (1993) has referred to as the privatization of teaching, and to create communities of scholars who engage in discourse about their teaching. The online training Web site for faculty has recognized this need, and established a virtual community. Teaching will only advance when pedagogical solitude ends, and faculty members can learn from each other's work (Weimer, 1993).

One critical way to expand the notion of the scholarship of teaching is to explore the evolution of the teacher as a professional within the classroom setting. However, to date most of the research on improving teaching practices has focused on what happens to the student, and to a large extent both teacher learning and teacher change have been ignored. As Nicholls (2000) has previously stated, if teachers seek to increase learning by changing the way their students think, should we not also be encouraging our teachers to reflect on their ideas about teaching and learning? In fact, preliminary research has demonstrated that the way the teacher thinks about teaching has an impact on the student's approach to learning. For example, Gow and Kember (1993) have shown a link between academics' conceptions of teaching and deeper learning approaches in students. Furthermore, the teacher's view of the nature of knowledge and how this relates to their teaching has an impact on their openness to innovation and their capacity to learn from their teaching (Nicholls, 2001). We need to comprehend how teachers learn and change and the role that teacher perspectives and teaching play in this process. According to Nicholls, clear evidence relating to teacher learning is frequently absent in the literature, and this needs to be addressed. Additionally, one's identity as a teacher professional is grounded within an individualized and contextualized framework and this must also be considered (Menges & Austin, 2001). Perhaps the most compelling reason to understand teacher learning, however, is the fact that the idea of learning to teach in higher education is a relatively new phenomenon that has encountered a considerable amount of resistance among academics (Brew, 1999). This resistance is perhaps due to the fact that historically, preparation in pedagogy has not been a requirement for teaching in higher education (Knapper, 2005). Resistance might also be

attributed to a misunderstanding of the term academic freedom. Whereas the academic is free to espouse beliefs based on a deep-seated knowledge of their discipline, no one teaches in a vacuum. Academic freedom also involves the responsibility to ensure that teaching leads to effective learning. Professional development programs can offer the disciplinary expert important insights into the process of effective teaching and learning. This in turn can lead to a greater acceptance among academics of the idea of learning to teach in higher education. The issue of teacher change and development is further explored in the next section.

Knowledge About: Theoretical Knowledge Base on Teacher Professional Development

Sprinthall et al. (1996), in an extensive review of the literature on teacher professional development, have deplored the fact that only recently has research attention shifted to the teacher as a major player. They cite previous models of teacher development, including the trait and factor model, the dynamic model based on the psychoanalytic tradition, and the product-process model. However, they claim that these approaches proved insufficient in terms of understanding teacher development. For example, the trait and factor model was unable to identify fixed personality characteristics to serve as useful predictors for teacher selection or teacher education. The psychodynamic model, in its attempt to link early experiences to later teacher effectiveness, was viewed as too global in orientation and lacked predictive value. The product-process model, based on the behavioral framework, offered more promise. Teachers were taught specific skills by experts and expected to implement them in their teaching (i.e., the process) to improve student learning (i.e., the product). While this model might make sense in theory, in practice it often did not work. One of the reasons is because skills such as these are perceived as generic in nature, and teachers often do not connect them to teaching in their discipline (Saroyan et al., 2004; Shulman, 1987). Another problem with this input-output model is that it fails to consider individual differences in teachers and in students, in terms of background knowledge and motivational factors. Sprinthall et al. have referred to a contemporary transitional period and the emergence of a number of new models that attempt to integrate theory, research, and practice. According to the authors, finding the best fit for teacher professional development, one that is neither too broad, as with the psychodynamic model, nor too narrow, as with the process-product approach, remains a problem.

Some of these models have focused on teacher experiences as a way of understanding teacher development. For example, Burden (as cited in Sprinthall et al., 1996), in a qualitative analysis of elementary school teachers, reported on three phases: a survival phase in year one, an adjustment phase in years two through four, and a mature phase from years five and onwards. An even more thorough analysis by Fessler and Christensen (as cited in Sprinthall et al.), in which 160 teachers were interviewed, identified eight levels. The first four levels of preservice, induction, competency building, and enthusiasm and growing, were characterized by high motivation and generativity. The subsequent four levels, including career frustration, stable and stagnant career, wind-down and finally career exit, involve much more questioning about and a general decrease in career satisfaction. While interesting, these models are limited in scope. First, although higher education can benefit from the large body of research generated by the K-12 level (Hutchings, Babb, & Bjork, 2002), it cannot be assumed that findings at this level will translate to higher education. Additionally, these models portray the process of teacher change as a series of fairly rigid stances, and they do not provide insight into the mechanism underlying such change. An exploration of teacher cognitions that underlie the change process might prove more fruitful.

From Teacher to Learner-Centered Focus

A more promising area of theory building moves beyond a discussion of teacher experiences, to focus on the evolution that many teachers experience, from a preoccupation with self to a preoccupation with students. One of the earliest examples is Frances Fuller's (1969) model of teacher concerns, in which she linked these concerns to the amount of teaching experience. She described the following three phases: pre-teaching phase, survival; early-teaching phase, concern with self; late-teaching phase, concern for students and for one's impact. For example, the first stage is known as survival, and the focus is on classroom management and on developing coping techniques. The second stage is the mastery stage. It is teacher-focused and the concern is with becoming proficient in one's profession. The third stage is the impact stage, where the focus shifts from the teacher to the learner and to the impact of one's teaching on learning. A substantial body of research supports Fuller's concerns-based model. However, a number of methodological problems related to both the frequency and the timing of data collection have been cited by Sprinthall et al. (1996). As

well, her model is not based on higher education and its focus, which is the evolution of teacher behavior, does not reveal the cognitive complexity that underlies the change process.

Paul Ramsden's (1992) model traces the evolution of teacher development in higher education. Unlike Fuller's model that emphasizes teacher behavior, Ramsden shifts the focus from teacher behavior to the impact of teacher cognitions on student learning. Like Fuller, Ramsden refers to three phases, which he calls theories of teacher change. The focal point for Theory 1 is the teacher, and teaching is viewed within the traditional didactic mode as the transmission of information from teacher to learner, or teaching as telling. Knowledge of one's subject matter is all that is required in this input-output model. Hence, if learning does not occur, it is seen as the fault of the student. In theory 2, the focus shifts from the teacher to keeping the students active. The assumption is that if teachers learn new techniques and especially keep their students organized and active, learning will occur. In theory 3, the focus shifts again, and the teacher is able to critically analyze what the student is doing. At this point, teacher, learner, and content are combined in an integrated fashion that Ramsden claims will maximize the student's chances for learning. The teacher works with the student's background knowledge, and organizes the learning environment so that the student will engage actively with the subject matter. Thus, effective learning is viewed as a process, not as a product. It is viewed as something that students do, not as something that is done to them. Similar models of teacher evolution in higher education have been proposed by Sherman et al. (1987) and by Kugel (1993). Sherman et al. have described a process in which the teacher moves from presenting information during the first stage, to a fourth stage that involves a complex interaction among student, teacher and context. Similarly, Kugel described a process in which teachers moved from a focus on their role in the classroom, to the subject matter, to encouraging active learning, to viewing students as independent learners. Whereas some researchers use the terms student-centered and learner-centered approaches interchangeably (e.g., Kember, 1997), Saroyan et al. (2004) distinguish between these two terms. In a student-centered approach, "students are the central focus of instruction and they are engaged in active learning strategies" (p. 17). In contrast, in a learner-centered approach, the focus shifts from student activity to the types of learning outcomes the teacher wants to achieve. The teacher is encouraged to make decisions about teaching in relation to these learning outcomes. According to this distinction, a student-centered approach can be

positioned within Ramsden's Theory 2, while a learner-centered approach would imply that a teacher is operating at Theory 3.

Robertson (1999) has outlined a model, based upon the college teaching and adult development literature, which resembles Ramsden's (1992) three teacher phases. Robertson's theoretically based model includes five sequential developmental periods that characterize teacher perspectives in higher education. This model includes three stable periods, egocentrism or teacher-centeredness, aliocentrism or learner-centeredness, and systemocentrism or teacher/learner centeredness, as well as two transitional periods. In the first position, that of egocentrism, teachers uncritically employ received models of teaching, that is, they replicate how they were taught. According to Robertson, most research universities do not offer many incentives for teachers to move beyond this position, and some teachers might remain at this stage for their entire career. To describe the transitional period, he used a model based on Bridges' work. This model consists of three phases: endings, a neutral zone, and new beginnings (as cited in Robertson). The incentive to move beyond egocentrism often occurs when teachers in higher education encounter students who learn differently from them, and when teachers accumulate teaching failures. Robertson described the transitional period as one that is marked by a struggle. As teachers become interested in the learning process and in individual learners, they gradually move toward aliocentrism. However this transition is neither linear nor fixed. For example, when preparing new content, teachers often return to position one, that of egocentrism. The incentive to evolve beyond aliocentrism is the result, once again, of teaching failures that accumulate. The teacher recognizes that a naïve focus on the learner is not enough. The fifth and final period of systemocentrism occurs when the teacher realizes that effective teaching results from the interaction between the teacher and the learner. Not only must teachers be aware of the learner, as they were during the period of aliocentrism, but they must also understand how the learner is a critical part of the learning process. As well, the teacher must be included in the process, not as the egocentric master learner that was present during phase one, but rather as "the fully human learning facilitator" (p. 283). Thus, during this final phase, both teacher and learner function as co-participants in the teaching/learning equation. Robertson's work offers interesting insight into mapping the change process that college teachers experience, as they become dissatisfied with their practice and search for alternatives. Of particular interest

is his description of the transitional periods, as well as his interpretation of the forces that underlie these transitions. Robertson has pointed out the lack of research in the college teaching literature on the movement of teachers from one stage to another. He defines development as occurring when a new dimension is added, or when something new is integrated into an existing dimension, and this transforms the system to a higher level of functioning. His notion of development might prove interesting in relation to the evolution of teacher perspectives. As well, empirical support for this particular theoretical model could make it more persuasive.

There is empirical evidence that supports a general trend in teacher development from a teacher to a learner-centered focus. David Kember (1997) analyzed results from 13 qualitative studies that were conducted independently during the 1990s, on university academics' perspectives on teaching. Data for these studies were collected through open-ended, semi-structured interviews, and categories emerged from the data, using a grounded theory approach. Kember found a high degree of commonality among the results, and he proposed a multiple-level model to synthesize these findings. At the top level, his model included two major orientations of teacher perspectives along a continuum that ranged from a teacher-centered/content-oriented approach, to a student-centered/learning oriented approach. He further divided each orientation into two subordinate positions, ranging from the view of teaching as imparting information, to the other extreme of teaching as stimulating intellectual development. A transitional position of student-teacher interactions represented a bridge between the two major orientations and their related positions.

Some conclusions related to teacher development, and in particular to teacher perspectives in higher education can be drawn from Kember's (1997) synthesis of the research. For one, the consistency with which these categories appear across several independent studies supports a developmental framework of teacher change that progresses from a teacher-centered to a learner-centered focus. It should be noted however that these categories were not meant to be viewed as rigid, inflexible boundaries, and as Robertson (1999) has shown, teachers often display evidence of more than one category. An underlying assumption throughout the research examined by Kember was that learner-centered approaches to teaching were superior. Results based on student approaches to learning and student outcomes support this finding. For example, Gow and Kember (1993) reported that

departments that focused on stimulating thinking as opposed to transmitting information, tended to promote deep, as opposed to surface thinking among students. One of the studies examined by Kember (Trigwell et al., 1994) reported a link between academics' conceptions of teaching and their proposed teaching strategies. Kember summarized this research by concluding a tentative relationship among teachers' perspectives, their approaches to teaching, and student learning outcomes. He also concluded that when teacher initiatives focus on improving teaching approaches without any attempt to influence underlying perspectives about teaching, these initiatives will have a limited impact on student learning. Therefore, faculty development programs need to address teachers' underlying perspectives and beliefs about teaching, if changes in teaching approaches and in student learning outcomes are to ensue.

Several researchers, including Kember (1997), maintain that the learner-focused approach to teaching is superior, because of its demonstrated impact on student learning. However, it should be noted that not everyone is in agreement with this position. One of the complaints with a learner-centered approach is that it requires more effort, both on the part of the teacher in terms of designing the curriculum, and on the part of the student, in interacting with the curriculum. In a series of 50 in-depth interviews with teachers and students conducted by Evans and Abbott (1998), it was revealed that most students are preoccupied with completing their program of studies, and are just as content with what they referred to as good traditional teaching. Likewise, faculty members who are faced with multiple demands questioned whether the new learner-centered teaching techniques were necessary. The authors concluded that before we can decide which approach is superior, we have to clarify what our aims are in higher education. For example, is our goal to move students through the system as effortlessly and efficiently as possible, or do we want to ensure that thinkers and problem solvers will emerge? Before improvements in the quality of teaching in higher education can take place, academics need to engage in critical conversations about fundamental objectives.

What factors underlie the shift in teacher perspectives from a teacher to a learner-centered focus? Time is one of the factors mentioned by Martin and Ramsden (as cited in Kember, 1997), who view the process of teacher change as developmental. Underlying tension appears to be another factor in the shift from teacher to learner-centeredness. Jack

Mezirow (1981) has claimed that major transformations can only occur when we become aware of, and perhaps dissatisfied with the beliefs that guide our practice. Robertson (1999) cited failures in one's teaching as an impetus for change. Marentic-Pozarnik (1998) also cited dissonant experiences as responsible for moving teachers from a teacher-centered toward a learner-centered orientation. It is interesting to note that this disequilibrium or tension that underlies change characterizes both teachers and students alike, as they progress from a lower level to a higher level of thinking. For example, Baxter-Magolda (1992), among others, has described the evolution in college students' thinking from absolute, to transitional, to independent, to contextual knowing. The effective teacher is able to meet students at their developmental levels and promote learning by providing them with the right balance between both confirmation and contradiction. The resulting tension is what moves student learning forward. Thus, tension figures predominantly in explanations for the shift that characterizes both teacher and student change.

Michael Fullan (1991) has defined an effective response to this underlying tension as a willingness on the part of the teacher to grapple with core problems that are not easily resolved. Robertson (1999) has referred to this tension as a stage in which teaching becomes a struggle, and it requires courage to persevere. Scardamalia and Bereiter (1989) have also viewed a willingness to confront core problems as a sign of teacher progression, and they claimed that this is what distinguishes the expert from the inexpert teacher. For example, the teacher who lacks expertise might pursue a problem-minimizing approach. They may deal with a student's lack of background knowledge by eliminating content or by teaching only concepts that students can easily grasp. The unskilled teacher might become proficient at Fuller's stage 2 or Ramsden's Theory 2, and orchestrate what appears to be a smoothly running, well-managed classroom, where students are busily engaged in a variety of activities. But student thinking will only be uncovered when the teacher is willing to confront core problems. For example, the expert teacher might decide to teach higher-level thinking to all students regardless of their background, and gradually the teacher might turn more of the learning process over to students. Scardamalia and Bereiter have cautioned that once teachers adopt a problem-minimizing approach, it is very difficult to change this. Saroyan et al. (2004) have also warned against adopting an unexamined approach to teaching and learning. According to the authors, this can lead the teacher to adopt an exclusively didactic teaching

method. The teacher might also avoid any contrasting views, since these views might interfere with their sense of control. Research has shown that new teachers can benefit from models of how experts approach problems (Bransford et al., 2000). Professional development programs need to work with expert teachers so to make the process of effective teaching explicit for novices. It is crucial that new and experienced teachers alike be supported as they explore their underlying perspectives, and confront core problems in their teaching. As well, Scardamalia and Bereiter have stated that teachers should be encouraged to make better use of research findings in cognitive science, such as contemporary theories of how people learn.

The focus on teacher perspectives and its impact on both teaching and learning is an international issue. For example, Marentic-Pozarnik (1998), in a review of the state of higher education in Slovenia, cited a number of obstacles to bringing about a change in teacher perspectives. Most prominent among these obstacles are individual perspectives that view teaching as knowledge transmission. Furthermore, these perspectives are reinforced by professional development policies. The author stated that the international academic community can play a major role by modeling and encouraging collaborative research into best teaching practices. The shift from teacher preoccupations to a focus on student learning is a key factor in the evolution of teachers. Furthermore, the earlier the teacher is exposed to learner-centered instructional strategies, the more likely the teacher is to adopt this approach. This finding is especially applicable to new teachers in higher education who, in the absence of professional development programs, tend to adopt teacher-centered approaches (Saroyan et al., 2004).

One way that professional development programs can encourage the evolution in teacher thinking is to focus on improving the teacher's level of cognitive complexity (Sprinthall et al., 1996). In a meta-analysis of teachers conducted by Miller (as cited in Sprinthall et al.), the author pointed to a strong connection between their level of cognitive complexity, and their ability to adapt the learning environment of the classroom to student needs. McKibbon and Joyce (as cited in Sprinthall et al.), showed that teachers who were assessed at higher levels of psychological development were more likely to integrate innovative strategies, which they had been introduced to in a series of workshops, into their classroom practice. These teachers understood the link between their teaching and student learning outcomes. Furthermore, this improvement in cognitive complexity was manifested

in the teacher's capacity for reflective judgment. It would appear that professional development programs can promote higher levels of cognitive complexity among teachers by challenging their perspectives and by encouraging higher-order, reflective thinking.

Therefore, an analysis of teacher perspectives represents a promising area of theory-building, since a considerable amount of evidence exists to support the movement from teacher to learner-centeredness (Kember, 1997). Evidence also suggests that changes in perspectives precede changes in teaching. Further investigation into how teacher perspectives are shaped and how they evolve over time are important areas to investigate in higher education. Moreover, the role played by increasing the teacher's level of cognitive complexity through the process of reflection also needs to be examined.

Knowledge How To: A Sampling of Existing Programs on Teacher Professional Development

In addition to the theoretical research on teacher professional development, a second body of literature, in line with the Gilbert Ryle's framework (as cited in Sprinthall et al., 1996), shifts the focus from knowledge about, to knowledge how to. Essentially, this represents the leap from theory to action. In this section, three approaches will be examined: the craft model, the expert model, and the interactive model.

The Craft Model

Sprinthall et al. (1996) have noted that on an affective level, the craft model, that is based on the assumption that teachers are able to learn and extract meaning from classroom experience, makes intuitive sense. However the key components of this model, experience and reflection, have been critiqued on several fronts. Although experience is considered to be a cornerstone of Donald Schön's (1983) theory, Dewey (1933) has pointed out that experience is not necessarily the best teacher. Experience can be either educative or noneducative, and twenty years of experience can equal one year repeated 20 times (cited in Beaty, 1998). The situation in higher education is such that teachers who are disciplinary experts often lack grounding in pedagogy. In fact, Hativa (1998, 2002) has shown that many college professors acquire their knowledge of pedagogy through trial and error. Without a

basis in theory, their capacity to extract relevant meaning from classroom experience cannot be assumed.

Kolb (1984) has referred to the importance of moving beyond experience alone. His four part continuous learning cycle involved experience, reflection, generalization, and testing. According to Kolb's theory, learning must first of all be grounded in experience. But to learn from experience, one must be able to reflect adequately on this experience. However, reflection does not necessarily follow from experience (Beaty, 1998), and we cannot assume that teachers are automatically equipped to reflect on their practice. Research conducted by Bessette (2006) at the CEGEP of Sherbrooke revealed that teachers need a framework to reflect, in this case the use of mind maps, as well as support from peers. As well, reflection should be grounded in theory, so that one can conceptualize and generalize from this, in order to plan and test through further action (Kolb). Therefore, good teaching does not result from experience alone and the capacity to reflect on this experience cannot be automatically assumed. Rather, good teaching requires practice that is informed by critical reflection, theory, and support from peers, ingredients that can be provided through CPD.

The Expert Model

A second category of professional development programs centers on the expert model. According to this framework, teachers at all stages of their profession require expert advice to improve their teaching. This is in direct contrast to the craft model which focuses almost exclusively on intuitive and experiential self-reliance. One example of the expert model is the previously discussed process-product model in which experts devise a series of highly explicit strategies, which they then deliver to teachers either through short-term or longer-term programs. Although some short-term improvements in student achievement were noted, there was little evidence of any long-lasting effects (Sprinthall et al., 1996). According to MacDonald (2001), such activities in which experts expose teachers to superior techniques, are doomed. This is because the context, the how and when and why of one's teaching, is not integrated. This approach focuses on providing teachers with exercises to keep students occupied, and does not address the complex dynamics that are involved in teaching and learning. It can be likened to Ramsden's (1992) Theory 2 thinking (see p. 33). Lave (as cited in MacDonald) has claimed that the more removed pedagogical principles are

from the teacher's classroom experience, the less likely teachers are to implement them. According to MacDonald, unless these techniques are embedded in a clear understanding of teaching and learning, there is no real commitment to change, and teachers quickly revert back to their old ways of teaching. As well, learning to teach requires time and effort, and occasional workshops do not provide the necessary support that teachers need to assimilate these complex skills (Beaty, 1998).

In contrast to the original expert model described above which concentrated on teaching specific skills, a more comprehensive version, involving longer-term programs and focusing on the acquisition of a complex model of teaching, such as cooperative learning, has enjoyed greater success (Joyce & Showers, as cited in Sprinthall et al., 1996). Based on clear assumptions about how students learn best, this model also emphasizes the transfer of these skills to the classroom. Critical elements include presenting the strategy or theory, modeling it, practicing it in both simulated and actual classroom settings, providing feedback on performance, and most importantly, in-class coaching for the explicit transfer of skills to the classroom setting. Coaching has long been recognized as a significant element in the learning process, and novices can benefit from how experts solve problems (Bransford et al., 2000). It would appear that if the long-term transfer of strategies to the classroom setting is a goal for professional development programs, attention must be paid to coaching for classroom implementation and to adequate follow-up over time (Sprinthall et al.).

Such long-term programs that are delivered and supervised by experts are viewed as clearly advantageous over other activities, such as distributing educational literature to faculty, or holding brief workshops to hone a single skill. However, in addition to expert or peer follow-up, persistent changes in classroom practices have also been clearly linked to changes in teachers' perspectives about the nature of teaching and learning. It seems clear that teachers who view their role as one of stimulating and furthering student thinking produce the most favorable outcomes in terms of improved student thinking. Sprinthall et al. (1996) note the shift in teacher professional development programs since the 1980s from teaching for basic skills, to teaching for higher-order thinking. This suggests that professional development programs need both to study teacher thinking and to promote the cognitive development of teachers, as opposed to merely focusing on delivering structured instructional

strategy packages (Sprinthall et al.). One way to do so is to actively involve the teacher in the learning process.

The Interactive Model: Examples in the US, Australia, and Canada

The third category of programs, known as the interactive model, involves teachers to a greater extent and aims to further their level of cognitive complexity. Although several variations of this model have appeared in the literature, they all are based on the constructivist model of learning. These models emphasize teacher reflection on practice that is embedded in theory and research. A number of examples of the interactive model are reviewed in the next section.

In the United States, Sunal et al. (2001) have described a program that involved faculty, administrators, and pedagogical experts from 30 universities who collectively explored ways to improve the teaching of science in higher education. This National Aeronautics and Space Administration (NASA) sponsored project used a cognitive apprenticeship model in which faculty members' beliefs about teaching were first shared, then challenged, and finally reconstructed, based on theories of effective teaching and learning. Creating faculty discontent with existing beliefs about teaching was seen as a critical element in the change process, a finding also reported by Jack Mezirow (1981) and by several other researchers. Personality variables were also shown to interact with barriers to course change. Faculty members that held lower levels of beliefs concerning personal efficacy, but not teacher efficacy, were more likely to resist implementing pedagogical innovations. This finding suggests that personality variables can influence the process of teacher change. In the Sunal et al. study, the teachers reflected on their own beliefs and were able to use this as an immediate source of knowledge to inform their teaching. The authors have pointed out that the process of curricular change which they described in their study is long-term, and dependent upon the collaboration of all parties.

Another example of the interactive approach is described by MacDonald (2001). Known as the Teaching Community, this model describes a project undertaken at Swinburne and Monash Universities in Australia, in which faculty members teaching in a particular discipline meet regularly to discuss best teaching and best learning practices. A number of critical elements are required to bring about successful teaching communities. First, basic

educational principles related to effective teaching and learning are introduced by learning specialists in a preliminary workshop. This pedagogical knowledge base not only provides a framework for understanding group experiences, but also a common vocabulary that allows the group to communicate about issues. As the group evolves, this knowledge base is supplemented as deemed necessary. The group meets regularly and must include all staff teaching in a given discipline. Together, they decide which major concepts to focus on in their teaching. Through this exchange, they reach agreements regarding best teaching strategies and learning experiences. This is an example of what Shulman (1987) refers to as pedagogical content knowledge (see p. 23). MacDonald clearly states that such communities cannot exist if mandated by administration since "changes in teaching practice are driven by changes in conceptions and perceptions of the teachers" (p. 158). Thus voluntary participation is mandatory, and the author cautions that the administration's role should be limited to ensuring that staff have been granted adequate time to participate.

A number of positive effects have resulted from the Teaching Community model at these two universities. Participating staff, first and foremost, reported increased satisfaction with their teaching and with their personal learning. The focus on teaching key concepts and linking them to a unified program has led to more in-depth teaching. The opportunity to meet with colleagues and to discuss varied approaches and skills has led to improved teaching practices. While many such meetings have been characterized by heated debate, most faculty have reported the experience as both stimulating and challenging, and cite these meetings as the only occasion they have ever had to engage in educational exchange. Perhaps most gratifying has been the demonstration of increased conceptual learning on the part of students. Other signs of success include the fact that many participants have carried over these changes to their other teaching duties, often assuming educational leadership roles in the process. It appears that challenging teachers' perspectives (Sunal et al., 2001), as well as providing teachers with the necessary background knowledge and the opportunity to meet and discuss pedagogical issues with colleagues (MacDonald, 2001) are critical features that are linked to the success of professional development programs.

It has been estimated that between 2003 and 2011, 40,000 new faculty members will be hired in Canadian universities (Lahey, 2003). A number of professional initiatives that fall under the rubric of the interactive model have been designed to welcome these new teachers.

These include mentorship programs that vary from unstructured to more structured approaches, and an online resource for professional development which is available at http://www.facultydevelopment.ca. As well, some universities have established certificate programs in pedagogy for faculty members and most have research institutes that are dedicated to improving university teaching (see p. 29). In some instances, courses that are designed to increase teacher effectiveness and to promote student learning, are offered to interested faculty members. For example, McGill University offers a week-long, 30 hour workshop, entitled The Course Design and Teaching Workshop.

In this workshop, participants explore the various elements in course design, from content and learning outcomes, to assignment and assessment criteria, and they include these elements in a detailed course syllabus. The methodology is interactive and efforts are made to encourage participants to explore their underlying perspectives on teaching and learning. This component is essential since according to Saroyan and Amusden (2004), these perspectives either facilitate or impede the teacher's capacity to adopt and to act on a learner-centered approach to teaching. The workshop is only one of several activities offered by McGill's Teaching and Learning Services. Over the years, the philosophy of this center has evolved from organizing activities such as delivering programs for faculty, to empowering faculty by supporting them in classroom research (McAlpine & Saroyan, 2004).

Numerous pedagogical initiatives within the Francophone sector in Canadian universities have also been reported. For example, Denis Bedard (2006) of the University of Sherbrooke describes a case study which involved the integration of situated learning in an engineering course. Students reported higher levels of motivation as well as an enhanced capacity to transfer learning across contexts. Germain-Rutherford and Diallo (2006) outline a three-year project at the University of Ottawa in which peers were trained to help their colleagues integrate computers into classroom teaching. Peers acted as pedagogical consultants and their focus was not on developing technical skills but rather on encouraging their colleagues to reflect on how technology can enhance pedagogy.

Changing demographics among teachers have not been confined to the university sector. During the present decade the CEGEP system in Quebec has also experienced an influx of new teachers as a result of massive faculty retirements (Bateman, 1999). While

Anglophone CEGEP teachers have access to professional development through participation in the MTP, Francophone CEGEPs have developed a similar program for new teachers known as MIPEC (Microprogramme (ou module) d'insertion professionnelle en enseignement au collègial [A module for the professional initiation to college teaching]. After completing an initial 15 credits in MIPEC, teachers can opt to continue and earn a Diploma in Education (30 credits) or a Master's in Education (45 credits). As well, a number of research initiatives sponsored by PAREA (Programme d'aide à la recherche sur l'enseignement et l'apprentissage) that focus on the integration of new teachers into the CEGEP system are currently underway. Two such projects include Vanier CEGEP professor Marilyn Caplan's study entitled *Conditions Favorisant l'Intégration et le Perfectionnement des Nouveaux Enseignants par Département* [*Factors Promoting the Effective Integration and Professional Development of New Teachers by Academic Departments]* and campus Notre-Dame-de-Foy professor Hélène Tardif's study entitled *Représentations des Nouveaux Professeurs a l'Égard du Renouveau Collégial et de ses Principes* [*New Teachers' Views of the Reform in College Education]*.

Two other notable areas of research within the Francophone CEGEP milieu include the integration of technology into the classroom and the practice of reflection. Poellhuber (2001, 2002) describes an action research study undertaken at Collège Laflèche between 1997 and 1999. He identified a stable pattern consisting of five stages in a change process that teachers experience as they learn to integrate TIC (technologies de l'information et de la communication) or IT (information technology) into their teaching. He cautions however that integrating technology into one's teaching is a long-term, time-consuming process, and furthermore, there is no guarantee that a change in pedagogical style will automatically ensue. At the individual level, the teacher must be open to exploring new pedagogical avenues. A commitment is also required at the institutional level. Adequate resources, both human and material, must be provided to initiate and support teachers in this endeavor. Poellhuber and Bérubé (2006) propose that IT should be used to create a learner-centered as opposed to a teacher-centered environment and hence it can be viewed within a socioconstructivist perspective. The authors use the term technopedagogy to refer to the dual technical and pedagogical nature of the competencies that are involved in the effective

integration of IT. They outline these competencies within the four domains of professional practice, communication, information processing, and instructional design.

Reflection has long been held as an essential element of professionalism (Schon, 1983, 1987) and of teacher professional development (Parity Report, 2008). Ongoing research by Jean-Guy Lacroix at Collège du Vieux Montréal entitled *Démarche de Développement de la Pratique Réflexive [Steps Toward the Development of a Reflective Practice]* is using a case study approach to examine teacher characteristics as well as contextual factors that favor the adoption of a reflective approach to college teaching. The author hopes to eventually outline the parameters of a megamodel that will detail the elements of a reflective practice. In another study, Bessette (2006) describes the results of a two-year action research study in which CEGEP teachers and pedagogical aids used a technique known as mind mapping to record their daily reflections around teaching. This technique allowed the participants to "zoom out" and critically examine their practice. The author points out that contrary to what one might assume, the capacity to critically reflect on one's practice is neither a spontaneous nor a natural process. In order to do so effectively, teachers need a framework (in this case mind mapping) and support.

In this section, three major approaches to programs on teacher development, as outlined by Sprinthall et al. (1996), were described and assessed. The validity of the first approach, the bottom-up craft model, was challenged on several fronts. The top-down expert model was also shown to be limited in scope, although its effectiveness increases when the emphasis is placed on the transfer of skills to the classroom, and when sufficient time is allotted for this task. The interactive approach, based on the contemporary constructivist view of learning, garnered the most support. This model views teachers as active participants in their own learning process. This approach has shown that when changes in teaching are driven by the teachers themselves and not mandated by others, changes in perspectives on teaching and learning and changes in practice are more likely to occur. Reflection on practice was cited as a key element in both the craft model and the interactive model. In the following section, I further explore the pivotal role that reflection has played in professional development programs, and particularly in relation to teachers' perspectives.

The Reflection Movement in Education

The discourse on reflection has been shaped by two leading scholars, whose works represent views that are in many ways diametrically opposed. On the one hand, John Dewey (1933) viewed reflection as a means of problem solving, while, on the other hand, Donald Schön (1987a) considered reflection an expression of artistry. This lack of clarity has led Carol Rodgers (2002) to suggest that "in becoming everything to everybody, reflection has lost its ability to be seen" (p. 843). In spite of this lack of clarity, researchers agree that reflection is an essential component of human agency (McLaughlin, 1999). Reflection has been used successfully across a variety of settings and for various functions. These include the workplace (Marsick, 1990), the women's movement (Hart, 1990), student social change movements (Heaney & Horton, 1990), as a means of integrating personal and social ideologies (Kennedy, 1990), and in therapy (Gould, 1990). Reflection also holds great significance in the field of education, including higher education, in terms of its potential as an effective learning tool (Bessette, 2006).

Paul Ramsden, author of *Learning to Teach in Higher Education* (1992), has cited reflection on one's experiences as a prerequisite for effective teaching. Atkins and Murphy (1993) viewed reflection as the means to facilitate the integration of theory and practice. Michael Eraut (as cited in Beaty, 1998), along with several other authors, referred to it as a necessary skill for ongoing professional development. The National Committee of Inquiry into Higher Education in the UK, also known as the Dearing Report, stressed the importance of reflection in teacher professional development (cited in Brown et al., 2002), and Clegg, Tan, and Saeidi (2002) referred to reflective practice as the favored paradigm for CPD in higher education. The Carnegie Foundation's report, Scholarship Assessed, included reflective critique as one of its six standards for assessing all forms of scholarship, including teaching (Glassick, Taylor-Huber, & Maeroff, 1997). Senge (as cited in Brancato, 2003), in his discussion on transforming the university into a learning organization, underscored the importance of supporting faculty reflection and the critical analysis into one's philosophy of teaching and learning. He maintained that it is only through such reflection that changes in deeply engrained beliefs and behavior can come about. Michael Fullan (1993) also stated that it is only through reflection at the personal, group, and organizational levels that teachers will question their practice and begin to think differently about teaching and learning. Several

authors (e.g., Jarvinen & Kohonen, 1995; Saroyan & Amundsen, 2004) have stressed the need to encourage and challenge new teachers in higher education to engage in reflection on their practice, and in so doing, to examine the impact of their beliefs on their teaching. Brookfield (1995) has pointed out that a college teacher's unexamined assumptions about the nature of teaching and learning can be destructive (p. 225). As educators, if we expect our students to reflect on their learning, we need to model this process for them by explicitly reflecting on our teaching. But the most fundamental reason to engage in reflection is because of the deep-seated assumption that reflection will lead to improved practice. Sprinthall et al. (1996) have viewed reflection as a means of promoting cognitive complexity among teachers. In spite of the rhetoric surrounding reflection as a cornerstone in teacher practice at all levels of education, a number of researchers (e.g., Kreber, 2004) have claimed that the link between reflection and practice has not been clarified. Brookfield has stated that attempts to study the development of critical reflection in teachers as adult learners are few and far between. Also, many studies that have focused on reflection have lacked rigor and are methodologically weak (Bleakley, 1999). Therefore, there is a need to examine the literature on teacher reflection within the context of professional development, in order to assess how it has come to be assimilated into mainstream practice, how it is currently conceptualized, and how it impacts on teaching and learning.

Key Issues

The literature on teacher reflection is vast and a considerable amount is focused on primary and secondary education. Also, this literature is not particularly unified, since reflection is often understood and investigated in different ways by different researchers. Based on my readings, I have identified a number of key issues that currently dominate this discourse. I am aware that this analysis is not exhaustive. However, I was encouraged by the fact that prominent researchers such as Rogers (2001), in their analysis of the literature on reflection, choose to analyze a sampling of works and I have followed this lead. I also realize that my representation of this literature is filtered through my personal lenses which include language, gender, and social class. In the following section, I address a number of topics, including ways of conceptualizing reflection, a contemporary model of reflection, learning to reflect, measuring reflection, and reflection and teacher beliefs.

Conceptualizing Reflection

Reflection has been referred to in the research on professional development in general, and teacher development in particular, to such an extent that one would assume that the concept is clearly understood. This is not the case however, as several authors including Rogers (2001) have pointed out. One of the problems appears to be that terms such as reflection, reflective practice, reflective thinking, reflective practitioner, thinking, critical thinking, metacognitive thinking, and mindfulness are often used interchangeably to describe reflection. Additionally, the term reflection itself has assumed different meanings, depending on the time factor. For example, van Manen (as cited in Bean & Stevens, 2002) has referred to anticipatory, contemporaneous, and retrospective reflection, while Schön (1983, 1987) has discussed reflection-in-action, reflection-on-action, and reflection on reflection-on-action. In his analysis of a sampling of research studies on reflection, Rogers identified no less than 15 different terms used to refer to this concept. He divided his system of classification into three main categories: general terms used to describe reflection, terms based on timing, and terms based on content. From a methodological perspective, we can appreciate how the mere mention of the term would engender confusion.

In addition to the confusion over terminology, there does not appear to be one clearly accepted definition of reflection in the literature. According to Atkins and Murphy (1993), this lack of a definition has led to a situation in which reflection is used as a catch-all phrase with different meanings. Before examining these definitions, it is important to keep in mind that reflection is reserved for higher-order thinking. It involves a pause, even for a second, when we ask, "What am I doing?"

The original definition of reflective thinking proposed by John Dewey (1933) in *How We Think* was that of "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 conclusion to which it tends" (p. 9). Dewey's positivistic, five-phase approach to reflection (Rodgers, 2002) has been described as technical-rational in nature. If we apply rational thinking to problems, a clear solution should result. In contrast, Donald Schön (1983; 1987) viewed reflection both as a way of thinking and as the trademark of the professional. According to Schön, reflection is the tool that allows the expert to frame each problem within its unique

context, and to resolve it by calling upon our past experience as reflective practitioners. In contrast to Dewey's rational, systematic way of proceeding, Schön maintained that problem solving took place by means of tacit knowledge which he referred to as artistry, or a capacity to respond appropriately to a given situation and to think on one's feet. However, early experiences can be baffling, as he admitted in the following excerpt from his 1987 presentation at the American Educational Research Association annual meeting:

> The experience of students in any reflective practicum is that they must plunge into the doing and try to educate themselves before they know what it is they're trying to learn. You swim around in this uncertainty and gradually you come to understand. (Schön, 1987a)

In contrast to Dewey's approach, Schön maintained that action precedes reflection. Schön felt that technical solutions were not particularly useful in the "swampy lowlands [that often characterize real life] where situations are confusing messes" (1983, p. 42).

Several other definitions of reflection have evolved from the approaches of Dewey and Schön. Some researchers define reflection according to various typologies. Mezirow (1990a), for instance, has outlined three types of reflection: on content or what we perceive, think, feel, or act upon; on process or how we think; and on presuppositions. Reflection on presuppositions is the highest level, and it involves an examination of our underlying assumptions or beliefs. Mezirow has also referred to reflection on presuppositions as critical reflection (p. 7). According to the author, reflection on presuppositions can lead to perspective transformation and to action. The process however from perspective transformation to action has not been clarified.

Other researchers such as Boud, Keough, and Walker (1985) have emphasized reflection as an affective process, which can allow individuals to explore their experiences and to reach new understandings. Ghaye and Lillyman (as cited in Hoban, 2000b) referred to reflection as an art form, with moral, affective and ethical dimensions. Others have moved beyond cognition and affect to action. John Cowan (1998) in his pivotal text, *On Becoming an Innovative University Teacher: Reflection in Action,* defined reflection as a process through which we analyze personal experiences and generalize from this, so that we may

become more skillful and effective in the future (p. 17). McAlpine et al. (1999) defined reflection as a metacognitive process, i.e., one that teachers use when they think about teaching and learning. According to the authors, reflection is seen as the means whereby teachers monitor cues and make the necessary adjustments to reach their learning outcomes.

This initial overview of selected terminology and of definitions illustrates the diversity of meanings that is attached to the term reflection. A similar situation was noted with respect to terminology surrounding teacher perspectives and beliefs (see p. 3). This lack of consistency surrounding reflection is problematic. With no clear meaning in sight, Rodgers (2002) has identified four predicaments that result. It is impossible to distinguish reflection from other types of thought, reflection cannot be assessed because it cannot be seen, reflection loses its value, and finally, it becomes difficult to research the effects of reflection. The author has suggested that we return to the roots of reflection by re-examining John Dewey's (1933) understanding of this concept. Rodgers claims that Dewey's explanation of reflection can shed light on the meaning of this concept, and allow it to be taught, assessed, and researched, as opposed to disappearing (p. 842). Even more problematic than the lack of a consistent definition, is the fact that many researchers call for systematic reflective thinking without defining the term at all. This lack of a clear definition makes it difficult, if not impossible, to compare and to link research findings. If reflection is not defined clearly, it risks "becoming everything to everybody [and losing] its ability to be seen" (Rodgers, p. 843).

Reaching a consensus on a definition of reflection is not a simple task. Although both Dewey and Schön have provided us with some insight into our contemporary understanding of reflection, this understanding is rooted in a particular history, which in turn impacts upon our understanding. Other factors also act as filters through which we view this concept. Some of these filters include the fact that reflection is viewed from a western mindset (Tremmel, 1993), and, until recently, was conceptualized through the eyes of elite men, exclusively (Fendler, 2003). As such, reflection cannot be indiscriminately and unequivocally referred to in a particular way, for example, as either technical rationality or intuitive professionalism, without including careful reference to its historical, cultural, and other origins. Situating these complex and, in some cases, contradictory interpretations of reflection historically and

contextually, can shed light on the diverse ways that it has come to be conceptualized in the literature.

Although reflection has come to be viewed as a cornerstone in professionalism, two major critiques have surfaced repeatedly. The first of these is related to what several authors including Zeichner (as cited in McLaughlin, 1999) have referred to as the “uncritical celebration of teacher reflection” (p. 10). In particular, Schön’s theory has come under attack. Knight (1996) has cited the “superficial and token acceptance” (p. 2) of [Schön’s] concept of the reflective practitioner. McLaughlin has discussed the slogan-like, intuitive appeal of this concept, as well as the vagueness and elasticity of its one-size-fits-all model. He has also referred to its political value, in that it is viewed as diametrically opposed to any competency-based, technical model of teacher professional development. Bleakley (1999) has referred to the high jacking of this term by many professions and the fact that few could find fault with this construct that intuitively sounds good, especially in contrast to the non-reflective practitioner! Again, Schön is at least partly blamed for this. In depicting an approach for reflection based on artistry as opposed to technical solutions, Schön failed to specify a model for this, and hence an ill-defined concept became accepted as the norm. Ecclestone (1996) has also critiqued Schön’s emphasis on intuitive reflection-in-action that “removed theory from teacher education and replaced it with personal reflection” (p. 7). She has cautioned that this can prove problematic, especially for new teachers who lack adequate grounding in experience. Furthermore, Boud et al. (1985) have questioned whether the teaching context really affords education students the liberty to adequately explore the disorienting dilemmas which, according to Mezirow (1990a), precede reflection. Rodgers (2002) reminds us of Dewey’s assertion that reflection is a complex intellectual and emotional process that requires time. It is only through a thorough understanding of the process of reflection that we will have the tools to engage in the conversation.

A second major critique concerns the absence of rigor that has characterized some of the research on reflection. Bleakley (1999) has stated that this core notion has not been investigated with the same thoroughness that researchers would normally apply to their own discipline (p. 315). The fact that some authors have neglected to define this term in their research is but one illustration of such methodological weakness. Ecclestone (1996) has lamented the lack of assessment that has accompanied the notion of the reflective practitioner

and the fact that it can assume many different forms, depending upon the underlying values. She pointed out the contradiction: while reflection is very complex to study methodologically, teachers are often required to engage in simplistic and artificial forms for course work. McLaughlin (1999) has also referred to the methodological complexity of measuring the impact of teacher reflection on student learning. The author has cautioned us to avoid an unquestioning acceptance of the generic process of reflection. Instead, we should probe deeply into an examination of its content, since many reflections can be inaccurate, and also explore how to assess this content. The question of assessment has proven to be difficult. It is complicated by the heterogeneous nature of reflection, the concept of professional pluralism (Whose values are right and in which context?), postmodernism's questioning of general standards of judgment, and the fact that Schön never articulated an epistemology of practice (pp. 19-20). We can see why many have chosen the easier, but less insightful route, in which reflection is unquestionably adopted as a valuable tool in education, and no further questions are asked.

One illustration of the overly zealous adoption of reflection as a cure all for pedagogical problems can be seen in an article by Sharp (2003). The author**,** an African-American teacher in a majority white suburban high school, has made several claims including that teacher reflection has ''increased my effectiveness and allowed me to assist my students in learning" (p.243). She is convinced that through her personal reflective lens she has succeeded in initiating a program that will sensitize others to issues of race and culture. However, it is difficult to attribute the gains that Sharp claims were made by herself and by her students to reflection alone, since she has not clearly defined or described her reflective process. This seems to be another case of what Zeichner (as cited in McLaughlin, 1999) has referred to as jumping on the reflection bandwagon. However, in spite of these methodological limitations, as well as the multiplicity of meanings that characterize the literature on reflection, some interesting models of reflection have appeared in the literature. One of these models (McAlpine et al., 1999) is explored in the following section. This model is particularly worthy of note, because of its focus on practical reflection and on how this can lead to improvements in teaching.

A Contemporary Model

McAlpine et al. (1999) describe their model of reflection as deductively induced, built on constructs from the literature, and as explanatory rather than predictive. This model consists of six components: goals, knowledge, action, monitoring, decision-making, and corridor of tolerance. Reflection is seen as an ongoing process between thought and action that involves past experience, present action and future intentions (p. 106). Action represents the external domain, while knowledge belongs to the internal, cognitive domain. Each of the six components of this model is heavily steeped in theory. For example, knowledge, as the precursor to reflection, is seen as the result of teacher preparation and experience. The authors' conception of knowledge is drawn from the work of Shulman and his four types of knowledge including content, pedagogical, pedagogical content, and knowledge of learners. Regarding the origins of knowledge, McAlpine et al. have cited Connelly and Clandinin's personal practical knowledge, as well as Polanyi's tacit knowledge (p. 107). This accumulated knowledge is the basis for plans that lead to the processes of monitoring and decision making. Plans therefore allow teachers to meet their goals (McAlpine et al., p. 109).

The six components of their model interact as follows: "reflection is driven by goals, resulting in plans drawn from action, leading to actions that are constantly being revised and updated as feedback is monitored through the corridor of tolerance and decisions lead to adjustments in action" (McAlpine et al., 1999, p. 109). Thus, the process of reflection is essentially metacognitive in nature (see p. 51). Of particular interest is their hypothetical construct, corridor of tolerance. They refer to it as a mechanism to explain why only some cues (i.e., those that fall outside the corridor) are acted upon, and lead to decisions to modify teaching. Their emphasis is on practical, as opposed to strategic and epistemic reflection. This is evident in the way they define reflection as "a process of thinking about teaching and learning by monitoring cues for the extent to which they are within a corridor of tolerance and making decisions to adjust teaching as appropriate to better achieve teaching and learning goals" (p.110). According to their model, reflection can occur during teaching (reflection-in-action), after teaching (reflection-on-action) and in the future (reflection-for-action, which is distinct from planning, in that it draws upon past experience).

This model provides us with a thoughtful way of conceptualizing the role that reflection can play in teaching in higher education. However, Dewey (1933) stated that unless a solution can be tested, it remains merely hypothetical. The question remains as to whether or not reflection can be measured in a more objective format, and also ultimately whether it can result in goal achievement, such as improved teacher efficacy.

Measuring Reflection

In this section, I review two ways to measure reflection, through a questionnaire and through written journals. I also examine how the model developed by McAlpine et al. (1999) was used to operationalize the link between reflection and teacher actions. Kember et al. (2000) have developed the Reflection Questionnaire, which is based on the work of Mezirow (1992). This questionnaire outlines four levels of reflective thinking: habitual action, understanding, reflection, and critical reflection. Habitual action is automatic action, understanding is context-specific, reflection is the active consideration of beliefs, and critical reflection is an even higher form of reflection that involves metacognition. This 16 item questionnaire includes four items for each of the four scales, and each item is scored on a five-point Leikert scale. In a follow-up study, Leung and Kember (2003) provided evidence for an association between the student's level of reflective thinking and their approach to learning. In this study, the Reflection Questionnaire and the Biggs et al. (2001) Revised Study Process Questionnaire, which measures surface versus deep learning, were administered to 402 undergraduate students. Results indicated that the habitual action scale, or level one reflection, was related to surface approaches to learning. Understanding, reflection, and critical reflection, or levels two, three, and four, correlated with deep learning approaches among students. In addition to helping to further validate both of these measures, the authors have pointed out that this research also distinguishes between reflection and mere understanding.

Written journals represent another way to measure reflective thinking. Kember et al. (1999) have developed a coding scheme, also based on Mezirow's (1992) work, to assess the level of critical thinking found in students' written journals. The coding scheme rates the content of students' written reflections as either non-reflective or reflective in nature. In the latter case, reflections are rated according to four types: content, process, content and

process, or premise reflection. In a series of two tests of this scheme, acceptable levels of inter-rater reliability were obtained. Difficulties with coding were due not to a lack of precision with coding guidelines, but rather due to differing interpretations of student reflections. The authors have pointed out that prior to their work, no widely-accepted procedure for determining the presence of reflective thinking through a questionnaire, or for measuring the level of reflective thinking in written journals was available in the literature (p. 19). However they do encourage further testing of their scheme, as this would lead to wider acceptance (p. 29).

It is notable that in developing the questionnaire and the coding scheme on reflection, the researchers viewed premise reflection or critical reflection as the highest form of reflection. They maintained that this is difficult to accomplish and that it occurs infrequently. They distinguished between reflection and critical reflection as follows. In the case of reflection, a concept becomes assimilated into one's experiences and takes on personal meaning. But in the case of critical reflection, a perspective transformation occurs which necessitates a review of our prior beliefs and values, both conscious and unconscious, which underlie our actions. This latter process involves transformative learning (Mezirow, 1992). Leung and Kember (2003) have drawn upon the work of Mezirow to outline a three phase process that might bring about this change. First one must diagnose one's existing framework. Then one experiences a period of dissatisfaction with this framework. Finally, one reconstructs a new framework (p. 70). A similar three-phase model has been proposed by Diamond (1988). It would appear that critical reflection is a prerequisite for changes in perspectives. However we need to further understand the nature of each of these phases, as well as the forces that underlie changes from one phase to another. As well, the link between changes in perspectives and changes in behavior needs to be explored.

While both questionnaires and coding schemes have provided us with a convenient means of measuring reflection, several critiques surface. The first concerns the hierarchical nature in which reflection has been conceptualized in the Kember et al. (1999) research, and the way it is usually referred to in the literature. Fendler (2003) has objected to this system of classifying reflection. According to Fendler, in suggesting that the more removed reflection is, the more accurate it becomes, we devalue immediate description and this leads to "censoring certain ways of perceiving and talking about teaching" (p. 20). She maintains that

all forms of reflection are equally valid and questions the notion of hierarchies or levels of reflection. Latour (as cited in Fendler) has also stated that the concept of layers of reflection is futile, since all reflection is removed and is about something else.

Another critique centers on the use of journals as a means of data collection. Although reflective journals have proven to be valuable in the field of education (Lubinsky, 1990), ethical concerns have been raised about their use. Fendler (2003) has referred to them as confessional journals. She views them as a form of surveillance wherein “boundaries of public and private become available to public scrutiny” (p. 22). Boud and Walker (1998) have also referred to the inappropriate disclosure that can result from the use of such measures. According to Fendler, another problem with journals and similar devices is that in acknowledging our own process of knowing, we may reject outside influences and enter into a cycle of self-confirming inaccuracy. Samsion (2000) questioned whether conflicting messages might result, when instructors, on the one hand, attempt to build trust and encourage their students to share emotions, and, on the other hand, require them to submit these journals for assessment (p. 211). In spite of these drawbacks, there are measures that researchers can take, if they wish to include journals as a means of data collection.

One measure that researchers can take is to integrate supplementary ways of measuring reflection. For example, concept maps are sometimes used in conjunction with reflective journals. Concept maps are defined by Maxwell (2005) as a visual display of a phenomenon that is being studied. They can be used as a way of showing how concepts are linked to each other, and as a way of exposing the assumptions that underlie our thinking. According to Deshler (1990), concept maps are particularly effective if one first constructs a map, reflects on it, often in dialogue with others, and then reconstructs a clearer map (p. 345). The author has also stated that comparing concept maps at different times is one way to track the evolution of beliefs. According to Maxwell, by integrating other sources of analysis, such as concept maps with reflective journals, the trustworthiness of the data can be increased.

Another way to increase the effective use of reflective journals is to apply a methodology that will allow us to read them in order to extract meaning. For example, Watson and Wilcox (2000) have suggested that we read reflective journals that might expose

a problem from our practice in three modes: a first quick reading, a second zooming in to attend closely to context, and a third zooming out to identify the theme and all its complications. Lieblich (1998) has discussed a similar methodology of reading for themes, known as the holistic content approach. Lieblich's approach is used as a qualitative analytic tool, for example to construct narrative summaries from interview data. An approach, similar to the holistic content approach, could be adapted for analyzing journals.

These ways of assessing reflection suggest that a direct and linear relationship exists between reflection and action. However, this idea is seen by many as too narrow and simplistic. This is because when we reduce reflection to a checklist, we do not consider its highly context-specific nature. Clegg et al. (2000) have outlined at least four alternative modes of reflection among academics who were asked to reflect in written narratives. The first outcome characterized novices and involved immediate action and little evidence of reflection. In the second outcome, teachers, who were mainly experienced practitioners, seemed pre-disposed to both reflect and to take action. Teachers in this group linked the capacity to reflect with feminine attributes, in contrast to the more active and masculine doing of practice. They also linked reflection with the softer social sciences. The third outcome, deferred action, characterized those who lacked sufficient practical experience on which to reflect. In the fourth outcome, reflection occurred after action and frequently in order to meet assessment criteria. These results highlighted the importance of experience as a prerequisite for effective reflection. They also suggest that many of our conventional ways of measuring reflection may not be capturing the complexity of the interaction between reflection and action. One notable weakness with the Clegg et al. study is that it relied on written reports and interview data, but it failed to verify teacher reflection-in-action through direct observations. This is a common methodological flaw in many such studies leading Kane, Sandretto and Heath (2002) to suggest that we are only "telling half the story" (p. 177).

The link between reflection and action was carefully explored in the McAlpine et al. (1999) study. The authors first proposed a theoretical model of reflection, outlined above, and then further validated and refined this model through the retrospective accounts of teaching by six exemplary professors, based on their videotaped classroom sessions. These professors were chosen because "experts exhibit more evidence of metacognition and they

can articulate it" (p. 111). An elaborate coding scheme was developed to document and analyze the components of the model, related to reflection-in-action and reflection-on-action. Data revealed evidence of expert teachers' attention to student learning, suggesting they were operating within Ramsden's (1992) Theory 3. Of particular interest is their finding, reported in a later study by McAlpine and Weston (2002), that even professors without pedagogical preparation monitored student cues. The authors attributed this to experiential learning (p. 69). The manner in which McAlpine et al. conceptualized knowledge, as the precursor to effective reflection and as resulting from pedagogical preparation and from experience, is worthy of further investigation. Their findings have not only validated their theoretical model but also provided practical advice for improving classroom teaching. By asking teachers to explain their videotaped classroom behavior, the link between reflection and action was probed.

Learning to Reflect

In addition to outlining ways to measure reflection, either through questionnaires and written journals or by working directly with teachers, an important issue for professional development programs is whether or not teachers can learn to reflect. Certain attitudes such as open-mindedness and motivation are identified with a stance toward reflection (Boud et al., 1985). Skills such as being aware of oneself and one's feelings, describing events accurately, critically analyzing a given situation, synthesizing new knowledge with previous knowledge, and evaluating an experience that can lead to the development of a new perspective have also been cited (Atkins & Murphy, 1993). Stephen Brookfield (1995), author of *Becoming a Critically Reflective Teacher*, has described four major catalysts that can lead us to develop the attitudinal and skill prerequisites that characterize reflection. These include reflecting on an individual basis, through collaborating with colleagues, through the lens of educational literature, and through feedback from students.

In terms of individual reflection, Brookfield (1995) has recommended that we write about our teaching and videotape ourselves teaching, and then reflect on these experiences. He has also suggested that we should regularly put ourselves in the role of the learner in order to connect viscerally, and not just intellectually, with the learning process. This is because our experiences as learners frame our practices as teachers. A second major avenue

to becoming a critically reflective teacher is to see ourselves through our students' eyes. Brookfield has discussed several techniques to bring this about, including student learning journals, and in particular the Critical Incident Questionnaire, in which students outline their most significant and their least significant learning experiences within a brief time frame. Hoban (2000a) reported a study in which three high school science teachers with one year, five years, and fifteen years of experience, listened to audio recordings of student feedback on their classroom practices. This feedback served as a significant means of informing teacher practice. The third major path to becoming a critically reflective teacher is to hold critical conversations with colleagues about teaching. Brookfield has cautioned, however, that "teachers are busy people working at a craft that is emotionally draining, physically tiring and financially unrewarding" (p. 159). While these conversations can serve as an important means of advancing our collective practice, the author has recommended that ground rules should be established in order to maximize efficiency. The final lens is through reading theory critically. According to the author, the theory-practice divide is false, since teachers are both theorists and practitioners. Brookfield has stated that critically reflective teaching happens when we begin to scrutinize the power relations that underlie our teaching. Through an exploration of the four paths described above, the author has shown how to use the theory of critical pedagogy to inform a reflective practice.

If reflection can be learned through the four lenses of practice as Brookfield (1995) has suggested, the flip side of this question is, can it be taught, and if so, how? Some researchers (e.g., Canning, 1991) claim that reflection can be taught, but offer little insight into how this might be accomplished. Others, such as Boud and Walker (1998), have cautioned against the adoption of such overly-simplified, reflection-on-demand programs that lead to predictable outcomes. Samsion (2000) has also referred to the "seductiveness of these claims" and to the more "sobering literature" (p. 199) that questions whether reflection can so easily be taught. In Samsion's description of a four-year longitudinal study of pre-service teachers, eight out of 18 failed to become more reflective. The author extracted four influences that hindered reflection from the data: lack of commitment to teaching, lack of commitment to reflection, epistemological perspective of perceived knowledge, for example, teaching as telling, and the perception that the learning environment was unsupportive. Samsion questioned whether other superficially successful accounts of facilitating reflection

might be due to factors such as the cross-sectional nature of these studies, single data sources, and the possibility that one can submit "a convincing sample of reflective writing without being reflective" (p. 210).

Samsion's (2000) study has shown that teachers do not necessarily become more adept at reflection through practice alone. Although methods of reflective journaling have not been systematically researched, either quantitatively or qualitatively (Hubbs & Brand, 2005), some techniques have been shown to foster reflection. Bean and Stevens (2002) wondered whether the intentional scaffolding of students' written reflections could shape these responses. Their results indicated that scaffolding helped students to identify their personal belief systems, i.e., it did what it was supposed to do, but it did not help them to challenge larger discourses of teaching, learning and students (p. 205). Bean and Stevens have suggested that further scaffolding, designed explicitly to encourage students to explore specific policy statements, might help to foster reflections at a higher level. Researchers, including Jarvinen and Kohonen (1995), and Saroyan and Amundsen (2004), have stressed other techniques, such as the importance of teaching reflection early in the induction phase.

It can be concluded that teaching academics how to reflect remains a major challenge for professional development programs. Studies have shown that merely setting aside time for reflection will not lead to reflective practice (Samsion, 2000). As well, not all teachers are equally capable of learning to reflect (Clegg et al., 2002). McAlpine and Weston (2002) have identified individual factors, including personality factors and teaching experience, which can influence a teacher's capacity to reflect. The authors describe three groups: a first group who easily engage in reflection and this leads to improved teaching, a second group who seem unable to engage in reflection, and a third group who engage in reflection but cannot improve their teaching.

McAlpine and Weston (2002) describe a first group of teachers who engage in reflective practice, and this, in turn, leads to improved teaching. These teachers share a number of characteristics. They are motivated to teach well, develop new knowledge bases beyond their own discipline, and take risks within a supportive environment. They also experience a minimum number of perceived constraints, as well as frequent opportunities to practice reflection. Finally, they have a minimum knowledge of teaching, and certain

personality characteristics (p. 73). A second group, those who appear unable to engage in reflection, lack motivation to teach well and to develop into good teachers, lack knowledge regarding teaching and reflection, and are unlikely to take risks, due either to internal or external constraints (p. 74). Copeland et al. (1993) have cited additional hindrances that interfere with the ability to reflect. These hindrances focus on cognitive or affective development, amount of experience, aptitude for reflective thinking, and the absence of Dewey's three core qualities of open mindedness, wholeheartedness, and responsibility. According to McAlpine and Weston, a third group of teachers engages in reflection, but this does not lead to improvements in their teaching. The authors speculate that this may be due to a lack of experience, and, in turn, this lack of experience might restrict their knowledge base. Consequently, a teacher in this third group might not be aware of student cues, might not be able to monitor cues, or monitor the wrong ones, and might not have a repertoire of effective strategies on which to base decisions. They might also face personal impediments such as fear of risk-taking, inability to execute decisions, and personality traits such as unstable personality (p. 74). Although McAlpine and Weston refer to their own research and to a number of other studies in building their argument for individual differences in reflection, their classification system remains at the hypothetical level and warrants further study.

Other factors, such as academics' beliefs, or their perspectives on teaching and learning, can also influence their capacity to reflect. Kreber (2004) has shown that these perspectives can function as a barrier to reflection. Hoban (2000a) has also shown how teachers' prior assumptions about teaching and learning influenced their capacity to reflect on student feedback. The influence of teachers' perspectives on their capacity to reflect is explored in the following section.

Reflection and Teacher Perspectives

The absence of formal training in pedagogy that characterizes much of the teaching in higher education is a well-documented fact. For the most part, academics have been prepared in graduate school as researchers, not as teachers. When they are hired to teach, they draw upon their own experiences as students, and on their ideas or perspectives about teaching and learning. Research has shown that these perspectives are often faulty (Saroyan et al., 2004).

Increasingly, demands are being made to improve the quality of teaching in higher education, but this is unlikely to happen unless academics first confront and modify their ideas about teaching (McAlpine & Weston, 2000). Finding ways to encourage faculty members to examine their ideas about teaching presents a major challenge for professional development programs.

Diamond (1988) has described a three-step process of reflection that can enable teachers to become aware of and to challenge their perspectives on teaching and learning. During the first step teachers are encouraged to become aware of the subjective perspectives that guide their teaching. In the second step, teachers explicitly name and critically examine these perspectives. In the final step, the subjective perspective is objectified and verified. If it cannot be verified, it is restructured. Diamond's three-step process is similar to the steps that Mezirow's (1990b) described in his theory of transformative learning. This process also resembles the three stages as outlined by Leung and Kember (2003).

One way to characterize these perspectives or beliefs is to think of them in terms of theories. Argyris and Schön (1974), as well as Argyris, Putman, and McLain Smith (1985) have defined these as theories of action, and they distinguish between teachers' espoused theories and their theories-in-use. When teachers are asked about their behavior, espoused theories are used to explain or justify this behavior. These theories essentially represent what teachers say about their teaching. On the other hand, theories-in-use are "the tacit theories that underpin practice" (Kane, Sandretto & Heath, 2004, p. 286). Because they exist as tacit knowledge, they are more difficult to articulate. They surface when teachers reflect on their practice. Through the process of reflection, teachers sometimes discover that their theories-in-use differ from their espoused theories. Kane, Sandretto, and Heath (2002) have noted that much of the research on teachers' perspectives in higher education has only examined what teachers say, and not what they do. Hence, these studies risk "telling only half of the story" (p. 177). The authors point out that teaching is a complex endeavor, and in order to access both espoused theories and theories-in-use, they recommend using multiple methods. These methods should include both teachers' self-reports and reflections, and direct observations of their behavior.

One example of a study which integrated aspects of both espoused theories and theories-in-use is described by Halliday and Soden (1998). The authors studied 11 lecturers in higher education who were enrolled in a professional development course over a period of nine months. The evolution of teacher beliefs and their impact on teacher practice were measured through repeated interviews with the participants. As well their teaching was observed. The impact of the course became evident as it progressed, as lecturers moved away from an emphasis on quick-fix methods with little justification, to an increasing ability to situate their teaching within a theoretical framework, to increasing references to overall goals such as encouraging student thinking. This evolution is reminiscent of Ramsden's (1992) model of teacher development. These results offer further proof that the cognitive restructuring of ideas about teaching and learning takes time, and requires more than exposure to short-term, in-service sessions. Although the Halliday and Soden study included elements of both espoused theory and theory-in-use, the latter was only indirectly validated through teacher reflections-on-practice. Teachers were observed by both researchers and peers; however, no feedback on their teaching was reported back to them. Therefore, theories-in-use could not be directly validated.

The Halliday and Soden (1998) study also showed that some participants seemed more willing than others to reflect on their underlying beliefs. The authors have pointed out that professional knowledge is highly contextualized within individual motivational and emotional backgrounds and belief systems, and it is difficult to predict an individual's trajectory. As well, some teachers seemed prepared to tolerate more ambiguity and uncertainty than others. Differences in personality and in teaching experience have already been cited as factors that can influence a teacher's capacity to reflect (McAlpine & Weston, 2002). Halliday and Soden have suggested that Huberman's (1993) model of cognitive restructuring can also shed light on this issue. This theory suggests that change is likely to occur when one experiences a cognitive disequilibrium, but not one that is too dramatic. That is, ideally one might feel challenged by a new concept, but not feel that it is totally foreign to them. These factors can help us to explain the differences that emerge among teachers when they reflect on their practice.

Two major issues emerged from the Halliday and Soden (1998) study which warrant further investigation. One issue concerns the difficulty in establishing codes to categorize the

interview data. Another issue concerns the amount of time that it takes to bring about, and to maintain changes in perspectives. The amount of time that teachers invest in professional development activities is related to the outcomes. For example, semester-long courses have a clear advantage over occasional workshops. It is important to clarify whether longer-term professional development programs that stretch over several years, will result in more substantial and permanent changes in perspectives. My study addresses both of these issues. I investigated the evolution of perspectives over an extended period of time. I also established representative codes for the interview data. In the following section, I provide a summary, based on the review of the literature in this chapter.

Summary

In 1990, Patricia Cross wrote that teaching was emerging as "one of the most profoundly intellectually challenging aspects of our jobs as college faculty" (p. 3). By encouraging teachers to use their classrooms as a laboratory to study learning, she contributed to what Sprinthall et al. (1996) have referred to as a paradigm shift in teacher professional development. According to the authors, such shifts are marked by experimentation and resistance to change. This resistance is especially felt in higher education where the idea of learning to teach is a relatively recent phenomenon (Brew, 1999). To date, no definitive model of teacher professional development that provides a clear link from theory to practice and from practice to theory has been articulated. Sprinthall et al. describe the current situation as transitional. Because the teaching-learning dynamic is complex, it cannot be conceptualized as a one-way street (Shulman, 1986). It is more like a busy intersection during rush hour (Sprinthall et al.). In this chapter, I have attempted to shed light on some of the traffic that can be found at the current site of teacher professional development in higher education. I do this by examining both the theoretical and the practical aspects of this complex issue, and the unique role that teacher reflection and teacher perspectives play in this process.

Findings have emerged that can inform the process of teacher change and development. As well, successful, theoretically-linked, applied programs have been identified. The process of learning to teach was shown to be complex and evolving over time. This underscored the need for teachers in higher education, who for the most part lack an

adequate background in educational theory, to continuously upgrade their skills through participation in ongoing professional development activities. According to Bedard (2006), unless teachers in higher education continue to receive active and explicit support, their pedagogical innovations will be short-lived.

Among the professional development models, the interactive model, and particularly those that challenged teachers to improve their level of cognitive complexity, emerged as the most promising. A program such as the Teaching Community model (MacDonald, 2001) proved noteworthy, in that it satisfied important criteria, such as low cost and high faculty involvement, and it also promoted the scholarship of teaching and learning. Searching for the right balance between theory and practice, or the particular mix of action and reflection, remains the essential challenge for these programs. Professional development programs that provide teachers in higher education with educational theory which they can test out in their classrooms have proven to be the most successful models.

Other questions about these programs, such as the amount of time it takes to bring about change, and the nature of the change process itself, need to be further elaborated. In terms of time, it has become clear that brief workshops offered by experts teaching generic skills do not lead to lasting change. However, it is not clear precisely how much time is necessary to bring about changes in teachers' perspectives and in their practice. Sprinthall et al. (1996), as well as Halliday and Soden (1998), have recommended a period of at least nine months. An exploration of longer-term programs that stretch beyond the usual one-semester timeframe is warranted. In addition to time, learning to teach was also shown to be a complex process that requires both personal and collaborative input. It is personal in that the teacher must be prepared to assume a new role and learn new skills. For example, it was shown that change often takes place when we encounter a problem, and former strategies no longer suffice. Thus, this change process is clearly cognitive and it needs to be situated within a contextualized context. Reflecting on one's practice through activities such as journaling was identified as an important ingredient in helping the teacher recognize the necessity for change. This change process is also affective in that it is influenced by observation of peers and by supportive feedback from peers. Both the personal and peer factors that contribute to the process of teacher change need to be further elaborated. As well, several theories including those of Ramsden (1992) and Robertson (1999) have helped to map the process of

teacher change. In general, these models suggest that teachers evolve through a series of stages, beginning with a focus on themselves and their teaching, and shifting to a focus on encouraging independent learning among their students. Ramsden's stage-like model is particularly applicable, since his theory focuses on teacher cognitions in higher education, while Robertson's model also attends to transitions between stages. The nature of the process that is involved in teacher learning and change needs to be further explored.

Encouraging faculty members to reflect on their core perspectives about teaching and learning was shown to be one of the major avenues to promote teacher development. This is particularly important in higher education, since academics often begin their teaching careers armed with little more than their own values and perspectives on teaching. These perspectives are based on their own experiences as learners and they may be faulty. Unless faculty members are explicitly taught and encouraged to examine and to challenge these perspectives early on, they persist, and hence teachers repeat the same mistakes they were once subjected to, as students. According to Carr and Kemmis (1986), through reflection, teachers can become emancipated from these faulty perspectives and they can develop their own theory of teaching. This process will not only put them in charge of their own profession, but it will also help them to transform social life. As Mezirow (1990b) has highlighted, reflection allows us to control our experiences instead of being controlled by them (p. 375).

However, merely encouraging teachers to set aside time to reflect will not produce the desired changes, i.e., increased teacher efficacy and improved student learning (Samsion, 2000). Research findings have repeatedly demonstrated that teachers need grounding in how to reflect and how to challenge their faulty perspectives. For example, teachers need to understand how students learn and how their teaching strategies influence learning. Thus, in order to prove effective, teacher reflections must be grounded in a solid theoretical base.

Promoting faculty reflection on underlying perspectives is viewed as a crucial step, since it has been shown that lasting change in teacher behavior will not come about unless underlying perspectives are challenged and modified. However, the link between teachers' perspectives and their practice is complex and has not been articulated (Saroyan et al., 2004). This is but one of the many methodological challenges that face contemporary researchers in

faculty development in higher education. According to Menges and Austin (2001), much of the data that has been collected in this area is based on surveys. This is problematic, since survey methods rely on invalidated self-reports, and the rich, contextualized nature that characterizes individuals' lives cannot be harnessed. Other methods such as interviews and the use of reflective journals can provide more detail on these underlying processes. Also, by triangulating findings through the use of multiple sources of data and multiple methods, reliability and persuasiveness are increased (Maxwell, 1996). My research involves a qualitative inquiry into teachers' perspectives on teaching and learning, and in Chapter Three, I outline the methodology.

In this chapter, I underscored the importance of faculty involvement in upgrading teaching skills through CPD. I identified critical ingredients for teacher learning and development. These include access to pedagogical knowledge, the opportunity to reflect on practice, as well as feedback and support from competent peers. My study seeks to extend these findings, by examining the impact over time of a professional development program, the MTP, on teachers' perspectives on teaching and learning.

CHAPTER THREE: METHODOLOGY

In this chapter, I discuss how the insights I arrived at in Chapter Two helped to inform my study. I outline my research questions and explain why I chose to undertake a qualitative analysis. In the Method section, I describe and make explicit my process of participant recruitment and selection, as well as my means of data collection. I also describe the complementary processes of categorizing and connecting (Maxwell & Miller, 2008) which I used to analyze the data.

My review of the literature in Chapter Two highlighted the fact that learning to teach in higher education is a complex process that evolves over time, and as a result there is a need for faculty involvement in CPD programs. The role that such programs can play, particularly by challenging and extending faculty members' perspectives on teaching and learning, was raised. The purpose of my research was to explore the evolution of teachers' perspectives on teaching and learning, by studying what happens when teachers reflect on these perspectives over time. Teacher perspectives were examined within the context of a particular professional development program, the MTP. My overarching research question which evolved from my analysis of the literature on teacher professional development was

1. How does reflecting on teaching and learning over a period of two years in the first four courses of a professional development program (the MTP) contribute (or not) to teachers' changing perspectives on teaching and learning?

More specifically, I explored the following questions:

2. Are there common themes related to teachers' perspectives on teaching and learning that emerge from the data? How do teachers understand these themes?

3. Are there distinctions related to individual teachers' perspectives on teaching and learning that emerge from the data? How do individual teachers understand these distinctions?

The first question served as my primary focus throughout the data collection and analysis. In the second question, I applied a categorizing approach to the data to elicit a series of themes (Charmaz, 1998, 2000, 2005; Maykut and Morehouse, 1994). The third question enabled me

to explore more individualized dimensions of the data by using a connecting approach to produce narrative summaries of what emerged in the interviews with each of my participants. According to Maxwell & Miller (2008), narrative summaries are "analytic abridgements of the narratives [that] seek to preserve the context and story of the relationship" (p. 17). Viewing data from the two complementary approaches of categorizing and connecting allows for a more holistic and in-depth analysis.

My study took place in the everyday world since I interviewed six participants in their college environments. I also used multiple methods. I substantiated my primary source of information, interview data, with other sources including participants' journals and their concept maps. As well, my research was emergent rather than tightly prefigured. I did not bring a formal, a priori hypothesis to this study, but rather began the work with a set of guiding research questions. As the research process unfolded, however, I was aware of and open to the fact that new phenomena and new questions might arise. My research questions outlined above were intentionally structured in an open, as opposed to a more restrictive and limited fashion, so as to focus on understanding as broadly as possible what was happening in the context of these courses. Hence this research was primarily inductive, that is, it moved from particular experiences to general concepts, principles, and theory building. It was also multi-faceted and iterative, and I proceeded "through a complex, nonlinear process of induction, deduction, reflection, inspiration, and just plain old hard thinking" (Rossman & Rallis, 2003, p. 11). My primary goal was to show how teachers' perspectives emerged from the data, and not merely to impose my own framework on the findings. I adopted a second order perspective (Trigwell, Prosser & Taylor, 1994) since I did not observe teacher behavior first hand, but rather asked teachers to describe their understanding of teaching and learning during the interviews. The outcomes therefore were not solely from a first order, researcher's perspective (Kember, 1997). This inquiry was also interpretive. In my effort to understand and to represent these findings, they were filtered through my own personal lens, as a teacher and a researcher. This interpretive perspective was a function of my personal experiences, values, and beliefs as explicated in Chapter One. By meeting the criteria outlined above, my study satisfied the common characteristics of qualitative research, as outlined by Rossman and Rallis. Conducting a qualitative study proved to be the most effective way to answer my research questions.

Reflexivity, or the relationship between my understanding of the data and my capacity to reflect on this, was an ongoing component of this interpretive process. Maxwell (2005) states that data in a qualitative study can include anything that is communicated to the researcher while conducting the study. To keep track of my experiential knowledge, as well as any assumptions, perspectives, and goals that I might bring to this study, I wrote analytic memos. Maxwell describes these memos as any writing the researcher does, in relation to the research, which facilitates reflection and analytic insight (p. 13). I wrote these memos throughout the research process, and I consulted them during various stages of data analysis. I used this approach to try to make sense of the participants' understanding, the emic perspective, as well as the sense that I was making of it, the etic perspective (Rossman & Rallis, 2003). In addition to helping me remain aware of any assumptions and/or biases that I might bring to the interview sessions, writing analytic memos also helped me avoid making premature judgments about my participants, as illustrated in the following excerpt:

> I have just completed my first few interviews. Already I am conscious of some of the presuppositions that I, as a researcher, bring to the interview process and how critical it is to not let these interfere with the process of data collection. In one case I had not had much response from a participant prior to our first interview and yet during the interview we connected on several different levels. The depth of information that she shared with me was phenomenal. I was reminded of how critical it is to establish rapport during the interview process and to remain open- that is, to expect the unexpected. I also realize that each teacher comes from a unique context and hence the impact of the MTP is not at all uniform. I must let the data speak for itself. (Analytic memo, June 29, 2006)

I believe that my position as a CEGEP teacher enhanced, rather than detracted from my research, as it provided me with important insight into the process that was unfolding during the interviews. Throughout the study, I remained conscious of my dual role of researcher/interpreter and teacher, and I reflected on this in analytic memos. By remaining self-conscious about this dual role, I believe that issues of credibility and trustworthiness are enhanced.

Further support for situating my study within a qualitative framework was supplied by Maxwell (2005). I identified my approach as realist as opposed to instrumentalist. Whereas instrumentalists focus on observable or measureable data, realists treat unobserved phenomena such as beliefs and intentions as real. My focus, which was to uncover teachers' perspectives, encompassed belief systems, tacit knowledge, attitudes, cognitions, and feelings, and my data were used as evidence of these phenomena. At times, teachers did refer to their actions with students, both in and out of the classroom. These were clearly identified as teachers' reflections on their actions, and they were also included in the data. Finally, my questions were examples of process as opposed to variance questions, in that I was not looking to explain a difference, but rather to understand a process. In sum, this type of inquiry lent itself best to qualitative methods, as it provided data that was rich in detail and embedded in context. The insights generated through this method would not have been possible using other methods.

Briefly, the process I was seeking to understand involved interviewing CEGEP teachers about their perspectives on teaching and learning within the context of a professional development program, the Master Teacher Program or MTP. The cohort that I selected to study began their coursework during the fall 2005 semester, and when I met them in April 2006 they had completed the second of four courses. My methodology included a retrospective analysis of their perspectives on teaching and learning during the first two courses. I continued to question them on their perspectives when I interviewed them during the fall 2006 and winter 2007, as they completed the third and fourth course in the program. My inquiry was systematic and is outlined in the Method section below. I detail how I accessed and selected my participants and how my data were collected and analyzed. The steps I followed and have described below help to establish an audit trail. I believe these steps make the work more persuasive by helping others to understand the process and assess its adequacy and trustworthiness.

Method

Access to and Selection of Participants

Before proceeding with my research, I needed to secure approval from three separate bodies. Early in April, 2006, I met with the Program Steering Committee for the Consortium

of Anglophone Colleges. Since this group represents the official body that administers the MTP, this was a crucial first step. I described my research project to them and I gained their approval to recruit program participants and to conduct the study (see Appendix B). Early in May 2006, my proposal was accepted by my doctoral supervisory committee in the Faculty of Education at McGill University. I then requested approval for the project from the McGill Faculty of Education Research Ethics Board. This approval was initially granted on June 5, 2006. An extension for the 2007-2008 academic year was granted in May 2007. This gave me the opportunity to return to my participants, as needed, to check my findings with them.

I met with the cohort that I wished to study during the last scheduled class of their second MTP course in April 2006. During a brief presentation to the class of 21 CEGEP instructors enrolled in the course, I explained the general parameters of my proposed study. I asked for volunteers and I mentioned that I was interested in recruiting only participants who were planning to complete the first four courses in the MTP.

Nine individuals, both male and female from various CEGEPs, expressed an initial interest in the project. When I contacted them in June 2006, six individuals agreed to participate in the research. Although my sample which is based on volunteer recruits is self-selected as opposed to deliberately chosen, I believe that in many ways it does represent a purposive sample. This is defined by Maxwell (2005) as the deliberate selection of persons who can provide us with information we need to answer our research questions. My participants satisfy criteria of both heterogeneity and representativeness or typicality, as outlined by Maxwell, since they teach at various CEGEPs, have various years of teaching experience, and teach in several different subject areas including career programs (CR), the sciences (SC), and the social sciences (SS). Only one had prior teacher preparation, over 20 years ago. All of my participants were female, a fact that is not surprising. Overall, females represent the majority in terms of participation in professional development activities (Johnston, 1998). For example, of the 21 students in the cohort I wished to study, only three were male. To ensure confidentiality, a pseudonym consisting of one or two syllables and beginning with one of the first six letters of the alphabet from A to F was assigned to each teacher. Throughout the remainder of this study, the six teacher participants will be referred to as the participants. The following table provides a profile of these participants.

Table 1: *Profile of Participants*

Participant	Anne	Barb	Carly	Deana	Ella	Fran
Years teaching prior to MTP	5	17	<1	1	1	25
Domain	CR	CR	SC	SC	SS	SS

Methods of Data Collection

I used multiple sources for data collection. My primary method of data collection was through interviews. I used repeated interviews to study my participants' perspectives on teaching and learning over time, within a professional development program, the MTP. The interviews were conducted after the participants had completed each of the first four courses in the MTP. Thus, these courses served as a convenient way to demarcate the process. In total, I interviewed each of my six participants on five different occasions, after each of the four courses and a fifth time for a retrospective interview. During the retrospective interview, I asked my participants to reflect on their perspectives on teaching and learning over the four courses. In addition to the interviews, I also gathered a number of supplementary documents which my participants e-mailed to me at a secure Web site. They were assured that no one would have access to these materials except for myself, the transcriber, and if necessary my thesis supervisor. These supplementary documents included their reflective journals for each course, as well as concept maps (see p. 57) which they had created to represent their notions about effective teaching. I filed these documents for later reference. The practice of using additional sources and approaches for data collection is known as one form of triangulation (Maxwell, 2005). According to the author, this type of triangulation enables us to gain a broader understanding of the participants' experiences. Triangulation also reduces the chances of producing biased or limited results that might occur if only one data source were used.

Before interviewing the six participants, I needed to understand the context surrounding the MTP and each of the four courses. I interviewed the curriculum coordinator to gain background knowledge on the program's history and rationale and to collect statistics

on program enrollment (see p. 12-13). In order to gain insight into the general objectives linked to each course, before I conducted each set of interviews I examined relevant course documents, including course objectives, readings, class handouts, and written assignments. I also interviewed each course instructor. These activities helped me to develop a series of guiding questions for each interview. I remained aware of the fact that this information could direct my thinking and lead to a predetermined, as opposed to an open, research process. However, I decided that the benefits of gaining access to this background knowledge outweighed the possibility of my focus being skewed.

My process of data collection is outlined in the following table.

Table 2: *Process of Data Collection*

May-June 2006	Interviewed curriculum coordinator of MTP
	Collected the following materials related to first course *College Teaching: Issues and Challenges* (fall 2005):
	Interview with course teacher
	Supplemental course documents from each participant including first and final concept maps, philosophy statement on teaching and learning, and course journals
	Interview with each participant based on their experiences in the first course
Summer 2006	Collected the following materials related to the second course *Psychology of Learning for the College Classroom* (winter 2006):
	Interview with course teacher
	Supplemental course documents from each participant including course journals
	Interview with each participant, based on their experiences in the second course
Fall 2006	Collected the following materials related to the third course *Instructional Strategies for the College Classroom* (fall 2006):
	Interview with course teacher
	Supplemental course documents from each participant including course journals
	Interview with each participant, based on their experiences in the third course
Winter 2007	Collected the following materials related to the fourth course *Assessment as Learning* (winter 2007):
	Interview with course teacher
	Supplemental course documents including course journals
	Interview with each participant, based on their experiences in the fourth course

The Interview Process

I consulted several sources including Fontana and Frey (1994), Maykut and Morehouse (1994), Patton (1987), and Seidman (1998) to provide me with the necessary background on the interview process and to help me plan my interview protocols. I wanted to conduct in-depth, open-ended interviews with my participants. While Patton discusses several suggested approaches, he maintains that there is no one right way to structure interviews. The researcher must be able to respond to each situation in a sensitive way in order to elicit the richest possible data. I used a combination of Patton's interview guide approach and the standardized open-ended interview approach for my research. I prepared open-ended questions beforehand according to what is recommended for a standardized, open-ended interview protocol (Seidman). While I asked all of the questions during each interview, I did not necessarily ask these questions in the same order and I sometimes reworded them during the interview if participants required more clarity. These are both characteristics of the interview guide approach. By blending these two methods, I was able to provide my participants with a loosely structured but comprehensive framework for our discussion. It also provided me with the flexibility to pursue interesting leads as they arose.

The guiding questions which I developed for each set of interviews were designed to elicit my participants' perspectives on teaching and learning at a particular time in the program. In order to probe these perspectives, some of the questions were related to the main objectives of the course which the participants had just completed. I aimed to ask clear questions and I asked about one aspect at a time. As well, I endeavored to ask open-ended questions that invited the participant to become involved in a conversation (see Appendix C for interview questions). Asking the participants to describe a process was one of the ways I used to elicit rich detail:

> How would an assessment task influence student learning?

As well, I asked them to provide examples:

> Can you explain or give an example of how an assessment task might encourage student learning? Discourage student learning? (Question 4, parts 1 and 2, from Assessment interview, May 2007)

Maxwell (2005) has stated that the relationship the researcher negotiates with each participant is a complex and changing entity. I used the first interview to establish a good rapport with each participant and I endeavored to maintain a good working relationship throughout the interviews. Before scheduling an interview, I e-mailed each participant to arrange a convenient meeting time and traveled to their colleges to interview them in their office or in the library. I followed up each interview with a thank you note and, following the third and fourth interviews, gave each participant a small gift as a token of my appreciation.

Before beginning the first interview, I reviewed the parameters of the research project with each participant and asked her to sign two copies of the release form: one for me and one for each participant to keep (see Appendix D). Although my participants knew that the purpose of each interview was to discuss their perspectives on teaching and learning after completing a given course in the program, they were not given the guiding questions beforehand. However, before the final interviews I received e-mails from two participants, asking me to send them the questions beforehand. I debated whether or not to comply with this request. On the one hand, I realized that this departure from my original procedure might limit the spontaneity within the interview. On the other hand, at this point in the research process my participants were familiar with the format of the questions. I also wanted to maintain a good working relationship with them. I therefore sent the final set of questions to all participants before the fourth interview. I do not feel this change in procedure affected the quality of my data.

At the beginning of each interview, I reiterated the research objectives and I reviewed the procedure I had used to develop the guiding questions. An example of this appears in the following excerpt. Note that SKB refers to my initials:

> SKB: So, thank you Anne for coming in during your holidays. Just to recap, the main purpose of my research is to look at teachers' evolving ideas about teaching and learning as a result of reflecting on the first four courses in the Master Teacher Program and again, what I'm looking for are trends, patterns and themes across all of these courses. To put together questions for this interview, just to let you know what I did, I read the material in the Instructional Strategies binder, I looked at the course objectives, I looked at some of the assessments and I've come up with some

questions. I've also interviewed your course teacher, to get some feedback on the course.

Anne**:** OK. (Anne, interview 3, January 2007)

Throughout this process, I remained cognizant of the fact that participants' responses were influenced by the interview situation, the nature of the questions, and by other extraneous dimensions, including myself as interviewer. While acknowledging these effects, I tried to minimize them. For example, I made an effort to diminish status differences. I presented myself as an equal, a fellow CEGEP teacher, and the position I adopted was that of a learner as opposed to an academic. This helped to reduce the hierarchical relations often inherent in interview situations (Fontana & Frey, 1994). As well, the fact that I was a female interviewing other females eliminated the interpretive hazards that can result as knowledge is filtered through gender (Fontana & Frey). I assured my participants that I was only interested in their perspectives. I made an effort to avoid asking leading questions and unduly influencing their responses. If they asked me a question I would respond briefly to keep the conversation going, and then return to the topic at hand, as seen in the following exchange:

Anne: …Because if they don't take their own notes, they won't assimilate the information. Do you know what I mean?

SKB: Oh for sure, passing out notes…somebody might just file them away.

Anne: Exactly, and I think that happens to a certain degree and it's done with good intent. (Anne, interview 2, June 2006)

When necessary, I rephrased questions to clarify them and made an effort to ensure that my participants felt comfortable at all times. I gave appropriate feedback to pace the interview, for example by nodding to show that I understood. I made sure that sufficient time was devoted to answering critical questions and encouraged my participants to recount details of their working lives. By attending to these dimensions rich data were elicited. Furthermore, I reflected on my role as researcher/interviewer in analytic memos. For example, after completing my first set of interviews I wrote the following:

> The next time I meet with Deana I have to comment less, summarize less, and listen more. (Analytic memo, June 22, 2006)

I believe that over time, as I developed an increasing rapport with my participants, I became less directive and I learned to trust the interview process. I also believe that I became more skilled at designing and asking open-ended interview questions (see Appendix C).

Member checks refer to the process that is used to verify with participants whether or not their experience has been accurately described (Maykut & Morehouse, 1994). According to Schwandt (2001), member checks can serve as a way of corroborating the researcher's findings. Furthermore, they help to increase the confirmability of the study, that is, the assertion that the data and the interpretations that result are accurate (p. 259). As well, member checking is the ethical path for the researcher to take since participants who have given their time and shared their stories have the right to know what the researcher is saying about them. In my study, I used several ways to integrate member checks. Before each interview, I listened to portions of previous interviews and I reviewed reflective memos in order to identify critical issues that required further elaboration. I would then ask each participant to comment on or to clarify these during subsequent interviews. As issues arose during the interview, I confirmed my understanding of them with each participant. Occasionally, I asked for more clarification in a subsequent e-mail, as I did after reviewing the following excerpt from the interview data:

> Deana: No. What has changed in terms of before I walk into the classroom will be the instructional strategies that I will use. What has changed before I give a test is how I present the material or how I give them the blueprint of what will be on the test. What has changed is the fact that I do concept maps, but …
>
> SKB: So instructional strategies have changed …
>
> Deana**:** Yes, but not in terms of the assessments. Because when I walk into the class, I don't think of what I will be assessing them on. I relate my assessments to what I have been teaching, but not the other way around. (Deana, interview 4, May 2007)

As soon as the transcripts were completed, I e-mailed them to each participant. Thus each participant had a full record of our conversations and I did not receive any feedback regarding inaccuracies in the transcribed texts. As well, when I completed the narratives I e-mailed them to the participants and asked for their feedback. I took their comments into consideration during my revisions. In this way, these narratives became negotiated texts, although I did retain the right as researcher to edit the final versions of the stories as I saw fit. According to Lincoln and Guba (1895), this sharing of the final report with respondents helps to increase its trustworthiness and credibility.

The interviews were taped using a Sony Digital Voice Recorder. This allowed me to store each voice file electronically. For purposes of expediency I hired an experienced transcriber who was unrelated to the project and who signed a form agreeing to ensure the confidentiality of the data. I transferred the files electronically to the transcriber and I provided her with a detailed list of instructions. The following transcription conventions were used in the texts.

Period (.)	End of sentence
Comma (,)	A speaking pause
Question mark (?)	A question
Three dots (…)	A long pause or an incomplete sentence
Bolded words	Emphasis

Detailed verbatim texts of the ongoing dialogue between the interviewer and the participant resulted. The texts were formatted so as to show the exchange of conversation, with each new speaker beginning a new paragraph. I also instructed the transcriber to include other nonverbal aspects of the conversation including emotions such as laughs and sighs, as shown in the following example:

> SKB**:** Ok, so now you're in the program and one of the first things you have to do is this concept map …
>
> Barb: … yes … (sighs)

> SKB: …Develop a concept map to look at your ideas, and I've used this in the interviews because it's like looking at a photograph and it kind of evokes certain ideas.
>
> Barb: I found it very difficult to do …
>
> SKB: It brings back … like it's you in November …
>
> Barb: No, this is the first one, this is very neat and tidy. This [second] one is not so neat and tidy … (laughs). (Barb, interview 1, June 2006)

The transcriber listened to the voice files, typed the interview data and e-mailed it back to me. If any words or phrases were inaudible the transcriber indicated this in the text, as shown in the following example:

> Deana: This semester I really tried lots of different things. **[CHECK WHAT SHE SAYS AT 9:35**] And I could have done them in three minutes and lost half of the class I'm sure, or three quarters of the class, where they would have been falling asleep or taking notes.

I would then listen to the transcript and fill in the missing information. Although this method of cross checking helped to produce a more accurate account of the data, I remained aware of the limitations of transcription. Mishler (1986) has stated that transcripts are only partial representations of the interview. Transcripts are also mediated through many variables, including the researcher's own ideas of what material is of interest. In spite of this, I believe that the steps I took, which included hiring an external transcriber to produce a verbatim text, providing her with detailed instructions, and cross checking the transcripts, produced results that closely reflected the actual interviews.

Interviews with each participant lasted approximately 45 minutes to one hour. This was repeated five times, one after each of the four courses was completed and a final retrospective interview. This qualifies them as depth interviews (Patton, 1987). A total of 418 pages of data representing approximately 25 hours of interviews with the six participants were transcribed, as seen in Table 3.

Table 3: *Participants' Transcribed Texts*

Participant	No. of interviews	Collection Dates	No. of Pages Transcribed
Anne	5	6/06; 1/07; 5/07	68
Barb	5	6/06; 1/07; 5/07	77
Carly	5	6/06; 1/07; 6/07	63
Deana	5	6/06; 1/07; 5/07	81
Ella	5	6/06; 1/07; 5/07	55
Fran	5	6/06; 1/07; 5/07	74
Total	**30**		**418**

As well, five other interviews were transcribed, including interviews with the curriculum coordinator and the teachers who taught the MTP courses. These materials were not analyzed with the same intensity. As previously noted, they were used to provide a context for the program and the courses, to help me develop guiding questions for each set of interviews, and to give me ways to reflect upon what I was hearing and thinking.

Following each interview, I listened to the voice file and wrote a contact summary. According to Miles and Huberman (1994) a contact summary is a single sheet with focusing questions that allows the researcher to summarize the main points in each interview. The five questions I developed focused on the main themes about teaching and learning, as well as any changes in thinking about these issues (see Appendix E). These contact summaries were used to describe critical first impressions and I referred to these periodically throughout the research process as another way to triangulate my data.

Methods of Data Analysis

Data analysis was an ongoing process, as the data were collected over a period of one year (June 2006-June 2007). This included both a retrospective analysis of the first year (fall 2005-spring 2006) after participants had completed courses one and two, and an ongoing analysis of participants' experiences during the second year (fall 2006-spring 2007) as they completed courses three and four. The funding which I received from PAREA during the 2007-2008 academic year enabled me to complete this study.

By continually referring to my research questions, interview data, course documents, student products, reflective memos, and contact summaries, findings emerged. Maxwell &

Miller (2008) state that the complementary processes of categorizing and connecting can provide a useful distinction that helps to clarify important aspects of qualitative data analysis (p. 4). Hence, my data analysis involved these two processes. The purpose of categorizing the data was to identify central themes that emerged consistently across the participants' experiences. The complementary process of connecting the data allowed me to explore the more individualized experiences and to create individual participants' stories of their experiences.

Categorizing the Data

In this part of the analysis I wanted to answer the second research question: Are there common themes related to participants' perspectives on teaching and learning that emerge from the data, and how do the participants understand these themes? In order to answer this question, I used the constant comparative method to categorize the interview data. This method is based on the work of a number of authors including Lincoln and Guba (1985), as outlined by Maykut and Morehouse (1994), and Charmaz (1998, 2000, 2005). I proceeded as follows.

Each interview was transcribed and coded to source, that is, the initials of the interviewee, type of data (interview), interview set (1 through 4 or retrospective) and page (1 of) were written in the upper right-hand corner of each page. An original copy was filed and I worked from a photocopy. Before beginning my analysis, I reread my main research questions. I also reread my contact summary sheet for each interview and any pertinent analytic memos. I generated an initial discovery sheet that included a series of patterns and ideas that I felt were linked to the first set of interviews (see Appendix F). I kept this near me as I read through each interview and began to identify individual chunks or units of meaning in the data. This process, referred to by Lincoln and Guba (1985) as unitizing the data, was carried out by drawing a line on the transcript through each discreet piece of data that emerged in the interview, in order to separate it from other information. Each unit was defined as information related to my focus of inquiry that could stand alone or be understood on its own. I wrote a note in the margin next to each unit in order to give it a name. I reviewed and verified my method of unitizing the data several times, and when I felt comfortable with this process I began to cut and paste each unit on a 4x6 index card. It

should be noted that although I initially experimented with a word processor to organize and unitize the data, I abandoned this method, because it did not afford me the flexibility that I experienced through manually cutting and pasting the collected information. I carefully named each unit and provided information on its source. For example, I named the following chunk from the first set of interviews, thoughts about teaching:

> SKB: So if we go back to that time prior to you beginning the program, what were some of your ideas about "What does it mean to be a teacher?"
>
> Anne: That was one of the questions that our teacher, in the Issues and Challenges course, threw at us at the beginning. We had to draw up a little concept map and I was totally amazed at myself. Because I saw the teacher as the centre and I kind of had a good feeling that the environment that she was in, she had some control over that, but not really a sense that it was really her responsibility to control that environment. But certainly the teacher was the centre of the group, and everything sort of impinged upon what she did and what she said. (Anne, interview 1, June 2006)

Each new unit was compared to all previous units and gradually I began to group cards together using the look-alike/feel-alike criteria as outlined by Lincoln and Guba (1985). A number of preliminary categories began to emerge and I continued to carefully read and reread each unit in order to distill their essence. The names of the categories gradually evolved to more clearly describe what was going on within each category. For example, the descriptive category that emerged for the unit described above was pre MTP ideas about teaching. When I had collected five or six cards within each category, I wrote a rule of inclusion for each category. This rule of inclusion was an inductively-derived propositional statement that reflected the meaning contained in the data on all of the cards in the group. In contrast to the former look-alike/feel-alike criteria, it also served as a basis for including or excluding subsequent units of meaning. I wrote the following rule of inclusion for the category pre MTP ideas about teaching:

> Early (pre MTP) ideas about teaching tend to be egocentric in that they are teacher-focused and based on one's experience as a learner. The student or learner does not play a significant role.

All data cards from each interview were eventually categorized.

Any chunks of data that did not fit into categories were placed in an outlier pile, or what Maykut and Morehouse (1994) refer to as a miscellaneous pile. Outliers are data that might contain unusual or contradictory chunks of information that do not fit in with the major categories that are evolving. For example, I noticed a number of outliers from the first set of interviews. They included bits of information related to the teacher as caregiver, and how experience with the reform in Quebec education had impacted on teaching. I did not discard these outliers but rather I explored their meaning through reflective memos. Maykut and Morehouse recommend returning to these at a later point for possible inclusion. In some cases their meaning became apparent only after I had completed several interviews as well as parts of the analysis. For example, the notion of care resurfaced during my process of connecting the data. By keeping these outliers in mind, I was able to broaden my conceptual base. They also served as important reminders that not all participants were experiencing the program in a uniform fashion.

I developed a brief descriptive code (two or three words) for each category and marked each data card with it. I then reviewed my categories, sometimes adjusting categories as well as rules in an effort to include all data cards. For example, I decided to collapse two separate descriptive categories, pre MTP ideas about teaching and pre MTP ideas about learning into one category, pre MTP ideas about teaching and learning. This was because similar themes for the two separate categories had emerged. I wrote the following rule of inclusion for this new category:

> Early (pre MTP) ideas about teaching and about learning tend to be egocentric in that they are teacher-focused and based on one's experiences as a learner.

The next critical step in this process was to move my analysis from a descriptive to a more conceptual level of understanding. Charmaz (1998) refers to this stage of the coding process as focused coding. I engaged in several activities in order to code my data at a more conceptual level. I examined it from several angles and asked myself questions such as "What does this category do?" "How does it function?" Furthermore, I wrote analytic memos in an effort to make sense of what was happening to my participants. As well, I constructed

concept maps and charts of the descriptive categories that had emerged from each set of interviews and showed how they merged into more conceptual categories. These concept maps and charts allowed me to see patterns occurring both within and across interviews, and categories were eventually collapsed, at increasingly abstract levels, to reveal central themes that cut across teacher perspectives. Thus, the descriptive categories that had emerged from each set of interviews merged into a small number of conceptual categories that represented the process that teachers experienced as they moved through the program.

Upon further analysis I was able to compress the conceptual categories from each set of interviews into one major theme that became a metaphor. The four metaphors that emerged, each one linked to a particular set of interviews, provided me with a way of thinking about how the data could be collapsed. These are described in detail in Chapter Four. In the following paragraph, I explain the process I used to arrive at my four major themes.

Qualitative researchers often use metaphors to delineate the essence of a phenomenon under investigation. Webster’s (1990) dictionary defines a metaphor as a figure of speech in which a word or phrase denoting one object or idea is used in place of another to suggest a likeness or analogy between them. According to Lakoff and Johnson (2003), authors of *Metaphors We Live By,* metaphors structure our most basic understandings of experiences. I searched for an image or a unifying theme that would represent the essence of the process that my participants were experiencing during each set of interviews. To help me to identify these themes I wrote analytic memos. Interestingly, these images often came to me when I was engaged in activities other than writing, as illustrated below:

> My data are never very far from me! As I was swimming today I was thinking about what my participants had reported during the first set of interviews. My descriptive categories have merged into three main conceptual categories: participants are hanging on, it’s unsettling for them, and they are shifting. But what does this really mean? Is there some way that I can tie these separate categories together and take this to the next level? How can I make this process more explicit? Suddenly it came to me. The image of someone **awakening** (as from a deep sleep) emerged. I think that’s what has happened to them in this first set of interviews. It’s as if they’ve been

> aroused or shaken and now they're beginning to see things in a whole new light. (Analytic memo, July 5, 2007)

Therefore, four images that became metaphors emerged from the data, in particular from the conceptual categories linked to each set of interviews. The procedure of attempting to distill meaning at a deeper, more conceptual level proved to be challenging. It was also an iterative process in that I often returned to my initial discovery sheet, reread my main research questions and analytic memos, and reexamined my data cards and rules of inclusion in order to verify that my descriptive and conceptual categories were accurate. According to O'Donoghue & Punch (2003), a tightly-woven process such as this eventually leads to interpretations that are grounded in the data.

Triangulating findings.

Using the constant comparative method outlined above, I coded every line of over 25 hours of interview data from my six participants. While this represented a considerable amount of material, the fact that it emanated from one data source alone made it less persuasive. In order to increase confidence and trustworthiness in the outcomes of my study, I turned to additional sources and methods of collecting data, and used these as a form of triangulation (Maxwell, 2005). Viewing my phenomenon of teacher perspectives from various vantage points, including contact summary sheets, reflective journals, and concept maps, allowed me to gain a broader understanding and, I believe, gives credibility to my findings.

Patton (1987) refers to the period immediately following an interview as critical for analysis. If insights that occur while the data are fresh are not attended to, they will disappear. The contact summary sheets which I filled in following each interview (see Appendix E) became a repository for valuable first impressions. I returned to these and reread them in order to verify the findings that were emerging from the interview data. For example, as I was categorizing Deana's second interview, the following unit of data suggested that she was having difficulty integrating concepts from the second course into her teaching:

> I'm still working on it at an intellectual level because … I prepare my classes – so my classes are already prepared in a sense that I know what topic I will be teaching and stuff like that, so for me to be learning about something, I don't have enough reaction time to say, here's what I want to teach today, what strategies could I use to teach that.? That was too much work. (Deana, interview 2, June 2006)

I had noted the following in my contact summary for Deana's second interview:

> She is still working on these new ideas on an intellectual level. She does not have enough time to test out new theories in the classroom. (Contact summary sheet, June 22, 2006)

Therefore, the contact summaries served to corroborate findings that had emerged through the interview data.

Reflective journals provided another source of triangulation. Each participant had completed four journals for each course and this represented an additional 360 pages of material. During the interviews, participants frequently discussed the process of journal writing. They referred to this reflection-on-action as time consuming and arduous although they also mentioned the benefits. Consequently, I felt that the journals would provide interesting insights into the process that was unfolding. I read through these journals and made notations in the margin. I used this information as a way to substantiate and provide a context for findings that had emerged in the interview data. For example, during the second interview Deana made a number of global references to expanding her understanding of learning and to developing new vocabulary, as evidenced in the following chunk of data:

> Well, the key idea was how students learn, how learning occurs ... that would be the kernel. What this course provided was more terminology. (Deana, interview 2, June 2006)

In one of her journal entries for this course, Deana wrote the following:

> The theoretical framework offered by Baxter-Magolda is perfect for my students. When I started the MTP, one of my goals was to find a method to change my

> students. Instead of finding a method to change my students I found an explanation [Baxter-Magolda] as to why they were asking certain types of questions. My first year students were absolute learners who were indiscriminately absorbing information. Some of my second year students were transitional learners who had started to understand the concept. (Deana, course 2, journal 3)

Journal entries provided a rich context for participants' emerging perspectives on teaching and learning. I have included a sample reflective journal from the fourth course in Appendix G. This sample journal provides an excellent overview of changes in perspectives, as experienced by one participant (Ella) in the MTP.

Concept maps (see p. 57) that participants had completed at the beginning and toward the end of the first course offered a third method for triangulating the data. A comparison of the initial and the later maps showed that, even within the first course, participants' perspectives on teaching and learning were beginning to change. For example, Deana's first map focused primarily on the teacher's affective qualities. In a commentary on this first map Deana wrote:

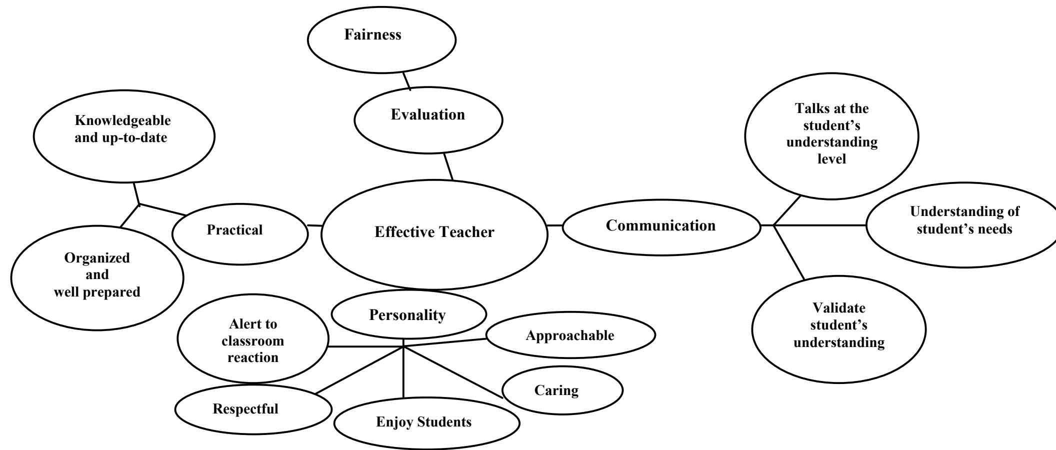
> An effective teacher is one who knows the subject, who communicates with the students and who cares about the students. As long as the teacher is well prepared, then the students are supposed to learn. There is no notion of learning strategies. Students are expected to absorb the knowledge of the teacher by osmosis. (Deana, Commentary, September, 2005)

The contrast is evident in her second map, in which the student and their learning processes feature much more prominently. In the commentary related to this second map Deana wrote:

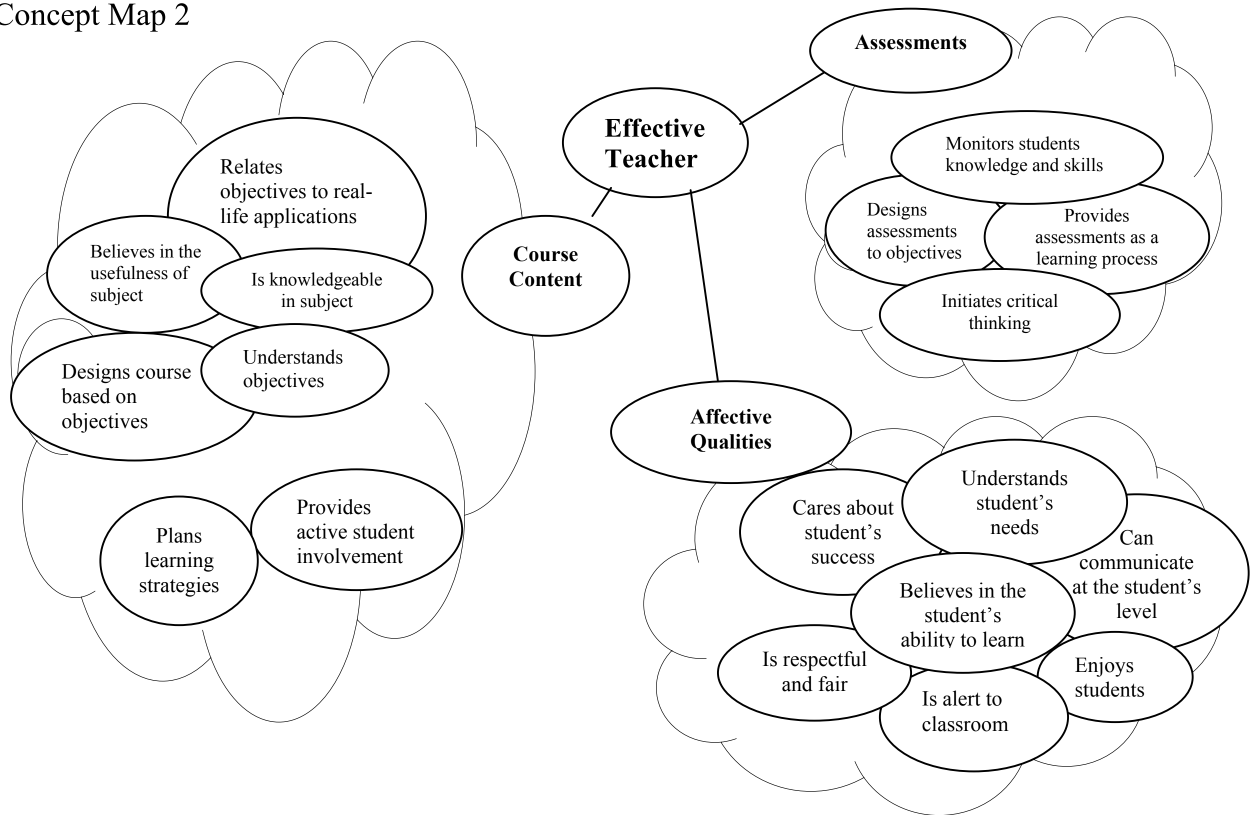
> The effective teacher is able to design a course where objectives are met through student involvement and learning activities. (Deana, Commentary, November 16, 2005)

Deana's first and second concept maps are presented on the following page. Other samples of participants' concept maps from the first course are included in Appendix H.

Concept Map 1



Concept Map 2



These concept maps and the associated commentaries provided additional support for the descriptive and conceptual categories that had emerged from categorizing the first set of interviews. Using a variety of methods including contact summaries, reflective journals, and

concept maps reduced the risk of my biases unduly influencing what resulted from using one method alone. Triangulation helped me to analyze my findings by allowing me to view these from different vantage points. In doing so, it also helped to increase the validity of these findings.

According to Maxwell and Miller (1996), categorization is often a first step in data analysis and is effective in terms of identifying relationships of similarity that cut across the existing contextual relationships. However, in the process the context is stripped away and there is a loss of important contextual information. Through categorization, important details concerning how each individual navigated through the program were removed from each story. To compensate for this lack, and to provide a more holistic approach to data analysis, I also used the complementary strategy of connecting the data (Maxwell & Miller, 2008). In their earlier work (e.g., 1992, 1996) the authors had referred to connecting as a contextualizing strategy. This approach maintains the contiguous nature of the data so that a total experience or story can be represented.

Connecting the Data

In this part of the analysis, my objective was to answer the third research question: Are there distinctions related to individual participants' perspectives on teaching and learning that emerge from the data, and how do individual participants understand these distinctions? Using the complementary process of connecting provided me with a way to analyze and to reduce the data by "identifying key relationships that tie the data together into a narrative or sequence [while] eliminating information that is not germane to these relationships" (Maxwell & Miller, 2008, p. 10). Through these narratives, I was able to represent individual participants' stories in a more or less chronological order throughout the four sets of interviews.

Contemporary psychological theory attests to the fact that humans are storytelling beings. We compose narratives to organize our lives and give them meaning (Wade, Tavris, & Poole, 2001). For example, we select and interpret our memories in conjunction with our evolving life story. According to Hobson's (1988) activation synthesis theory, narratives even function while we dream. The cortex tries to make sense out of random neural activity

by synthesizing it into reasonably coherent stories. Mishler (1986) has stated that narratives allow us to make sense of ourselves and our social world. For example, they provide us with a way to document the complexities of teaching by preserving both its context and underlying beliefs and values (Ballantyne, Bain, & Parker, 1999).

I drew upon the work of several authors including Connolly and Clandinin (1990, 2000), Seidman (1998), and Rhodes (2000) to help formulate my procedure for constructing the narratives. Connolly and Clandinin provided me with important background information on the narrative. Seidman offered procedural information that allowed me to cull each story from the transcripts. Rhodes' technique of ghostwriting in which "researchers create images of others and also enter those images" (2000, p. 511) helped me formulate the narratives using the first person. In the following section, I describe the process I used to create the narratives.

Connolly and Clandinin (1990) discuss the interview as one data collection tool among many. As well, they outline criteria of economy, selectivity, and familiarity that constitute narrative thinking. Deciding what purpose the narrative will serve helps us to select the appropriate data and the form it will take. Furthermore, the authors ascertain that teacher knowledge should be approached as a "straightforward, commonplace, everyday aspect of human experience" (2000, p. 2), not something requiring special skills or insight. I decided to base my narratives exclusively on the interview data. Since I had witnessed the collection of this material firsthand, issues of clarity and authenticity were enhanced. Furthermore, I felt that the over 50 pages of text that I had collected for each participant would provide sufficient depth and breadth to explore the evolution of their individual perspectives on teaching and learning.

After selecting the interview as my data collection tool, my next step was to decide on a methodology or a way to read the interview data. Seidman (1998) offered a procedure for identifying relevant themes and crafting profiles or narratives based on these. To identify themes, the researcher first reads through the data and marks the passages that are interesting. This requires "a close reading plus judgment" (p. 100). The researcher relies on their sense of what is important and trusts that they will be able to identify relevant themes. I identified a number of passages that were of interest to me and several interesting themes emerged.

However, I needed to further condense the considerable amount of data that I had collected for each participant to a readable format and choices of substance had to be made. I reread the marked passages searching for a unifying idea or an underlying pattern that would tie the narratives together. Once uncovered, this pattern would serve as a guide for me to read the stories from beginning to end. Elsewhere, Lieblich (1998) refers to this method as reading a story from a holistic content perspective.

I wrote several analytic memos in an attempt to uncover this underlying pattern. I also consulted previous analytic memos and my contact summaries in an effort to evoke my initial impressions from each interview. I compared these to the findings that had emerged through the process of categorizing the data. Data analysis was becoming "an iterative process of moving from categorizing to contextualizing strategies and back again" (cited in Maxwell & Miller, 2008, p. 17). One common thread that had emerged through categorizing the interviews and in the marked passages concerned the teacher's role. I wanted to further explore the contextualized nature of this role and how it had evolved or changed in relation to the teacher's experience in the professional development program. The following excerpt from one of my analytic memos illustrates this:

> Some very significant changes in teachers' ideas about teaching and learning have emerged and there are many possibilities I could explore. How can I best describe this process? One important thread that flows throughout these interviews has to do with teachers' changing perspectives on their role, both in and out of the classroom. How do they come to understand the nature of this role? What function do they see themselves serving? Has this function changed, and if so, how? (Analytic memo, September 30, 2007)

I decided that my guiding theme for reading the interview data would be how each participant perceived her role as an educator.

Seidman (1998) offered further details for the sequence of constructing the narrative summaries. The author recommended using the participant's words as much as possible, as this presents the person in context. Conveying a sense of process and of time is also crucial. I kept this in mind as I began to read through the four interview transcripts for each

participant, searching for information linked to their perception and their understanding of their role as an educator. I highlighted this information and, using a word processor, produced a second document of approximately 25 pages in length. This was about one half to one third the length of the original interview transcripts. The extracts in this second document were ordered from interviews one through four. There was a space between each separate extract to indicate where one chunk of conversation had ended and another one began. I reread this synthesized document with a critical eye, underlining the most compelling passages that were linked to my theme of the participant's perception of her role as an educator. These underlined passages formed the basis for my narrative summaries.

I endeavored to produce narrative summaries that were less than two pages in length. For example, while creating one of my summaries (Anne) I began with the interview transcripts (57 pages) which I reduced to a second document on the teacher's role (24 pages) and to a final summary of 1 ½ pages. In the following example, I show how I used the second document on the teacher's role to produce a narrative summary.

Excerpt from the second document on the teacher's role

> I was totally amazed at myself. Because I saw the teacher as the centre and I kind of had a good feeling that the environment that she was in, she had some control over that, but not really a sense that it was really her responsibility to control that environment. But certainly the teacher was the centre of the group, and everything sort of impinged upon what she did and what she said. Whereas by the end of the course, I really realized that this doesn't work unless it's a partnership. I felt I grew immensely in that course…
>
> But mostly what I focused on was the teacher and their personality, were they funny, did they use humor, did they smile … to me that was what was important. As well as whether or not they looked at the students, whether they listened to them and those kinds of things. (Anne, interview 1, June 2006)

Based on the excerpt described above, I wrote the following in my narrative summary:

> In my first concept map on effective teaching, I placed the teacher right in the center. Her personality, her qualities (relaxed, prepared, knowledgeable) were all that counted.

In order to further increase the persuasiveness of my narratives, I used the first person to present the voices of my participants. In particular, I adapted the technique of ghostwriting as defined by Rhodes (2000). Through this method, the researcher engages with the research participant, creating a new text in the process. Thus, issues of reflexivity are paramount. I adopted an autobiographical stance, that is, each narrative was composed as though each participant was writing it as part of her autobiography. Use of the first person allowed me to present the story as a coherent written narrative as well as to tell it in a realistic and authentic fashion. Although I tried to use each participant's words as much as possible, I sometimes made minor editorial changes to maintain the flow of the conversation. For example, I deleted repetitious "uhms" and "ahs" and other such pauses. If I inserted words I placed them in brackets. I used ellipses to indicate that I was omitting material from a paragraph or skipping from one section of the text to another.

While I am able to detail the sequence that I used to produce the narrative summaries in a fairly logical, step-by-step fashion, decisions concerning the actual selection of text also involved a right-brained, intuitive process. Seidman (1998) has also referred to the subjective, intuitive process that guides the researcher in selecting the most compelling passages. My knowledge and understanding of each participant, which was based on several hours of face-to-face interviews and several additional hours of listening to and reviewing the interview transcripts, guided me in the choices concerning what material to include and exclude. Some passages were selected because the teachers returned to the ideas a number of times. In other cases, it was the emphasis the teacher had placed on certain thoughts that were interwoven throughout the text. Essentially, when I began the process of constructing each narrative I did not know beforehand where I would end up, and I was both delighted and amazed by the results. In the end, I produced narrative summaries that I believe represented each participant's unique and contextualized understanding of her role as an educator. I also conducted member checks as the stories unfolded in order to clarify and confirm my interpretations of these perspectives and to remain as close to the original experience as

possible. Participants reported back to me that they were pleased with the narrative summaries. They sometimes suggested minor rewordings and these were taken into consideration. As I worked through the process of connecting the individual teachers' stories, I repeatedly compared these results to the data that had emerged through the process of categorization. This method of moving back and forth between these two strategies helped to inform my emerging findings.

Summary

In this chapter, I explained how my study met the criteria for qualitative research. I stated my research questions and made explicit my procedures of participant recruitment and selection, as well as my means of data collection and analysis. Through this careful description, I believe I have established a clear audit trail, which not only helped me be reflexive about my procedures, but also served to increase the truth value or trustworthiness of my results (Maykut & Morehouse, 1994). By including the following validity checks (Maxwell, 2005), I attempted to minimize the chances of faulty deductions and maximize the chances that plausible, persuasive findings would emerge. First, I used the complementary analytical processes of categorizing and connecting as a means of triangulating my findings (Maxwell & Miller, 2008). Although researcher bias can never be completely eliminated, keeping track of it and explaining it in my analytic memos helped to make my interpretive process more transparent. My research design also integrated several other measures as suggested by Maxwell. For example, I examined participants' perspectives over an extended period of time (two years). Since this included both a retrospective analysis (during which time my participants were not involved in the research) as well as an ongoing analysis, the potential for distortion was reduced. The verbatim transcripts from the interviews provided a rich source of data that shed light on the process that was unfolding. Furthermore, the journals from each course, as well as the concept maps, provided other avenues that were used to substantiate these findings. As well, by conducting regular member checks with my participants, I ensured that the conclusions I reached were credible and I balanced their feedback with the evidence that emerged from the data. I did not discard discrepant and/or negative evidence, but rather explored it further through reflective memos in order to assess its relationship to my emerging theory. Finally, by triangulating my data, that is, collecting

information from a range of individuals and using a variety of sources (Maxwell), I reduced the chances of bias and error and increased trustworthiness. In the following chapter I present a detailed account of the results that emerged as a result of categorizing the data.

CHAPTER FOUR: CATEGORIZING THE INTERVIEWS

In this chapter I present the results of my analytic procedure of categorizing the data, using the constant comparative method that is based on the work of a number of researchers. These include Lincoln and Guba (1985), as outlined by Maykut and Morehouse (1994), as well as Charmaz (1998, 2000, 2005), who adopts a social constructivist approach to grounded theory. The purpose of categorization was to answer my second research question: Are there common themes related to teachers' perspectives on teaching and learning that emerge from the data; how do teachers understand these themes? I interviewed six participants on five different occasions over a two year period, during which time they were involved in a professional development program. These interviews took place after the participants had completed each of the first four courses in the MTP, and a fifth time for a retrospective interview. I analyzed the first four sets of interviews using the method of categorization. For each set of interviews, I established descriptive categories which I then collapsed into more analytic themes and eventually into a one word metaphor (Lakoff & Johnson, 2003).

Initially I organized these findings in a linear, sequential fashion, detailing how participants had changed from a focus on themselves, to one that increasingly involved the learner in a teaching/learning partnership. These changes were presented in a temporal fashion, over the first four sets of interviews. However, what I discovered was that similar themes were reemerging at a deeper and more integrated level across successive sets of interviews. I needed to find an alternate way to represent the process that was occurring among the participants and to do so in a more readable, less repetitive format. In the following section, I make this process explicit, and I track the commonalities related to how participants' perspectives have evolved in response to a professional development program.

Beginning the Analysis

The amount of data generated from the participants' interviews was considerable and proved to be challenging to organize. As mentioned in Chapter Three, a total of 418 pages of material representing approximately 25 hours of interviews with the six participants was coded line by line, and scrutinized for major themes. In order to increase the persuasiveness

of my findings I also turned to other sources of information that I had gathered on participants' perspectives. For example, I supplemented my analysis of the interview data with an additional 360 pages of material from participants' journals and I also examined their concept maps (see p. 90 and Appendix H). The contact summaries (see Appendix E) which I had completed after each interview, and the analytic memos that I had written throughout the process of data collection and analysis, were also consulted. Identifying representative codes that would do justice to the sheer volume and magnitude of the findings I uncovered proved to be a considerable task. Ultimately, I had to make a number of compromises in terms of highlighting some findings and minimizing others. In the end, the focused codes that I developed were selective, in that they raised the data to an analytic level as opposed to summarizing large amounts of material (Charmaz, 1998). I believe that my reading of the data on participants' perspectives is comprehensive and persuasive. I detail my procedure below.

From Sequential to Developmental Analysis

As soon as I had collected data for a set of interviews, I began my analysis. Charmaz (2005) has stated that this early analysis helps to focus and refine our emerging findings. I initially established descriptive and conceptual codes for each of the four sets of interviews. By establishing descriptive categories I was able to summarize large amounts of data. During the second phase, conceptual coding, I moved my analysis to a more analytic level of understanding. However, it soon became apparent that similar descriptive categories and analytic concepts were emerging across the four sets, as participants' knowledge widened and deepened. For example, descriptive categories such as knowledge of the learner and increasing self-knowledge resurfaced. An analysis for each separate set of interviews proved repetitive, and I needed to find a method that would allow me to represent my participants' voices in a more comprehensible and persuasive fashion.

The linear, sequential model that I had initially developed implied a start and end point for each set of interviews. However, this did not convey a sense of the underlying development that was unfolding among the participants. It seemed that as their knowledge base expanded, the participants reported corresponding changes in their perspectives on teaching and learning, in self-knowledge, and in their pedagogical practice. Instead of a

linear model, what was emerging was more of a helical model where "knowledge creates knowledge and essentially builds upon itself" (Saunders & Hamilton, 1999, p. 5). I also needed to think about the contribution my research study would make. Other studies, including Kember (1997), had shown that teachers in professional development programs often move from a teacher-centered to a learner-centered focus. What is missing in the literature is a description of the process underlying this movement.

I returned to the analysis I had completed for each set of interviews, in an effort to view my findings through a different lens. I amalgamated the descriptive categories that had emerged, sometimes repeatedly, across the four sets of interviews. I also provided supporting examples of teacher perspectives for each category, in order to understand what had happened to the participants. The results are presented below in Tables 4 and 5.

Table 4: *Perspectives on Teaching and Learning*

DESCRIPTIVE CATEGORY	EXAMPLES OF TEACHER PERSPECTIVES
Early ideas about teaching	Teacher is center Teacher lectures Teacher transmits knowledge Teacher personality is important
Early ideas about learning	Student learns through osmosis Based on teacher's own experiences as a learner Application is important
Revised ideas about teaching: The effective teacher	Aligns the curriculum Promotes active learning Chooses appropriate instructional strategies Scaffolds support Is sensitive to students' needs Reflects on practice
Revised ideas about learning: The effective teacher understands	Motivation Levels of cognitive complexity Master vs. novice learners Prior knowledge Assessment Theories of learning

Table 5: *Participants' Reported Changes in Pedagogy and in Teacher Self*

DESCRIPTIVE CATEGORY	EXAMPLES OF TEACHER PERSPECTIVES
Changes in Pedagogy	Matches instructional strategies to meet needs of group Matches instructional strategies to meet classroom objectives Develops rubrics Uses alternate forms of assessment Aligns curriculum to promote student success Designs clearer assignments Promotes active learning
Changes in Teacher Self	Increased self-confidence Increased professional confidence More aware of classroom processes Knowledge of self as learner Reflects on practice

These tables outline some elements of change that participants reported in their perspectives, in relation to ideas about teaching and learning, pedagogical practice, and self-knowledge. They suggest that participants had moved from a perspective that was teacher-centered, i.e., one that focused on the teacher as the central figure who dispensed knowledge, to one that increasingly involved the learner in the learning process. Further, participants reported changes in their classroom pedagogy and changes in how they viewed themselves as educators. Although it could be argued that their participation in the four MTP courses had created the expectation that change would occur and the participants were merely feeding back this expectation to me, I would suggest otherwise. First, there was a substantial amount of data from multiple sources that attested to a change process that was occurring among the participants. Second, not all the participants had experienced these changes in a uniform manner. This suggested that change was a phenomenon that was occurring partially in response to the expanding knowledge base that participants encountered in the four successive courses, but not as a function of course-induced expectations.

Although the descriptive categories in Tables 4 and 5 suggested a beginning and end point, the underlying process that had accounted for this growth was not apparent. I reexamined these major categories in an effort to achieve a greater understanding of what had

happened to the participants as they navigated through the professional development program. As well, I reviewed the separate conceptual categories that I had outlined for each set of interviews and noted the overlaps. I turned to the work of Charmaz (1998) and developed focused codes to represent the underlying process. According to the author this process is selective and often requires the researcher to reexamine and resift the data in order to clarify emerging trends, as the researcher develops increasingly abstract representations of participants' worlds (Charmaz, 2005).

By using focused coding, I was able to move from a framework that analyzed each set of interviews in a sequential fashion, to one that cut across the four sets of interviews and more effectively represented the underlying process. Four major conceptual codes or patterns emerged from the data, and I used a metaphorical term (Lakoff & Johnson, 2003) to represent each of these. Therefore, the four metaphors of awakening, stretching, exercising, and shaping that emerged were grounded in the data. Furthermore, the particular choice of wording that I used for the metaphors either originated from a participant's direct quote, or from an image that was evoked in one of their quotations. In the following section I explain how, through the process of categorization, excerpts of data from each set of interviews evolved into conceptual codes, which were then collapsed into a metaphor.

Examining the First Set of Interviews

The first set of interviews focused on participants' perspectives on teaching and learning at the end of their first semester in the professional development program. Participants had completed the first course, entitled College Teaching: Issues and Challenges, during which they had been introduced to major topics related to teaching and learning. Over the next three courses, participants would return to these topics and would explore them in greater detail. When I analyzed the data from the first set of interviews, three major themes emerged: participants became aware of their original beliefs about teaching and learning, they encountered evidence that challenged these beliefs, and they slowly began to shift their thinking. This is represented through the analytic concepts of hanging on, becoming unsettled, and beginning to shift.

Hanging On

At the beginning of the program, participants were asked to reflect on their ideas about teaching and learning. The interview data revealed that these ideas were limited in focus and participants hung onto what they knew and had experienced as learners. For example, their ideas about teaching tended to be teacher-focused and egocentric. This was particularly evident with new teachers, as shown in the following excerpt:

> A good teacher is someone who is well prepared, who can get up in front of the class, can provide examples. Provide some kind of modeling to the students and the students will absorb it. So for me a good teacher was someone who was well prepared and who could convey the material. [As she examines her first concept map on effective teaching] As you can see there is no relationship or concept of the student in there, it's all about teachers. As long as the teacher is well prepared, can convey the material and is nice enough to the students, then everything should be OK. (Deana, interview 1, June 2006)

An examination of the first concept maps on effective teaching which participants had completed at the beginning of the first course confirmed these findings. These early maps placed the teacher and teacher characteristics at the center. Very little reference was made to the learner (see p. 90 and Appendix H for sample maps).

Additional evidence of hanging on to old beliefs was apparent in the interviews when I asked the participants to describe their initial thoughts about learning. These ideas were based largely on their own experiences as learners, as can be seen in the following three excerpts from interviews with Anne, Ella, and Deana:

> SKB: What were your ideas about learning, about how people learn … before you started the program?
>
> Anne**:** You know, I don't think I really spent a lot of time thinking about it beforehand; I was kind of thrown into the classroom. At the beginning I went with old notes that former teachers gave me and kind of revised them into my own words, and researched any new developments regarding it, but it was all a lecture format because that's how I was taught.

SKB**:** So it was based on …

Anne: What I knew, it was quite limited. (Anne, interview 1, June 2006)

Ella: I didn't want teaching to be how I had experienced a lot of teaching in university. Lecturing … I mean sometimes that was OK. That served me fine, but I didn't find it a great learning experience. I used to get good marks but quite often I would question how much I actually learned … I didn't want to repeat it; I guess I did. (Ella, interview 1, June 2006)

Deana: I can say I had no idea what it meant for students to learn. [My understanding of learning] was based on] my experiences as a student. That's how I learned going through school. There was no emphasis really on understanding, it was on memorizing. And as long as you could get through the system it was OK. That's what I was used to and that's how I was teaching. (Deana, interview 1, June 2006)

According to Huba and Freed (2000), the years we have spent as students have shaped our views of effective teaching and learning. These concepts are deeply embedded in our psyche and exist as tacit knowledge. Unless we explicitly reflect on these beliefs and examine them critically, they will be automatically repeated as we continue to teach the way we were taught. Therefore an important phase is becoming aware of these perspectives.

Becoming Unsettled

Mezirow's (1981) theory of transformative learning suggests that dissatisfaction with one's beliefs can serve as an impetus for change. Even before participants began the program, they had encountered problems or were experiencing some level of dissatisfaction in their teaching. The following segments from interviews with three participants provide examples of some of the factors that led them to seek professional assistance:

The only thing that would come across is why are they not learning? I remember my first semester, they were a difficult group. I didn't know [much about classroom management]. Then I ran into these [problems]: they were not doing well on their

> tests and I could not understand why. So I asked them [what was wrong, and they said nothing]. They told me I was a good teacher. And I was well prepared, and [I thought I was] doing everything a teacher should be doing. But the students were not learning. (Deana, interview 1, June 2006)

> Things had gone well with most students, but I did have some problem areas with some students in a particular course, a couple of first year students. And I realized that in college, as in university, often times people may be hired because they are subject matter experts, but they aren't necessarily teachers. I mean, they have no teaching degree or teaching qualifications and I thought if I'm going to teach, it would be good to have qualifications or some professional development in the area of teaching…[I realized] it was a lot of work and not as simple as I had thought. I realized there is a lot to this teaching field that I don't know about. (Ella, interview 1, June 2006)

Fran, an experienced teacher was seeking a sense of community:

> I was feeling quite alone in the classroom. I was feeling extremely marginalized, I felt that what I did in the classroom did not get seen by anyone. It got seen by my students and really that's what I'm most concerned about. But everyone once in a while, you'd like a little bit of appreciation for what you do, from your colleagues, from somewhere at your work. (Fran, interview 1, June 2006)

Additional evidence of feeling unsettled continued to emerge throughout the first set of interviews. There was evidence that participants had learned much, but were unsure of how to connect this new knowledge to their practice. As well, they were learning to be students again. A sense of disequilibrium was apparent in one of Anne's early journal entries:

> Going down the pathway of analyzing what we're reading and learning is new for me. It's not what I am accustomed to. I'm feeling that I have a lot to learn. I know I'm motivated to improve my understanding of how we learn; therefore I'm hoping this will lead me to be more capable to convey knowledge to the students. I feel somewhat unsettled now. I thought I was doing things fairly well [teaching], but now I'm a little

> unsure. I'm questioning myself. I don't really like the feeling because it makes me feel a certain lack of confidence to go into a class and be the teacher. I'm hoping I haven't really lost it. (Anne, journal, course 1, fall 2005)

Evidence of feeling unsettled continued to surface throughout the program. For example, several participants mentioned the heavy workload and they struggled to balance their teaching with their studies.

Shifting

There were indications even in the first set of interviews that the participants were beginning to reconstruct their ideas about teaching and learning:

> Yes, I knew that the learner had to be involved and engaged in the process. I was really beginning to understand more about the learner in terms of what they required to actually learn something, some new skill, a new knowledge or even some attitude change. … I thought everybody learned how I learned, and [then] I realized that not everyone did it the way I did. But those were the glasses I was looking through. (Ella, interview 1, June 2006)

Based on this and other similar excerpts of data I wrote the following rule of inclusion:

> Teachers begin a shift in thinking of students as sponges who should be learning the way they learned, to individual learners who need to become involved with the curriculum. However teachers are uncertain as to how to bring about this change.

Further support for this shift emerged when I examined their second concept maps that they had completed at the end of the first course (see p. 90 and Appendix H for sample maps). The learner, who had been largely absent in the first maps, was now included in the process. For example, Anne stated the following in a commentary on her second concept map:

> I used to view the teacher and her personality traits as the focus. Now I see the teacher as someone who sets the environment. The teacher and student share the stage. Students vary in how they learn. (Anne, commentary, fall 2005)

Fran, an experienced teacher, had also shifted. In the first interview she recounted how the course readings had helped her to articulate her beliefs:

> I think [my philosophy of teaching] did change. I think many of the things I believe I saw them in the readings. I would read the things and say “yeah” a lot of the time. It felt good to read and to hear and to see that there were other people thinking along those lines. And gosh, others have been thinking about these things for a long time but I had never been exposed to it. (Fran, interview 1, June 2006)

Although the participants reported some minor adjustments to their classroom pedagogy, in general this shift seemed to be occurring primarily on a cognitive level. Participants seemed somewhat overwhelmed by this new body of knowledge and unsure as to how to translate this into their practice:

> I wasn’t really implementing a lot of what I was learning. I think I felt very invigorated and realized there was a lot to learn here and I enjoyed what I was learning, but I wasn’t feeling comfortable enough to initiate a lot of new changes in the classroom. (Anne, interview 1, June 2006)

It would appear that a deeper understanding of the nature of learning would have to precede significant changes in classroom pedagogy. Already Fran was raising questions about this:

> I have a sense of when it [learning] works and it works quite often. I do not know however why it works when it does. What I hope to develop is an understanding of the principles and practice of teaching that has gone somewhat unexamined due to just getting on with the business of teaching. (Fran, interview 1, June 2006)

The Metaphor of Awakening

> I’ve had multiple moments of *aha* and now I know what I should be doing better. (Ella, interview 1, June 2006)

The analytic categories of hanging on, becoming unsettled, and shifting that emerged from the first set of interviews suggested the metaphor of awakening. As I recounted earlier in my analytic memo (see p. 86-87), these categories evoked the image of someone being

stirred, or awakening from earlier ways of thinking and beginning to view things differently. Data from the first set of interviews revealed that participants' perspectives on teaching and learning had begun to shift, in terms of increased awareness. Before this shift in thinking could take place, however, participants had to first become aware of their original perspectives on teaching and learning. These perspectives functioned largely as tacit or unconscious knowledge. That is, the participants were largely unaware of these perspectives and yet they exerted a significant influence on their teaching. Reflection served as a means of increasing this awareness. When these original perspectives were challenged with new information, the participants entered into a state of disequilibrium and began to question their standard practices. This process was represented through the analytic themes of hanging on, feeling unsettled, and shifting. According to Mezirow (1990a), these are the ingredients for transformative learning. This is where the participants found themselves at the end of the first set of interviews. Although they expressed enthusiasm for the new ideas they had encountered, they were uncertain how to integrate these ideas into their practice. In order to move forward, the participants needed to be equipped with the requisite knowledge and skills. In particular, they needed to expand their knowledge of the learner and the learning process.

Examining the Second Set of Interviews

The second time I met with the participants they had just completed the second MTP course, Psychology of Learning for the College Classroom. This course aimed to provide the participants with a solid intellectual grounding in theories and principles of learning and cognition. Elsewhere, Beaty (1998) refers to this as acquiring professional knowledge skills. When I examined the data from the second set of interviews, the analytic codes of thinking theoretically and connecting theory with practice emerged and are described below.

Thinking Theoretically

It became clear early on in the second set of interviews that participants found the material in the domain of cognitive psychology to be much more challenging:

> What this course provided was more terminology. Different theorists have different ways. I'm not 100% comfortable with some of them. What I feel more comfortable

> with in theories of learning is what I've learned in the first MTP course. [This is] because the terminology was easier, the articles were easier, and some of the articles in the second MTP course were too much, too dense. (Deana, interview 2, June 2006)

Furthermore, during the interviews when I asked the participants to comment on what they had learned in the second course, they discussed this knowledge in general terms. There were indications that some had struggled with the course content and even questioned its value:

> The vastness of it [knowledge] … there's so many levels to knowledge and different theorists call it different things, and I didn't realize the complexity of it, or I certainly didn't answer it in a complex way at the beginning [of the program]. (Barb, interview 2, June 2006)

> I think it raised a lot of questions in my mind and I have some answers, but I don't know if I have a lot of the answers. I think the psychology of learning is still pretty complex. But it made me understand some of the language and the different researchers have researched things. (Ella, interview 2, June 2006)

> But a lot of it was difficult to connect because it was disconnected from the type of [scientific] learning we were using in the classroom. The material was dense … No I don't think it made any difference [in helping me understand my students]. (Carly, interview 2, June 2006)

It seemed that learning to think theoretically was especially difficult for the participants who had a limited background in this domain. In contrast, Fran, a seasoned teacher in the Social Sciences, seemed to relish the experience:

> I loved the literature. I really did like the readings very much and that's what I missed about grad school. Going off and reading things that challenged my thinking and then coming back to the group and hearing what others got out of it, hearing how it resonated in different ways with other people. (Fran, interview 2, June 2006)

The interviews also revealed that the participants had reached new insights about learners and about factors that influence the learning process. Motivation was mentioned by several as a key feature:

> What we focused on in the first course was our own philosophy of teaching. And by the end of that course I kind of incorporated the learner as well, in that they were a pair and they worked together. But I didn't put a lot of effort into learning about the learner. By the end of this [second] course I certainly now look at them and try to get to know them …because I understand that everyone learns in a different way. [And I try to understand] why they are there. (Anne, interview 2, June 2006)

> Before I started the course I thought that [if I was happy] my students would be motivated. If I love my discipline then this will just transfer to my students. But there's more to it. Now I have different terminology- I know about intrinsic and extrinsic goals. What students want are the grades and the learning. (Deana, interview 2, June 2006)

> Each group of students when they come in, it's like a new generation. … It's difficult to try to understand how they're all different. The effective teacher needs to know how people learn and what motivates them to learn, to focus on the learner in terms of where that learner's head is at, where that learner's brain is at. (Ella, interview 2, June 2006)

Other participants referred to how students learn and why they forget. Self-efficacy and the differences between novel and expert learners were also mentioned. However, beyond echoing a general appreciation for social constructivism and active learning, the participants did not refer in great detail to specific theories. What appeared to be emerging were new habits of mind or ways of thinking about the learner and the learning process. In particular this was marked by a sense of expanded awareness. Anne summarized the impact that this new knowledge base had on her:

> I have become more aware of looking at the students as individuals and trying to figure out why they are there. Not only what motivates them to learn, but also how

> did they get there, why did they choose to go into this discipline and not something else? (Anne, interview 2, June 2006)

As well as cultivating new habits of mind, the participants knew where to go in order to access this burgeoning knowledge base and find answers to their questions:

> SKB: Have I left out anything for the second course that you'd want to talk about - in terms of either teaching or learning
>
> Ella: No, I don't think so. We talked about most of the things in there and you can take a look at the journals and stuff, I maybe had forgotten some of the things that I have learned. My view on learning, I suppose, is being able to know enough that if I wanted to go back and look at something then I can go and reference it, and take it out again, that you don't have to necessarily memorize it all … I can't memorize at this stage of the game. (Ella, interview 2, June 2006)

I found additional support for thinking theoretically in the journals from the second course. These journals provided rich detail in terms of the participants' understanding and interpretation of various theoretical frameworks:

> What struck me in particular [about the Glover article] was the role of knowledge in cognition. Students who already know about a certain subject (domain-specific knowledge) find it easier to learn more about it. This again confirms the point about having a base of knowledge and building on it with past experiences. The article refers to the fact that experts in a field of study approach problems differently than novices. (Anne, interview 2, June 2006)

Comprehending how a theory can be used as a tool to understand and diagnose issues related to learning proved to be a challenge for the participants. This level of comprehension involved exploring a theoretical position, a task that was much more demanding than, for example, trying out a new strategy in the classroom. Connecting this new knowledge base to their practice was an important step forward (interview with F. Davis, Psychology of Learning course instructor, November 2006).

Connecting Theory with Practice

The difficulty inherent in establishing links between theory and practice is a central challenge for professional development programs, including education (Sprinthall et al., 1996). In one of her journals from the second course Deana discussed this problem:

> As a new teacher and a student I encounter new ideas and learn new principles. But I do not know how to use the principles I have learned. How do I apply what I read to my students? (Deana, journal, course 2, winter 2006)

Such concerns are common to students who are new to any domain. Initially, there is often a feeling of being overwhelmed by new terminology and new ways of thinking. The interview data and the journal entries revealed that three factors in particular helped the participants to move forward and to connect theory with their practice. These were discussions with peers, reflections on their practice, and through their personal experiences of being a learner. The following two excerpts from the second set of interviews demonstrate the pivotal role played by peers:

> One of the bonuses of the course was the milieu that we were in, having that large group of learners coming from different disciplines and viewpoints, yet facing similar issues and just wanting to better our own teaching. (Anne, interview 2, June 2006)

> The classroom stuff was deep; the discussions were deep, heavy duty stuff. You worked. You had to be present, always, which is constructivism; you construct your own learning. (Barb, interview 2, June 2006)

The reflective journals were also cited as a major factor in helping the participants recognize and express their beliefs. Initially some had found the process to be painful as recounted by Deana during the first interview:

> I did not want to go there. I did not want to think about who I was as a teacher; it was just too hard. But I learned that I have to think about what I was doing. (Deana, interview 2, June 2006)

Later on she discusses her moment of transition as she began to establish a link to her practice:

> I think it was the third or fourth journal and I had to do another self-assessment [at the end] and for the very first time I recognized [that] it was useful. And I think that's my breaking point, that's when I started doing the journals and the reflections [and] seeing how my readings and what I had learned so far could impact my teaching. I was just becoming a little more open. (Deana, interview 2, June 2006)

Theory takes on a life of its own when one connects it to their practice, and the participants were encouraged to do this in their reflective journals. For example, after reading about Baxter-Magolda's (1992) typology of learners, they were required to analyze their own type of leaning and that of their students. In one of her journal entries Ella wrote:

> As for where I am as a learner, I think I'm a hybrid-with tendencies along independent and transitional, but with definite links with contextual. My students [on the other hand] are heterogeneous, and initially I probably thought they were homogeneous. Some of the younger students just out of high school are absolute learners and want their teacher to be a transmitter. Some of the mature students are further along on the spectrum. [Now] I can use this framework to design learning activities to meet their needs. (Ella, journal, course 1, fall 2005)

Anne talked about the theory behind the use of protocol analysis. This is a procedure which occurs when experts talk their way through an exercise in order to problem solve. She discussed how she could use this to move her novel learners to a more expert stage. For Ella, the issue of scaffolding was of primary concern, as shown in the following excerpt from the interview:

> You have to bring people along in different stages and you have to bring them outside their area of comfort. I'm not sure how much I stretch them. (Ella, interview 2, June 2006)

Her journal entries reiterated this theme:

> Here's where I need reflection as a teacher. In my first year of teaching I lost half a class of first year students because I didn't scaffold. I learned from this lesson and this year I have completely redesigned my course. (Ella, journal, course 2, winter 2006)

In addition to discussions with peers and reflection on practice, a third factor that helped teachers to link theory and practice was their own experience as students in the program. Interview data revealed that teachers had to overcome a number of obstacles, and dealing with time constraints was one of them. Many found that balancing teaching commitments and studying was challenging, as illustrated in the following journal entry:

> My ongoing life as a teacher is a difficult one. After teaching for so many years, I expect it to be easier; it is not. Perhaps because I know better now what it is to be a good teacher, I demand more and more of myself. I want to be the kind of teacher I would have liked my own children to have. The [knowledge base] of my discipline is always changing. There is never enough time. (Barb, journal, course 2, winter 2006)

All of the participants faced similar obstacles at one point or another during the program.

The first-hand experience of being a learner led to several outcomes. First, the participants reported feelings of increased empathy toward their students. They also reported that a more open relationship was evolving with them. A greater awareness and understanding of students as individual learners was occurring. Finally, this increased empathy and awareness led the participants to critically examine their classroom pedagogy. For example, some questioned whether they had engaged in 'overkill' with the learning tasks and assessments they were requiring from their students. I return to this theme of learning as a learner in one of my narrative summaries in Chapter Five.

In the meantime, the participants were beginning to understand that learning takes time, and that there are no magic recipes for becoming an effective teacher. This realization is evident in the following excerpt from the data:

> A seed was planted in the first MTP course; it was just a seed and it needed time to grow for me to absorb the impact of all these different methods. I'm still working on it at an intellectual level. (Deana, interview 2, June 2006)

The Metaphor of Stretching

> The psychology course is *stretching* me. I was resistant and yet I'll go, and I'll bring these things in and I know that myself as a learner things become part of me and they change me forever. There is no going back. Once you have this knowledge you can't unknow it. (Fran, interview 2, June 2006)

During the first set of interviews, the process related to participants' perspectives on teaching and learning that had emerged proved to be fairly straightforward. The three themes of hanging on, becoming unsettled, and shifting suggested the metaphor of awakening. The next phase of the program, which was detailed in the second set of interviews, appeared more challenging for the participants, as they sought to develop new methods to frame their practice.

As I studied the data related to the second set of interviews, I also struggled to find an appropriate way to understand and represent the participants' experiences. I came to realize that my struggles with representing this data were a function of the participants' struggles, as they learned to think theoretically and to use theory as a tool to understand the learner. As well, the participants were trying to create a link between theory and practice. These were the two major conceptual themes that emerged at this point in the process. Because these themes represented a considerable amount of cognitive input on the part of the participants, I used the metaphor of stretching to describe the experiences of the participants. Before the fog would begin to lift and cognitive connections were forged, the participants had to deal with several obstacles.

MacDonald (2001) has stated that an essential element in successful professional development programs in higher education is ensuring that faculty members are well versed in basic educational principles related to effective teaching and learning. In particular, an understanding of the learner and the learning process are crucial. Beaty (1998) referred to this as professional knowledge, while Wilson, Shulman, and Richert (1987) have called it

knowledge of the learner. This knowledge not only provides teachers with a common vocabulary that allows them to communicate with each other about issues related to learning, but most importantly it sheds critical light on their practice as educators. As Sprinthall et al. (1996) have pointed out, it takes time to make crucial links between theory and practice.

Evidence from the second set of interviews revealed that the process of linking theory with practice was underway among the participants. For example, after being introduced to theories of learning, they reported an increased awareness of their students as individual learners. They also had an increased understanding of how these students were processing and integrating knowledge. This focus on the learner is in contrast to the egocentric emphasis on the teacher that had emerged early in the first set of interviews.

Although the participants had initially found the material from the Psychology of Learning course to be challenging, they were able to navigate through this material by relying on peer support, through reflection, and through their own experiences as learners in the MTP. They developed new habits of mind which included an enhanced capacity to think theoretically and to connect theory with practice. Although their understanding had deepened, they still had many unanswered questions:

> I am trying to figure out the best way to identify, understand and adapt to the varying needs of the learners. (Ella, interview 2, June 2006)

Perhaps the best way to represent the process that had emerged during the second set of interviews is to describe it as transitional in nature. The first set of interviews revealed that a phase of awakening had begun, as participants encountered new ideas that challenged former ways of thinking. As their knowledge base deepened during this second phase, teachers appeared to be caught in an intermediate zone that represented a changeover from old beliefs that no longer functioned, while they searched for a new model or paradigm. Robertson (1999) describes this leaving behind of old ways as one searches for a new scheme as a disoriented, experimental period. He maintains that a heightened sense of awareness, excitement, and uncertainty also characterize this phase and it requires courage to teach. Traces of this appeared in the participants' interviews and journals as they struggled to understand theory and to link it to their practice. I represented these experiences through the

metaphor of stretching. However, not all teachers had experienced this transitional phase in the same way. I noted that some seemed more willing than others to engage with theoretical concepts and to explore their underlying perspectives on teaching and learning. Although I have shown that some of these distinctions can be attributed to disciplinary background and experience, it seems likely that other factors were also at work. Halliday and Soden (1998) maintain that professional knowledge is highly contextualized within individual motivational and emotional backgrounds. Robertson states that such transitions are dependant upon many factors, including one's commitment to the profession. I explore these individual trajectories in greater detail in Chapter Five when I use narrative summaries to connect the data. Meanwhile, teachers' understanding of the learner and the learning process continued to expand as they moved into the third phase.

Examining the Third Set of Interviews

When I met the participants for the third interview, they had just completed the third MTP course. This course, entitled Instructional Strategies for the College Classroom, was designed to introduce them to a variety of instructional strategies and to enable them to select the appropriate strategy to match the particular classroom situation. They were encouraged to call upon their background knowledge from the Psychology of Learning course and to foster active learning techniques. Data that emerged from the third set of interviews revealed the following analytic categories: implementing new strategies, rationalizing the process, and impacting.

Implementing New Strategies

In the interview data, the participants reported that they were implementing new instructional strategies in the classroom. They also reported that their intention in implementing these strategies was to increase student involvement, as demonstrated in the following three excerpts:

> I showed them my map from the course and I said, this is really fun, it is really useful and it helps you to think through things. So each group did their concept map and somebody from the group was selected to explain the concept map to the class. They

> were all very impressed with each other's work and I was too. (Fran, interview 3, January 2007)

> I'm taking a big chance with this group. They are really hard to manage but I'm going to try some balance of power. I'm going to begin as I always begin [lecturing] and I'm going to ask them, how did you like that? Well what do you want to do differently? I'm hoping they are going to bring it to me. I'm going to have a jigsaw but I want them to bring it to me. (Barb, interview 3, January 2007)

> What I thought would be interesting would be instead of me just demonstrating the principles I wanted the students to understand, they would actually be handed out a set of problems that they had to work on together with another student, and arrive at the answer together. At the end I would intervene and we would go over the problems they had to solve, so it wasn't just me doing the problems, they actually had to go through the steps themselves in the classroom and if they had difficulties, they put their heads together with another student. In the end we all got together and discussed what the outcome and what the conclusions were for those problems that they had to solve. (Carly, interview 3, January 2007)

These excerpts of data suggest that participants were moving out of their comfort zone and away from traditional ways of delivering content. They were showing signs of adopting more of a learner-focused as opposed to teacher-focused stance, in that their objective was to increase student learning. Participants, however, were not selecting and experimenting with these instructional strategies in a haphazard manner. Rather, as the following evidence suggests, they had carefully thought about the selection and implementation of such strategies before they entered the classroom.

Rationalizing the Process

In many ways, this third course on instructional strategies was the one that participants had looked forward to from the beginning. In her first interview, Deana remarked:

> I was hoping to go into this [first] course and have a magic wand - here's the formula and here's what you apply. I learned that I have to think about what I was doing. (Deana, interview 1, June 2006)

Data from the third set of interviews suggests that participants had increased their knowledge of instructional strategies, and they were feeling confident enough to begin to apply some of these strategies in their classroom settings. It was also apparent that they were actively thinking about what they were doing. Their perspectives on teaching and learning had continued to evolve. Moreover, these perspectives were evident as participants critiqued their choice of particular strategies, as they discussed their students, and as they reflected on their use of class time.

The following example from one of Deana's journals shows her capacity to critically analyze a classroom situation:

> I planned a jigsaw learning activity. I wanted to cover problem solving in a different way-instead of me being at the board … I tried it with my first group. This is where the activity started to fall apart. I realized that the problem was not with the activity, but with the students' ability to solve the problems. So [when my second group came in] I took time to explain how to do a problem. This time I visited each group right away. [At the end of class I still did not get good feedback]. After some reflection I decided that groups of three are better and I should have modeled how to solve these problems beforehand. I have another problem solving section coming up. I am planning to retry the activity. I am quite excited. (Deana, journal, course 3, winter 2007)

There are a number of interesting elements in this excerpt from the data. Deana's learning activity has been methodically selected to suit the objectives of the particular class. When she does not succeed with it the first time, she is able to move away from her initial emotional response of disappointment, and turn to rational tools that allow her to evaluate the situation. Through reflection in practice, she adjusts her strategy and tries it again. Even though Deana is a new teacher, her confidence and her perseverance are evident and according to her, the MTP has provided her with the necessary analytical tools.

For Ella, viewing a videotape of her class had been revelatory. She was able to move beyond frustration and gain important insights into a group of challenging students whom she had talked about on several previous occasions. She discussed this during the third interview:

> [I selected] a group of students that I've had since my first semester of teaching that I've had difficulty with. I clearly saw that these students do not like the lecture. It's better to get them involved. The students were disruptive during the lecture part but when they were involved in group work they get down to business. Now, it shouldn't have taken me the four courses with these students to realize that. (Ella, interview 3, January 2007)

Although I did not view these videotapes, this source of data would provide a means of direct observation of teacher behavior. This would enable me to analyze what the participants are saying about their practice, and what they are doing in the classroom. According to Kane, Sandretto and Heath (2002), this method would provide data for both sides of the story, for both espoused theories and theories-in-use.

In addition to being able to critique their selection and implementation of various instructional strategies, participants were also increasingly calling upon and activating their knowledge of how students learn. This was influencing how they prepared for class and how they used class time. For example, during the third set of interviews, a number of participants mentioned a move away from covering the content:

> I don't spend 100% of my [preparation] time on content; I might spend 30% reflecting and really trying to match the objectives of the class … And it's changed my whole way of presenting this information … it's focused on the individual learning of the students, not so much on covering the content. I don't find prepping classes as stressful because I give myself that leeway; I know that if I haven't covered something in class I can [let the students know] where to find it. (Anne, interview 3, January 2007)

> It's not the content. I guess that's the thing I've learned more than anything else is to not sweat the content quite as much as I used to. Getting the ways of thinking will let

> them approach the content in a different way. Giving them the tools to go to the next level- that's a really important thing to do here. Let them be learners. Let them figure out how to be learners and find the joy in it. (Fran, interview 3, January 2007)

These excerpts from the data reveal increased evidence of a shift in perspectives, from teacher to learner-centeredness. Furthermore, according to the participants' self-reports, this shift in perspectives was being translated into action. Their view of the learner as an active participant in the teaching/learning dynamic was being put into practice, through active learning strategies they implemented in their classrooms. They also stated that their methodology, both before and during class, had changed, and it demonstrated increasing evidence of teaching to align the curriculum. They were also conscious of scaffolding learning, by providing students with the appropriate support along the way.

Impacting

Participants were increasingly calling upon their perspectives on teaching and learning to guide them in selecting and implementing instructional strategies. They also referred to these ideas when they reflected on their practice. During the third set of interviews, participants noted that these new ways of thinking and new skills were having an effect on their students and on themselves. The participants reported that their students were performing academically:

> I think in the end I can say students are learning. I am sure it has made a difference because in one class, and this is the third time that I taught it, all students passed and this has never happened. (Deana, interview 3, January 2007)

Perhaps even more revealing was the fact that by implementing new strategies, participants were able to reach and impact more students:

> The students felt comfortable with me, but I realize now that is not enough. I am not really promoting their learning that way. I may be [promoting learning] for 50 or 60% of them who would be good learners under any circumstances because they're self-motivated, but I'm not really reaching everybody. And I think now, by having some more tools I can reach more of them. When I did a case study one of the students who

> volunteered to represent her group has never spoken in the three years in any of the classes I taught her. And I was blown away and even more convinced to vary your strategies and to really think, who am I going to be reaching, and am I going to be meeting the objective of the class? And to spend time reflecting on it because this girl has never spoken, and that day she felt comfortable doing so. (Anne, interview 3, January 2007)

By extending her repertoire of instructional strategies, Anne was able to tap into various learning styles. She modeled risk-taking within a safe climate, and in doing so, encouraged her students to take similar risks.

In addition to the impact on student learning and participation, data from both the third set of interviews and the journal entries revealed that the participants had also experienced an impact. By putting into practice their perspectives on teaching and learning, by experimenting with new instructional strategies, and by continuing to reflect on their practice, they reported significant attitudinal changes. These changes included feeling more validated as teachers, as well as expressing a more open attitude toward their teaching. The participants also expressed a sense of expanded awareness in terms of what was happening among their students and in their teaching. The notion of expanded awareness had also been mentioned by participants during the second set of interviews.

This knowledge of instructional strategies had validated both new and experienced teachers alike. Deana, a new teacher, revealed the following in a journal entry:

> After completing [this course] I feel more confident in my choice of learning activities. When I first started the MTP, I had no idea what a learning activity was. Now not only do I know what a learning activity is but I can also distinguish which one is better, based on the objectives of a course…I've come a long way as a teacher. I'm much more open. (Deana, journal, course 3, fall 2006)

Fran, an experienced teacher, also reported feeling validated at this point in the process:

> There is something about how teaching is done at this level and at the university level that promotes the lecture. I'm coming at this from the flip side of things. I tried to be

> the old style teacher and couldn't, and felt that I was failing somehow in my job. I knew my students liked me and they did good work, but I just wasn't doing it the right way. This last course validated to a greater extent than any of the other [previous] courses that I am on target. (Fran, interview 3, January 2007)

These excerpts reveal that the participants were feeling more confident about their teaching, and increasingly were beginning to view it from a professional perspective. They also displayed signs of a more open and less rigid attitude toward their teaching:

> I'm willing to mix it up next semester, and if it doesn't work we'll do it differently the next time. I've always thought about how am I going to teach this, how am I going to get this across? But I'm not necessarily going to teach, I'm going to facilitate their learning. (Barb, interview 3, January 2007)

> I get less frustrated. I am more comfortable to deal with things, or to turn things into a learning activity. I am [more] able to switch gears or change something on the fly. I have a bigger tool kit now to use. (Ella, interview 3, January 2007)

The participants had also become more aware. They were seeing more, both in terms of the level of student engagement in the classroom, and in terms of critically evaluating their own teaching:

> I'm much more aware of who participates in the class, who I'm reaching, whose eyes are wandering. I'm much more in tune with that and that's why I try to engage them more. (Anne, interview 3, January 2007)

> I'm more critical of what I do. I don't feel as smug as I used to when things went well. I'm questioning it and I'm paying much more attention. Because I'm experimenting and I see the flaws and I see where things break down. It's really difficult to implement some of these things logistically because you have to take in all the different strengths and weaknesses of the students. (Fran, interview 3, January 2007)

These pieces of data indicate that at this point, teachers had made major strides in terms of orchestrating specific classroom processes that were designed to meet the needs of the learner. They not only had more pedagogical tools at their disposal, but they also had become much more aware of both their students and of themselves. Reflecting on practice and remaining open toward leaning are key factors that contribute to the success of professional development programs (Beaty, 1998).

The Metaphor of Exercising

> I have instructional strategies that I've worked out over the years from hit and miss. But I don't know what they are. I've never had any *training* to teach. (Fran, interview 2, June 2006)

Data from the third set of interviews revealed that participants were actively experimenting with new instructional strategies in the classroom. They were also calling upon their accumulated knowledge, and their perspectives on teaching and learning to critically reflect on their practice. I used the metaphor of exercising to refer to this phase, as participants made the leap from theory to practice.

At times during the third set of interviews, participants sounded like theoreticians as they outlined factors that had an impact on the learner and the learning process. At other times, they spoke like instructional designers as they discussed how a selected strategy could meet classroom objectives. Nevertheless, the data speak clearly about all participants during this phase making the leap from theory to practice. The movement from theory to practice and back again was made possible because of their accumulated background knowledge and skills. Participants were able to call upon their knowledge of how students learn to help them to intentionally select and implement instructional strategies, in order to meet the needs of various learners within different classroom settings. Furthermore, their capacity to reflect on their practice, which they had been practicing since the beginning of the program, helped them to adopt a critical stance and to assess the effectiveness of their chosen strategies. This level of reflection, which involved deconstructing classroom processes and identifying where things went wrong, had not been noted beforehand, in either the interview data or in their journals.

As educators, the participants reached new levels of awareness. They had become more conscious of what was transpiring among the learners in their classrooms. They also were more aware of the role they themselves played in the process. I explore this notion of the educator's role further in the narrative summaries in Chapter Five. As well, the participants referred to an increasing sense of confidence. Their willingness to try new strategies and their increasing capacity to discuss their teaching in professional terms attest to this. The fact that they intentionally selected to work with challenging groups of students when implementing new strategies is further evidence of an increased sense of confidence. At the same time, there was a general appreciation for the way the curriculum had unfolded:

> If you had given me this a year ago I'm sure I wouldn't have used [these strategies] correctly. I don't think I would have enhanced my students' learning. Now I can really understand, is this the right tool for this exercise? (Anne, interview 3, January 2007)

This excerpt suggests that time was an important element in the evolution of the participants' perspectives and in their practice. At first, they had to get in touch with their original perspectives on teaching and learning, and to revise these perspectives when faced with contradictory evidence. Then, the participants had to construct a knowledge base that would allow them to ground decisions concerning their practice within a solid theoretical framework. The data from the third set of interviews suggest that changes in their practice were preceded by changes in their perspectives on thinking and learning. In addition, the data suggest that it was only in the second year of the program that participants began to feel confident enough to exercise these changes in their practice.

Data from the third set of interviews also suggests that the participants were becoming more committed to constructivism by seeking to actively engage the student in the learning process. By continuing to activate their perspectives on teaching and learning, as well as by implementing new strategies in their classrooms, they were exercising their role as educators.

Examining the Fourth Set of Interviews

When I met with the participants for the fourth interview, they had just completed their second year in the MTP. As well, they had completed their fourth course, Assessment as Learning*,* during which they explored how assessment could be used as a means to improve student learning. Data from the interviews, corroborated by the journals, revealed that exposure to this new knowledge further extended the participants' perspectives on teaching and learning. This in turn, according to participants' self-reports, had an impact on and influenced their practice. These two analytic categories are explored in the following section.

Extending Perspectives

Data from the fourth set of interviews revealed that participants had reached new insights about the meaning and purpose of assessment. Their prior experiences with assessment had been less than desirable, as evidenced in the following excerpts:

> I hated assessments. To be quite honest, I hated it. I hated designing the tasks. I found it very difficult. I hated grading. It was the one thing about teaching I can say I honestly didn't like. Hate might be a strong word! I disliked it. I found it a real pain to try to develop really meaningful tasks for students and then sometimes feeling really disappointed with the results. And I spent a lot of time at it. (Ella, interview 4, May 2007)

For some, assessment appeared as an afterthought to the real business of teaching:

> Back in the old days I would think, I'm teaching, now I have to do an evaluation. What a drag! (Barb, interview 4, May 2007)

In contrast, their comments at the end of the fourth set of interviews revealed that they had developed a new understanding of assessment and were approaching it in a very different way:

> Assessment drives the learning. If I give very surface-based assessments, that's all they're going to learn. Because generally speaking, they learn what they're going to

> be assessed on. If I assess at a much deeper level, they are going to have to push themselves to that level. (Barb, interview 4, May 2007)

> I had an awakening and it changed my mindset from dislike, to putting it up there on a really important scale. I realized that the amount of time you put into the design of those assessment tasks, the better the quality of the course. So, you can't be a teacher and hate that function. And you've got to work on changing the mindset of the student about what this process is all about. (Ella, interview 4, May 2007)

A sense of frustration and apathy infuses the first series of quotes in this section, as participants grappled with a pedagogical task that they are supposed to be able to carry out, but have not been trained to do. A paradigm shift is apparent in the latter two quotes, above. The participants' view of assessment has altered, from viewing it as an obligatory waste of time, to embracing it as the benchmark of student learning.

The notion of assessment as an ongoing process was iterated by Carly:

> Before the fourth course, assessment was basically giving tests and marking them. After taking this course, I had a completely different perspective. [Assessment] is something that goes on throughout the semester. It's a method of collecting information from your students, analyzing it, and trying to make sense of whether or not they are learning, [based on] what you have been giving them throughout the course of the semester. (Carly, interview 4, June 2007)

During the Psychology of Learning course, the topic of motivation had provided the participants with important insights into the nature of learning. This topic surfaced once again in the last set of interviews. The participants realized that assessment used wisely can exert an impact on student motivation, from choice of career to staying in school:

> Assessment is directly related to the student's motivational level. For example, students can either continue to want to succeed or not, depending on how an assessment is carried out and how they view the assessment. The assessment has huge implications regarding their interest in the subject matter. A student who does well in

> an assessment may actually see themselves continuing in a subject area…all because they feel they're good at something. (Anne, interview 4, May 2007)

> Don't use assessment as a de-motivator. They need to have a clear sense of where they're going and how they're going to get there, so you need to be clear all the way through. You can slowly kill them with instructional strategies but you can put them in the coffin with assessment! (Ella, interview 4, May 2007)

As well, notions of equity and transparency with respect to assessment were evident in the participants' interviews and in their journal entries, as this excerpt from the fourth set of interviews indicates:

> Students need to know what they will be assessed on from the very beginning. It is not equitable to expect students to find out what the teacher is looking for by trial and error. (Anne, interview 4, May 2007)

These changing perspectives were positioning the teacher and the learner as dynamic partners within the interplay of teaching and learning. These perspectives were further influencing their practice.

Perspectives Influence Practice

The participants had initially discussed the concept of the aligned curriculum in the first course. This is the idea of ensuring that teaching strategies, learning tasks, and assessment tasks are geared to meet course objectives. But as the following excerpt from this first set of interviews shows, in the beginning the participants were uncertain how to operationalize this concept:

> I have to make sure my course content is aligned through my assessments and the student needs to get involved. But these are seeds. I am still not sure how to do this. (Deana, interview 1, June 2006)

In contrast, during the fourth set of interviews, the participants reported that increasingly, they were translating this concept into practice:

> I'm trying to make them see what needs to be studied, and giving them a chance. If I don't tell them what to study, I'm not really giving them a chance. (Deana, interview 4, May 2007)

A very concrete example of aligning the curriculum was discussed by Anne. She reported that she begins every class by making an explicit link to course objectives. She then structures the class to meet these objectives:

> Students have so much information and it's overload for them. I let them know what the most important things are, and the rest is gravy. I teach more to the test now. I'm more focused on making sure students have an increased chance of succeeding. (Anne, interview 4, May 2007)

The notion of aligning the curriculum to encourage student success was discussed by several participants. In the following excerpt, Ella talks about scaffolding learning to promote success:

> I never want them to walk into a test thinking that I'm going to throw something in that they haven't had an opportunity to prepare for. I will include higher levels of thinking [on an assignment] but we've got there through building it, not because the really smart ones get it. (Ella, interview 4, May 2007)

A sense of transparency is evident in these comments as the focus is placed squarely on student success. Furthermore, by aligning the curriculum in this way, the participants have moved away from an overemphasis on content:

> The clarity has improved and students need that. They don't need the data dump. They have access to information. They just need focus. (Ella, interview 4, May 2007)

> I used to look at everything about a topic and try to cover all or as much as possible. Now I pick and choose and focus on the most important stuff. I don't feel I need to be the all knowing. (Anne, interview 4, May 2007)

In addition to moving toward an aligned curriculum, participants also reported that they were moving away from traditional modes of assessment in order to integrate new techniques. They discussed the importance of providing students with formative or ongoing assessment. They also discussed their implementation of alternate strategies such as self-assessment, peer assessment, and group assessment. Classroom Assessment Techniques (or CATs), as outlined by Angelo and Cross (1993), were used by many to gain feedback on student learning and to find answers to problems they encountered in their teaching:

> I used a free-write, a one or two minute paper on a particular question I asked the students at the end of class. I wanted to see if they had really understood the topics we discussed in class. In the next class I gave them my feedback on the assessment task. It worked well and the students asked if we could do this randomly, at least once a week. (Carly, interview 4, June 2007)

> I use CATs because I need to know if something is broken, so I can fix it. (Barb, interview 4, May 2007)

In her last set of journal entries Deana wrote:

> After my last test students were angry. Instead of asking students why they were upset, I did a CAT. I asked students to tell me anonymously why they were upset. I did not get a lot of negative comments. Before this course I would never have done a CAT. I would have asked for comments and probably would not have obtained any. A CAT really gives students a chance to express what they feel, without being judged by me or their peers. (Deana, journal, course 4, winter 2007)

The participants also developed rubrics for their assignments. As reflected in the following journal entries, they felt that when they shared these rubrics with their students, clarity and equity were enhanced and student performance increased:

> Students must know how they are going to be assessed. I always hand out the rubric when I hand out the project so my marking criteria are very clear. It should be so clear that students are able to self-assess their own work, and peer assess the work of others. (Barb, journal, course 4, winter 2007)

> With criterion-based assessment, I am able to measure the performance to the standard and if you have that established up front, you treat everyone as an individual and do not compare them against others. (Ella, journal, course 4, winter 2007)

> Students can improve their metacognitive strengths with good tools like rubrics that allow them to self-assess and learn strategically. I can discourage them from being *just enough* learners and get them to aim higher. (Fran, journal, course 4, winter 2007)

Furthermore, there was evidence that students were responding positively to these alternate ways of measuring their learning. Fran referred to the laughter, high level of involvement and sophisticated use of language that was apparent among her students at work on a group mid-term. When this process of collaborative learning was repeated for a group final, her students independently organized a study session the day before the exam. Although on some level Fran admitted to feeling slightly abandoned by her students, she recognized the deep learning that had taken place:

> My birds had flown the nest, they had launched. They felt they were going to produce something of value for themselves which is very new. (Fran, interview 4, May 2007)

Throughout the entire program, teachers had discussed the importance of empowering students by actively involving them in the curriculum. This demonstration by the students was an example of empowerment taking place in the classroom.

The Metaphor of Shaping

> I see the real goal of curriculum alignment and how this idea once grasped can *shape* all of the classroom activities and assessments. (Fran, interview 4, May 2007)

The previous themes of awakening, stretching, and exercising helped to set the stage for the fourth phase in the process that was unfolding. The participants' expanding knowledge base in the psychology of learning and in instructional strategies, as well as their developing skills including an increasing capacity to critically reflect on their practice, had laid the groundwork for this final phase. During this phase, participants' perspectives on

teaching and learning were further extended, as they assimilated new knowledge about assessment. In turn, these evolving perspectives influenced their practice. I used the metaphor of shaping to refer to this dynamic interaction between teacher and learner. What is unique about the fourth set of interviews is that both teacher and learner emerged as unique partners within this dynamic. During this fourth phase, an awareness of the learner and the factors influencing the learning process was evident, as it was in the second set of interviews. The difference was that now the participants were more aware of the unique role they played in promoting learning outcomes. The participants had moved away from the perspective of the teacher as content master, which was evident in the first set of interviews. Now, with learners in mind, they worked to construct an aligned curriculum, and, in doing so, they facilitated learning. Elsewhere, Robertson (1999) has referred to this stage as systemocentrism, and Ramsden (1992) has described this stage of teacher development as characteristic of Theory 3 thinking.

The evidence I uncovered revealed that the participants' perspectives on teaching and learning had altered significantly, as described through their collective experience of awakening, stretching, exercising, and shaping. Their evolution as teacher practitioners was marked, in particular, by a sense of expanded awareness of the learner, and increased intentionality in their teaching. I explore the notion of the evolving practitioner further in Chapter Six.

Summary

The purpose of this chapter was to examine the data that emerged through the process of categorization. The four major themes that surfaced cut across the interview data and were more or less common to all participants. The data revealed that what the participants experienced could be categorized into the four major evolving themes or metaphors of awakening, stretching, exercising, and shaping. I used the word, phase, to convey a sense of the underlying process that was developing. At the beginning of this process, participants experienced an awakening as they were introduced to new ideas that sometimes contradicted their previous assumptions about teaching and learning. In the second phase, their perspectives on teaching and learning continued to be stretched, as they encountered new theories of learning and tried to link these to their practice. During the third phase, equipped

with an expanding knowledge base and habits of mind such as reflection, the participants reported that they were exercising this learning in the classroom by integrating new instructional strategies. In the final phase, their understanding of assessment as learning continued to shape their evolving perspectives on teaching and learning, as well as their practice as educators.

The use of the constant comparative method as an analytic approach allowed me to explore relationships and patterns across categories (Maykut & Morehouse, 1994). As a consequence, I was able to expose some major common elements related to participants' perspectives on teaching and learning. These elements revealed the essence of the process that they had experienced, in response to this professional development program. While this categorizing strategy of coding data is often a first step in the analytic process, it overlooks key elements, as it "highlights similarity and neglects contiguity" (Maxwell & Miller, 1992, p. 3). To compensate for this, I provided a more context-oriented approach in the next chapter by exploring the particularities related to individual participants' perspectives on teaching and learning through narrative summaries.

CHAPTER FIVE: CONNECTING THE DATA

In Chapter Four, I described my analytic procedure of categorizing the data, using the constant comparative method as outlined by Maykut and Morehouse (1994) and others. This method cuts across existing contexts in an effort to identify relationships of similarity and is often the first step in data analysis (Maxwell & Miller, 1992, 1996). While providing a valuable window onto the data, this procedure segments data into categories and strips away critical contextual information, such as details concerning an individual's background and their motivational characteristics. Connecting strategies, on the other hand, allow us to "make connections among these categories and develop a story line or a narrative about the central phenomena of the study" (Maxwell & Miller, 2008, p. 15). Narratives also enable us to reduce the data to a readable format. Therefore, including both categorizing and connecting strategies can provide a more holistic approach to the analysis.

As detailed in the previous chapter, the six participants had, to a greater or lesser degree, experienced common themes as they progressed through the professional development program. Nevertheless, these participants came from different disciplinary backgrounds, taught at different colleges and had various years of teaching experience. I wanted to explore whether or not these differences had an impact on their individual journey through the professional development program. In particular, I wanted to see how their experience in the program might have influenced their perspectives on teaching and learning. The process of categorizing the data had revealed some important themes that were related to their perspectives on teaching. For example, the participants reported increases in self-knowledge and in confidence in their role as educators. They seemed to have developed a much stronger sense of professional identity. I noted this in an analytic memo:

> One of the things that has happened is that the participants have a renewed sense of themselves as professionals who are teachers. They have talked about how this program has offered them a forum for discussing pedagogy, and this is the first time this has happened to them in all of their years of teaching. There is also a sense that they have **learned** about what being a professional teacher entails. In her fourth interview, Anne stated: "You have to see teaching as a profession and if you want to

> do a profession well, you have to learn about it." This is an important theme and I want to explore it further. (Analytic memo, November 18, 2007)

The increased sense of professionalism that I noted in the memo above was related to the more global idea of a changing perspective in relation to one's role as an educator. I had expressed the latter idea in a previous analytic memo dated September 30, 2007 (see p. 93). I wanted to explore in a more individualized and contextualized manner the process whereby each participant had come to better understand their role as an educator. I used connecting strategies as outlined by Maxwell & Miller (2008) to produce narrative summaries in order to expose this process. According to the authors, narrative summaries are analytic abridgements of the story that preserve its context.

In Chapter Three, I outlined the procedure I followed to produce the narrative summaries by drawing on the work of several authors including Connolly and Clandinin (1990), Seidman (1998), and Rhodes (2000). Briefly, I began with the four interview transcripts for each participant. From these I selected relevant portions that related directly to the underlying theme that I had chosen to explore, the participant's perception of her role in the classroom. The portions that I selected formed the basis for a second, synthesis document and I used this document to construct my narrative summaries. As mentioned in Chapter Three, decisions concerning the actual selection of text to be included in the narratives were based on both logic and intuition. In the following paragraph, I describe, more explicitly, the process that I used to select the text and craft the narratives.

The approach that I used to construct the narrative summaries is known as holistic content analysis. This approach has been elaborated by Lieblich (1998), and Seidman's (1998) profiles are an example of the holistic content approach (Maxwell & Miller, 2008). This approach involves analyzing the material for themes and these themes are then used to create a picture of an individual (Lieblich). I pored over the interview data for each participant, rereading the transcripts in order to become very familiar with the material. According to the methodology as outlined by Lieblich, I read each transcript naively and nonjudgmentally, taking the recorded information at face value as I endeavored to describe the essence of each person's experience. Seidman has suggested that we synthesize the story by paying attention to those elements that we view as most important to a person's story.

Using a word processor, I highlighted the sections that related to the individual teacher's perception of her role as an educator. Using these extracts from the original interview transcripts, I produced a synthesis document of approximately twenty-five pages for each participant, and this synthesis served as the basis for each narrative. I reread the synthesis document several times, and I wrote reflective memos to help me identify the particularities related to the individual participant's experiences. Through repeated reading, patterns began to emerge. For example, I noted that a few participants had referred briefly to the idea of learning as a learner. However in Anne's case, she referred to this idea more frequently and she placed more emphasis on it. I selected this as one of the particular subthemes for Anne's narrative. I then returned to the synthesized document and I marked all of the excerpts that were related to this subtheme. I identified two or three subthemes for each participant. These subthemes became the lens through which I read their story and the means whereby I selected the particular text to craft each narrative. Furthermore, these subthemes also suggested a title for each narrative. The topic of community had featured prominently in Fran's story, both in terms of her relations with her students and with her colleagues in the MTP. Hence, the title of her narrative became, Fran: Learning in Community. In the case of Anne, the idea of learning as a student flowed throughout her story and suggested a title. The themes of resistance and openness to change can be found in Deana's narrative. Her initial skepticism gradually gave way to a more open attitude and suggested the title, Becoming Open to Change.

To help me with the process of constructing the narratives, I noted where each subtheme began and ended, and placed clusters of information together. I arranged the material in a temporal order to mirror the flow of ideas that had appeared in the original transcripts. I used the participant's original words as much as possible to retain the authenticity of each account. I made minor editorial adjustments to make the narratives more compelling to read. For example, I added brackets to indicate material that I had inserted to maintain the flow of the conversation. I included ellipses when I omitted material from a paragraph. I also eliminated nonessential details such as pauses and words that were repeated. To further increase the authenticity of the narratives, I constructed them using the first person (Seidman, 1998). To help me to do so I turned to Rhodes (2000) and to the techniques of ghostwriting research. This technique enabled me to further condense the

material into nonrepetitive narrative form. I eventually produced a narrative summary of less than two pages for each participant. Each narrative summary portrayed the individual participant's unique perspective on her role as an educator. In Chapter Three, I provide an example of the process that I used to produce the narrative summaries (see p. 94-95).

In ghostwriting, the end product is seen as jointly constructed by the interviewer and the participant (Rhodes, 2000). I remained aware of issues of reflexivity as I wrote for and on behalf of someone else, especially as I went about making decisions about what material to include and what to exclude. I tried to ensure that the data I extracted for the narratives closely matched what the participants had experienced, and, as mentioned, for the most part I used their own words. As soon as each narrative was completed, I sent it to the participant for review and feedback. Their response was unanimously positive. Anne remarked that she had enjoyed reading "her words" in her narrative. Deana and Fran suggested minor revisions. For example, in Deana's case, I had originally written the following:

> I didn't want to change the way I teach.

For revision, she suggested that a more accurate representation was:

> I just didn't know I had to change the way I teach.

I integrated their suggestions into their narratives. Rhodes (2000) refers to this process, wherein the researcher and participant jointly construct a story that has meaning for both parties, as the cooperative research process. Through this method of cross-checking, both are jointly responsible for the final product.

Differences in teaching experience and disciplinary background emerged in the literature review in Chapter Two, as issues of importance in professional development programs. I wanted to further explore whether or not these criteria played a role in terms of teachers' perspectives, and I used these to intentionally select participants for this stage of the analysis. I selected a beginning teacher with one year of experience at the onset of the MTP (Deana), a teacher who had approximately five years of classroom teaching experience (Anne), and an experienced teacher who had been teaching for almost twenty-five years (Fran). As well, the participants I selected were from three different disciplines and from pre-

university (or two year), and professional (or three year), programs. As such, they represented a purposive sample, in that they satisfied criteria of both heterogeneity and representativeness, or typicality, as outlined by Maxwell (2005). I felt that what emerged from these three narratives represented a comprehensive and contextualized account of the data. In the following section, I present the narratives, followed by an analysis of each story. Each narrative reveals the participant's particular lens on her understanding of her role as an educator.

Deana

When I began the MTP, I thought that a good teacher was someone who was well prepared and could convey the material. [If I] showed the students what to do, they would absorb the material through osmosis. It was kind of a parallel situation with each of us on our own side. That's how I had been taught and that's how I had learned. But I ran into a problem. My students were not doing well and I could not understand why.

I encountered lots of new ideas in that first course [College Teaching]. I realized that students learn in many different ways. I also realized that my students are dualistic learners and that I was expecting too much from them. But my teaching did not really change. I just felt overwhelmed and didn't know how to apply these new ideas, like active learning, to my discipline. I wanted to be given a magic recipe and told what to do. At first I thought the journals were a waste of time. It was just too hard to think of myself as a teacher. I did make a few changes during that first course. I got to know my students a bit better and I stopped using the first five minutes of class time to nail them.

The second course [Psychology of Learning] provided me with more terminology but the material was very dense. I discovered that I was more of a [cognitively-based] teacher and this helped to define me, as a new teacher. I [have] realized that I have to model concepts in my discipline so I still lecture. But I'm trying to integrate more ways to actively involve students - I'm [slowly] trying to remove the parallelism between myself and the students. I realized that I can't do it alone and we need to work together. I felt I was becoming more open to change and I started to apply some of the ideas like using concept maps to my discipline. I understood more about how my students learn, why they forget and

what motivates them. But I was frustrated because I didn't have enough time to bring about changes in my teaching. I knew the content but this didn't mean I was delivering it the way I should.

In the second year [of the MTP], I gradually came to realize that if I wanted to promote long-lasting learning, I would have to change the way I teach. So instead of me just dispensing knowledge up at the board I tried lots of new strategies to involve students, including on-line learning, group work and the jigsaw classroom. I still felt a bit awkward about my new role- I was so used to being "on stage". But I could see that my students were [becoming] more involved and more motivated. I realized even more that they don't learn the way I do! But in the classroom, things didn't always go as planned. I [was able to] choose a strategy to match the content, but I had a harder time adapting the strategy to different groups of students. At least I was more able to reflect on what went wrong. I still felt overwhelmed because there was so much to learn and I had so many unanswered questions. I struggled to find a balance between teaching, my MTP coursework, and trying to apply these new ideas in the classroom.

Assessment has taken on a whole new meaning for me in this fourth course! Before it was just a way to get students to practice problem solving in a mechanical way; now I use it to measure their learning. My focus is on understanding and improvement. This semester I'm seeing more and more students keeping track of their work and they're doing much better. I realize that if I want them to succeed, I have to give them the tools to learn. Now I show them the course objectives and I connect these to what they need to know for the test. I even post my old tests. That's a far cry from trying to nail them! I feel much more confident in my teaching because I know that I am measuring learning accurately. Also, I am able to talk about how I teach my discipline.

When I look back over the program, I would say I've gone through several stages and I've changed a bit every semester. First I had to get all this new knowledge. Then I had to take ownership for it by connecting it to my discipline- I resisted this step. Finally after careful planning I tried new strategies. I would not describe myself as totally student-centered; because of my discipline I need to model concepts. But I spend way less time at the board, and my students are more involved. I've gone from a total focus on ME delivering

content and expecting them to absorb it, to trying to get them excited about my discipline. They're not just here to take notes, they're here to learn!

Deana: Becoming Open to Change

Deana is a new teacher in the domain of the sciences. Two major subthemes emerged from her narrative. First, there was evidence of personal change, in that her identity steadily unfolded as she progressed through the program. Furthermore, this metacognitive awareness was coupled with pedagogical change. As she came to learn more about herself, she became more willing to involve the learner in the teaching/learning dynamic.

From the very beginning, Deana questioned her teaching style. Unlike many new teachers who adopt a problem-minimizing approach when faced with challenges (Scardamalia & Bereiter, 1989), Deana acknowledged the fact that her students were failing, and she tried to find answers to this dilemma. By asking her students what was wrong (see pp. 104-105), she raised the possibility that their failure was related to weaknesses in her teaching, and not to external factors that were beyond her control. According to Hativa (1998), this recognition is an important step toward self-knowledge.

This was but one of the many dilemmas Deana faced as she came face to face with uncovering her teacher self. She often reported feeling overwhelmed as she began to reflect on her practice, a finding also reported in Bessette's (2006) study. As well, her initial responses were marked by uncertainty and resistance. For example, she referred to the psychological theories as dense. She also referred to her many questions and to "trying to figure out who I was as a teacher." Although she stated early on that active learning seemed like a "good idea," she struggled to connect it to her discipline in the sciences. She also stated that while she wanted her students to learn, her initial focus was on finding ways to change them, and not on changing her own teaching style. Her resistance to change persisted throughout much of the first year. A breakthrough came when she was able to link theory and practice by realizing that concept mapping could be used successfully in her discipline. Her initial response to journaling was also marked by uncertainty and resistance. She viewed it as a waste of time and "just too hard to do." The resistance to change that Deana manifested at the beginning of the program can be characterized by a type of magical thinking. She hoped to be given a recipe or a magic wand that would solve students' learning problems and not

necessitate change on her part. Similar patterns have been uncovered by Hativa (1988) and by Braxton (1995, as cited in Menges & Austin, 2001, p. 1125) who state that disciplines in the domain of the sciences tend to be more teacher-focused and intent on transmitting information, and less receptive to initiatives to improve teaching.

Deana's initial resistance gradually gave way to a more open attitude towards learning, coupled with the realization that she would "have to think about what she was doing." She viewed this evolution as a function of time spent in the professional development program. For example, she referred to this new knowledge base as a seed that had been planted in the first course that "needed time to grow." Elsewhere, she stated that if someone had ended the program after the first course all they would be left with was questions. The mechanism underlying this change was her capacity over time to reflect on her practice, and through reflection, to connect theory with her practice. Her identification with the cognitive school provided her with a justification for her teaching style and she stated, "I need to model problem solving for my students." This realization allowed for a further expansion of her teacher self as she began to distance herself from a university professor whose teaching style she had been emulating in her classroom. According to Ballantyne, Bain and Packer (1999), exemplary teachers often express this desire to improve upon methods they themselves have experienced as students.

By the end of the second course, Deana's more open attitude was coupled with a reported increase in self-confidence. However, this confidence was bounded by several constraints. She remained acutely aware of her limitations ("I am not delivering my content properly"), and she continued to struggle with learning how to balance her studies with her teaching. Again, time functioned as a major factor in the development of her sense of self. By the end of the third course, she came to realize that if she wanted to promote authentic learning, she would have to change the way she was teaching. She described herself as becoming even more open to change as she experimented with novel instructional strategies in the classroom. However, her candid assertion, "I feel awkward about my new role," provided evidence that adjusting to this was not an automatic process. In the fourth course, her understanding of assessment as a way to accurately measure student learning proved to be an important contributor to the evolution of herself as an educator. Her capacity to access and employ pedagogical content knowledge ("Now I can talk about how I teach my

discipline") also helped to define her as a teacher professional. Perhaps the most telling sign of her metacognitive ability was the fact that she was the only teacher who provided a step by step description of her process of development, from knowledge acquisition, to connecting to practice, to reflective experimentation in the classroom. Her statement, "I'm would not describe myself as totally student-centered; because of my discipline I need to model concepts. But I spend way less time at the board," suggested a clear understanding of her pedagogical approach. A learner-centered approach is the favored paradigm in higher education (Biggs, 1999). However, a lecture that is properly planned and delivered can be as effective as other instructional strategies (Saroyan & Snell, 1997). Some disciplines lend themselves more readily to constructivist, learner-centered approaches.

Increasingly, as Deana came to understand and define herself as an educator, there was a corresponding willingness on her part to involve the student in the learning process. This willingness was based on her growing understanding of the learner and the learning process and was manifested through changes in her perspectives on teaching and learning. Her early ideas about teaching revealed little knowledge of the learner and can be situated within a teacher-centered domain (Kember, 1997), and specifically one that views the teacher as dispensing information to relatively passive recipients (Kember & Kwan, 2000). Her statement, "A good teacher was someone who was well prepared; students were expected to absorb the material by osmosis," highlighted this early belief which she traced to her own experiences as a learner, that were based on memorizing and "getting through the system." Early on in the process, however, she realized that her students learned differently from her. She identified them as dualistic learners (Baxter-Magolda, 1992), and this understanding of how knowledge develops influenced her teaching approach.

Kember and Kwan (2000) highlight the important distinction between teacher conceptions of teaching and teacher approaches. They define teaching approaches as primarily content-centered or learning-centered. Conceptions of teaching ranged from teaching as transmission of knowledge to teaching as facilitating learning. Furthermore, their study concluded that one's teaching approach is strongly affected by conceptions of teaching. Deana's narrative offers support for this finding. According to her self-reports, as she reconstructed her ideas about effective teaching and learning, her teaching approach altered, and she gradually integrated the student into the learning process.

The learner was absent from Deana's early descriptions of effective teaching. She described this approach as a "parallel situation with each of us on our own side," highlighting the power differential between teacher and student. Signs to integrate students appeared early on in the first course when she reported that she "got to know her students better." In the second course, she was searching for ways to more actively involve them. Her objective, which was to remove the parallelism between herself and her students, was marked by the realization that she could not accomplish this on her own. The idea of sharing the responsibility for learning represented a change in her thinking about effective teaching that impacted on her approach. Deana's intent shifted to restructuring the curriculum with the objective in mind of demystifying the learning process. This effort to involve students marked a reorientation from a content-centered to a learning-centered approach to teaching (Kember & Kwan, 2000).

By the end of the fourth course, Deana reflected on what she considered to be a notable shift in her pedagogy. She stated that she spent less time at the board and referred to several active learning techniques that she had integrated into the classroom. By connecting course objectives with assessment tasks, she sought to make the learning process more transparent for her students. Her assertion, "If I don't show them what to study I can't really test them on what they're doing," was evidence of this fact. These were additional signs that her teaching approach had shifted toward a learner-centered focus. Correspondingly, there were signs that her conceptions of teaching had altered, from dispensing content to fostering generic and life-long learning skills among her students. Her references to giving the students the tools they needed to learn and showing them how to study were evidence of what Kember and Kwan (2000) have referred to as teaching to facilitate students to become independent learners.

Anne

I have always been inspired by the words of Soren Kierkegaard: "To be a teacher in the right sense is to be a learner. Instruction begins when you, the teacher, learn from the learner, put yourself in his place so that you may understand what he understands and in the way he understands it." I feel that my experience as a student in the MTP has given me new insights into my own students as learners and has helped me to become a better teacher.

In my first concept map on effective teaching, I placed the teacher right in the center. Her personality and her qualities (relaxed, prepared, knowledgeable) were all that counted. The learners, it's terrible to admit but I thought of them as sponges [whose job was] to absorb the material. But I grew immensely in that first course [College Teaching]. I came to realize that there are so many factors that affect learning and it really involves a partnership between teacher and students. [One of my assignments] was to analyze one of the courses I was teaching. That was a real eye-opener! I realized that a lot of our assessments aren't always warranted and aren't always explained to the students. One thing I started to do was to tell my students, at the beginning of every class, where I am going and what I expect at the end of the class. I realized how little I knew about the whole art and skill of teaching, but I felt really invigorated and excited to learn more.

Since then, I've become even more aware of my students as individual learners. I realize I am quite motivated in my studies but I often think about what motivates them. I think the fact that I am a student has helped us to have a more open relationship- they know that I have assignments and deadlines too! I'm realizing even more that assessments have to match learning objectives. I'm wondering whether all those tests and assignments that I give and all that stress is really warranted. Perhaps we can assess more with less. I'm thinking of using group work.

In the third course [Instructional Strategies], one of my classes was videotaped. I had to plan the class so that the strategies I chose fit the objectives. I also had to tap into students' background knowledge. This really forced me to think about how I plan my classes and now I've become much more intentional about this. I've moved away from prepping just for content to also thinking about what the students are learning and how I can tie this into course objectives. I don't worry if we don't cover all the content- I let them know where to go to find it. I'm more aware of who participates and I try to engage them more.

I spend a lot of time after my classes reflecting and thinking, What could I have done there, what could I change for next time? The program has taught me to take the time to do that because if you don't, you're not going to change. You have to see teaching as a profession and if you want to do a profession well, you have to learn about it. I spend a lot more time thinking about assessment. How is the student reacting to it? What is driving

them? How much are they really learning? I make sure that I vary my assessments because I'm someone who had trouble with tests. So I'm on the lookout for that with my students. When I think about my second concept map [that I completed at the end of the first course], these were words. I was learning a new language. I needed to learn how to apply all of this. If you had given me this a year ago, I wouldn't have used it correctly. Now I can really understand, Is this the right tool for this exercise?

Anne: Learning as a Student

Anne teaches in a career program in the sciences. She had approximately five years of teaching experience when she began the professional development program. Two major themes dominate her story. First, her experiences as a student in the MTP have provided her with important insight into the learning process. This, in turn, has had an impact both on her relations with her students and on her pedagogy. Second, much of this learning has taken place as a result of critical reflection on her practice.

Throughout the interviews, there is evidence that Anne is learning as a student. She makes a number of references to course assignments in the MTP that have served as "eye-openers" into her own teaching. She also discusses her expanding knowledge base, and in particular, her awareness of different learning styles, theories of learning, and various instructional strategies. She speaks of journal writing as a valuable activity that she had engaged in a number of years ago when she was a student, and she states, "I forgot how really helpful it is." Her attitude towards all of this learning is marked by humility-"I realized how little I knew," as well as openness- "I was excited to learn more." Furthermore, like many students, she complains about the program's workload.

The educational literature is replete with references to student cognition and learning. Kember (1997) has stated that a clear relationship exists among student conceptions of learning, learning approaches, and learning outcomes. As well, over the past thirty years, research has begun to investigate how teachers in higher education learn and improve their practice. Various typologies have described the evolution of teacher practice as beginning with the teacher transmitting information and gradually moving towards a more complex interaction among teacher, student, and content (Kember, 1997; Kember & Kwan, 2000). Researchers, including Hargreaves and Fullan (1993) and Nicholls (2000), have emphasized

how important it is for teachers in higher education to be involved in ongoing professional development. Other than this recommendation, and one reference which I located (Radloff, 2002), there is little information in the educational literature on what happens when the teacher in higher education adopts the stance of the learner. In contrast, the notion of teacher as learner has been explored in the elementary education literature. For example, McIntosh (1984) discusses how primary school teachers develop empathy for their students when they become learners. The medical literature also has explored how educator/student relations can facilitate learning (Cole et al., 2004; Ursano, Kartheiser & Ursano, 2007). This appears to be an area in need of further exploration in the field of higher education. For example, how might adopting the stance of the learner influence the teacher's relations with students and their pedagogical thinking and practices? Anne's story provides some answers.

Anne's first-hand experience as a student in the professional development program has an impact on her relations with her students, improves her skills as a diagnostician, and causes her to rethink her pedagogy. She maintains that being a learner in the MTP has "helped our relationship because they see me as understanding their role as a student." She refers to a more open rapport with her students because she too must complete assignments and face deadlines. As well, there is a movement toward a more egalitarian relationship. She speaks of a "certain element of power that she is trying to shift." She does so by admitting to her students that she does not have all the answers and by sharing with them where they can find responses to their questions. Her position as a student also provides her with insight into motivation. She recognizes that her own high level of motivation is linked to her level of maturity. At the same time, she questions her students' underlying motives, wondering what brings them to class and what keeps them coming. Moreover, she structures her class time to encourage student responsibility and independent learning. Understanding and promoting intrinsic motivation is a key factor in a learning-centered approach to teaching (Kember & Kwan, 2000).

Her standpoint as a learner also helped her to improve her skills as a diagnostician. An accurate diagnosis of students' learning needs is important. As Palmer (1998) has pointed out, understanding students' learning needs will determine the type of remedy we offer (p. 41). Anne's interest in diagnosis was evidenced at the beginning of the program when she mentioned that her ultimate goal was to be able to assess her students' learning needs within

the first few classes. She refers to how relating theoretical course knowledge to her pedagogical practice has “pushed me toward seeing the learners as individual learners and moved me forward as a teacher.” This knowledge of the learner is seen as a key ingredient in effective teaching (Shulman, 1987).

Furthermore, her own experiences as a young student have helped to increase her awareness of individual learning styles and learning challenges, and she shares this with her students:

> Because I understand and I’ll say that to them, that everyone learns in a different way. And I have told them at times, that I’ve had experiences where I couldn’t get it and if somebody else explains it, or [through] a different method, sometimes you do understand it a little better. (Anne, interview 2, June, 2006)

She also refers to herself as “one of those [students] who had trouble with tests.” This first-hand experience has led her to become more attentive to students who may be experiencing similar difficulties. She meets with them to discuss whether their problems are related to “what they’re studying or how they’re studying.” According to Anne, not only has she become more aware of student difficulties, but she is also more equipped to deal with remediation.

Throughout the interviews, Anne made a number of references to course assignments or learning tasks that she completed in the MTP. This first-hand experience has made her more aware of the importance of an aligned curriculum. It has also led her to question some of her own course assessments:

> In the first course [Issues and Challenges] we had to actually look at our own course and see if the assessments matched the learning we wanted, what objectives we wanted the students to obtain. That was an eye-opener; a lot of the assessments that we do aren’t always warranted and aren’t always explained to the students. (Anne, interview 1, June, 2006)

Although Anne refers to curriculum development as “not something you can change overnight,” by the end of the first course she was writing the course objective on the board at

the beginning of every class. By the end of the third course, this simple act had taken on much more meaning and significantly impacted on the alignment of her curriculum. The impetus for this was due in part to a major course assignment:

> Last term I started writing the objectives on the board, but I didn't really tie it together with what I was doing; it was very informal. This semester one of our assignments was that we had to be videotaped for a class. So I looked at the course and thought, How can I do this, meet this objective? Now I write the objectives at the beginning of the class but I think of them beforehand. I [have] changed my whole way of presenting the information, depending on this objective. It's huge! I spend a lot of time thinking, Will this strategy that I use in class really fulfill the objective? (Anne, interview 3, January, 2007)

In addition to contributing to her evolution as a practitioner, her first-hand experience as a learner led her to reexamine some of her own practices as a teacher. She became acutely aware of the importance of carefully selecting assessments to measure learning outcomes. She stated "You can't just keep throwing assessments at students just so that you can get a whole bunch of different marks for them; they have to benefit from these." She questioned whether all of her tests and assignments were really warranted and thought perhaps that she could accurately assess learning outcomes with fewer tasks. She became acutely aware that these extra assessments were contributing to stress and wondered whether this was justified. Her own experiences of balancing teaching and studying added to this heightened sense of awareness.

In addition to her experiences as a learner, reflection as a tool to improve practice is also a prominent theme in Anne's narrative. She stated that she had not engaged in active reflecting since her student days and "forgot how really helpful it is." Her early reflections put her in touch with her initial beliefs and revealed that she saw the teacher as the center and the students as sponges that were there to absorb the material. Although journal writing was time consuming she felt it was beneficial, for as she stated "If you don't [reflect], you're not going to change, and what you're offering the students isn't going to change either." Reflection on practice had become habitual and she spent "a lot of time after the class reflecting and thinking, 'What could I have done there, what could I change for next year?'"

Finally there was the realization that time had played an important role in her reflective process. When she reexamined what she had written in relation to her early concept maps on effective teaching, she stated: "These were words, this was a new language I was learning." She felt confident that over the two year period of reflection on her practice, she had begun to successfully bridge the gap between theory and her practice. According to Ramsden (1992), such reflection on practice is a prerequisite for effective teaching, and the means by which the integration of theory and practice is facilitated (Atkins & Murphy, 1993).

Fran

I learned to teach from nothing. That set me on the track for starting with the student, instead of the other way around. But there is something about how teaching is done at this level that promotes the lecture. I tried to be the old-style teacher [the way I was taught] and couldn't, and I felt I was failing somehow in my job. I joined the MTP because I was feeling marginalized. I thought maybe that I would learn some things and I would be validated.

After my first semester, I gave myself permission to try things I wouldn't have tried before. I had a small class and I ran it [with discussion groups] like a grad seminar. I gave them responsibility for their own learning. They learned from each other and they learned to trust each other and each others' abilities. I learned a lot from them and I told them that.

The [third] course validated more than any previous ones that I was on target. I had [previously] set up a whole course [modeled] on the jigsaw classroom. I had no idea this was a strategy, I'm so out of the loop with anything to do with teaching. I was hitting in the dark, and being successful. I built directed discussion groups into the course. I wanted them to find a certain excitement in reading the literature and sharing the ideas. To feel impressed and be congratulated by your peers- that's a very powerful thing and that's going to motivate people to be there.

In the fourth course I gave students the essay question for the final exam. I also gave them the rubric beforehand to let them know how they would be evaluated. They worked on this together in groups. One of the women even had everyone over at her house for a study

session the day before the exam- and I wasn't a part of it. They felt they were going to produce something of value for themselves, which is very new.

We [teachers] have a lot to teach each other. We've been doing this in our classrooms in isolation and we never get the opportunity to talk pedagogy. I'm not doing this program for the money; I need the nourishment that this provides at this point in my teaching career.

There is a fraudulence I used to feel [about] being in the classroom. That's partly [due to] the way the classroom is set up with the teacher as knower, the student as learner. Now I feel more authentic- I don't have to provide all the answers but I can motivate inquiry. That's a real shift in my understanding of what teaching is. I think I was too bogged down on the arts side. I lacked confidence and I was all over the place with no real framework to hang anything on. The science offers a framework. There is evidence-based support for what I am doing.

I believe in communities of learners. I didn't know that was my educational philosophy before, but now I do. I believe we are all in this together. Not only am I willing to give my students more information and more transparency but I invite them to take part to a greater degree. I'm more open to negotiating what gets learned. In the past when I did this, I felt I was being subversive, and in some ways, not a "good teacher" in the old, unenlightened sense of the word. All that has changed.

Fran: Learning in Community

Fran has over two decades of teaching experience in a variety of learning contexts. The notion of validation infuses her narrative. There is the sense not only that this professional development program has validated her as an educator, but it has also helped her to further validate her students and their learning.

Through a variety of different channels, the professional development program appears to have influenced Fran's notion of what it means to be an educator. It provided her with a sense of community and enabled her to learn with and from her colleagues. It also impacted her sense of professional identity.

The importance of connecting with colleagues in higher education has been well documented in the literature. For example, Daly, Pachler, and Lambert (2004) as well as MacDonald (2001) viewed this as a central way to advance and improve one's teaching practice. As well, Brookfield (1995) claims that collaborating with colleagues can help us to become more reflective. But such collaboration is more the exception than the rule (Nixon, as cited in Nicholls, 2001). According to Palmer (1998), teaching is perhaps the most privatized of all professions and this has contributed to its slow evolution. Perhaps most significantly, teachers pay a high price for this isolation and this appears to have been the case with Fran. When she joined the MTP, she was searching for a sense of community:

> I was feeling quite alone in the classroom. I was feeling extremely marginalized. I felt that what I did in the classroom did not get seen by anyone. It got seen by my students and that's what I'm most concerned about. But everyone, once in a while, you'd like a little bit of appreciation for what you do, from your colleagues, from someone at work. (Fran, interview 1, June, 2006)

Her colleagues in the program provided her with a sense of community. She stated, "We have a lot to teach each other" and felt that she had learned both in class and through social gatherings outside of class time. When she reflected back on her process, she referred to this component as the "nourishment that she needed at this point in her teaching career." This support from competent peers is a key component in successful professional development programs. It is also one of the key factors, as defined by Etienne Wenger, for a successful community of practice. Such communities are defined by three components: a domain (in this case, pedagogy), a community (participants in the MTP who engage with one another), and a practice that develops over time (cited in De Cagna, 2001, p. 6).

As well as providing her with a sense of community, her involvement in the professional development program also contributed to the formation of professional knowledge. Beaty (1998), as well as Wilson, Shulman, and Richert (1987) refer to professional knowledge as the knowledge of how students learn and how teaching affects their learning. Although it is considered to be a key component for effective teaching in higher education, many faculty members lack this type of knowledge. This was evident with Fran before she began the MTP. Even though she had received positive feedback from

students on her teaching, she referred to her classroom processes as “hitting in the dark” and she stated “I didn’t have a whole lot to model it on.” She also questioned her teaching, stating that she thought somehow she was “failing in her job.” An affirmation of her [learner-centered] approach emerged early in the program. Unlike other teachers with less experience, she began to vary her pedagogy after the first course, stating that she “felt given permission by taking these courses to experiment.” As well, Fran turned to the literature and found further confirmation for her practices and her beliefs:

> Many of the things I believe, I saw them in the readings. Others have been thinking about these things for a long time but I had never been exposed to it. (Fran, interview 1, June, 2006)

In their narratives, Deana and Anne also reported an increase in professional knowledge.

A second type of knowledge highlighted by Shulman (1987) is pedagogical content knowledge. This involves a synthesis of both professional knowledge or how students learn and deep content knowledge of one’s discipline. Fran referred to increased confidence in the classroom as a result of her capacity to speak from both knowledge of her discipline and knowledge of teaching. Furthermore, Fran was able to reconcile the idea of teaching as both an art and a science. She recognized that initially she was “too bogged down on the artsy side and all over the place in her teaching.” The science [of pedagogy] offered her evidence-based support for what she was doing. The fraudulence she once felt in playing the role of the teacher as the ultimate dispenser of knowledge was gone. She referred to her new understanding of the teacher as “someone who does not need to know everything but needs to motivate inquiry” as a real shift in her thinking. However she maintained a critical stance in her teaching. She stated that she was “paying much more attention and could see the flaws, where things break down.” According to McAlpine and Weston (2002), when the critical components of experiential knowledge, knowledge about teaching, and feedback from competent colleagues are in place, this can enable reflection on practice to lead to improved thinking about teaching, and potentially to improved practice. By providing her with a forum to communicate with colleagues and by helping her to develop a sense of professional identity, the program contributed to her evolution as an educator.

Fran's narrative also revealed that in addition to receiving validation as a teacher, she was simultaneously engaged in an ongoing process of validating her students. She did so by identifying them as a source of her learning, by involving them in the curriculum and how it was delivered, and by exploring both an intellectual and emotional path towards learning with them.

Fran had little in the way of curriculum materials or other means of support when she first began teaching. She described this situation as "learning to teach from nothing" and it resulted in her adopting a student-centered approach from the beginning. Her view that both teaching and learning are done by the learner, and that the teacher acts as a catalyst to "open up thinking to new possibilities," have emerged from her rich teaching experiences. Throughout the interviews she repeatedly referred to how much she had learned from her students:

> I consider myself still a learner. I am just a little further along the road than they are. Some of the learning I do I get from them. I say to them "I learned a lot from you." It impresses them that I'm learning from them. They don't think they are worth very much a lot of the time. And when you say that and mean it, they know this is true. (Fran, interview 1, June 2006)

Fran also validated her students by becoming increasingly more open and transparent in her dealings with them. For example, in the fourth course she provided her students with the final exam question and the rubric that detailed how they were going to be assessed. She became intensely aware of the value of the rubric: "I want the information that is carried in a mark to have greater meaning for them. There is a sense of them also knowing." In addition to increased openness and transparency with her students, she also seemed to be willing to involve them to a greater extent in decisions about the curriculum:

> Earlier it was as if you could eat your vegetables, and you could choose what you would eat, but it really wasn't a negotiation, because no matter what, they [students] had to eat their vegetables. So it was a lose-lose situation for them in some ways, but win-win for me, because they had to eat their vegetables, and they didn't really want to go there. But now, maybe we're starting at way back when we start growing the

> vegetables, and if [students] could choose which ones they're going to plant, they'll have a little more enthusiasm all the way through this, because if [they] have to eat their vegetables in the end, they won't mind doing it, in fact, that is the goal. It might be my analogy is a little off, but something has shifted, and I know the course is where it happened. (Fran, interview 4, June, 2007)

Fran's intellectual objectives were apparent when she referred to her use of scaffolding to "give students the tools to go to the next level." In addition to exploring an intellectual path with her students, Fran was also willing to embark on an emotional path with them regarding their learning. She attended to the way they felt when they were learning, and she also sought to foster a care ethic among her students. According to Palmer (1998), good teachers possess this capacity for connectedness, joining "self and subject and students in the fabric of life" (p. 11).

Fran recognized the important role that emotions play in the learning process. She talked about letting students figure out how to be learners, but most significantly to "find the joy in it." She described how students in cooperative learning settings felt "impressed and congratulated by their peers." To Fran this was not only an empowering moment that students would carry with them throughout the day, but also something that would keep them coming back to class. The high level of attendance, student involvement in class, and independent learning on their part seemed to support her observations. Learning is enhanced through emotional involvement. According to Rosenbrough (2004), the best teachers find ways to elicit the joy of learning in their students.

As well, Fran fostered the development of specific emotions in her teaching. She used group work to encourage reciprocal social relations in learning that would lead them to "trust each other and each others' abilities." Through listening to each other she hoped to promote a sense of caring, stating that "caring is a part of this [learning] and we are all caretakers." She reiterated this notion of caring at the end of the interviews when she remarked the following:

> They always knew I cared about them. [What's different is] they care about each other more; they care about their [learning] more. Caring and investment are a part of it. There is a sense … I think it feels good for everybody to want to be there. They

> carry that with them and that is what learning should be. (Fran, interview 4, June 2007)

Noddings (2005) has also referred to the care ethic. She views caring relations as the foundation for pedagogical activity.

In her closing remarks, Fran referred to the idea of "a community of learners" and how this had crystallized into her educational philosophy. According to Palmer (1998), good teachers are capable of connectedness and involve their students in the dynamics of community. Through her associations with colleagues in the program, Fran had experienced this community firsthand, and it had done much to reduce her feelings of isolation. In turn, by encouraging the development of community among her students, the sense of connectedness to each other and to their learning was further enhanced.

Summary

Through the three narrative summaries I presented in this chapter, I explored the unique and contextualized nature of individual teachers' experiences as they navigated through the professional development program. In particular, the narratives revealed how these participants had arrived at an understanding of their role as educators. Deana's initial resistance gave way to a much more open attitude that was coupled with a willingness to involve the learner. Anne's first-hand experience as a learner was the impetus for her to rethink aspects of her pedagogy. The sense of community that Fran discovered among her colleagues was further manifested in her teaching. The analytic strategy of connecting the data had uncovered these distinctive themes. These individual differences had not been immediately discernable through the process of categorization that I used in Chapter Three.

In addition to the ways of learning that were uncovered, including learning in community, learning as a student, and becoming open to learning, teaching experience also emerged as a distinctive theme. For example, Fran, the experienced teacher, discussed earlier signs of connecting theory with practice and of implementing pedagogical innovations, as compared to Deana, the novice teacher. Some differences that might be attributed to disciplinary background also emerged. This would suggest that the impact of teaching experience and of disciplinary background on the evolution of perspectives on teaching and

learning needs to be further explored. As well as these individual distinctions, reflection on practice and time emerged as common threads throughout the stories. Both reflection and time once again functioned as underlying factors that moved perspectives toward a more learner-centered orientation.

Moreover, the approaches that I used in this chapter provided me with a methodology that allowed me to proceed and build the narratives. By reading each story from a holistic content perspective as defined by Lieblich (1998), I was able to extract the themes that were unique to each teacher. Use of the first person through the autobiographical technique of ghostwriting as outlined by Rhodes (2000), allowed me to represent each teacher's story in a succinct, persuasive, and realistic fashion. In so doing, I was able to both speak about the teachers I studied and also to speak for them (cited in Rhodes). The complementary processes of categorizing and connecting thus functioned as a useful distinction, and helped to clarify important aspects of qualitative data analysis (Maxwell & Miller, 2008). In the following chapter, I explore what these two separate analytic processes have revealed in terms of the impact of a professional development program on teachers' perspectives on teaching and learning in higher education.

CHAPTER SIX: ACQUIRING A PROFESSIONAL IDENTITY IN HIGHER EDUCATION

In Chapters Four and Five, I presented findings that emerged from my analysis of interviews with six CEGEP teachers who were involved in a professional development program over a period of two years. In Chapter Four I described a process of evolution in the participants' perspectives on teaching and learning that surfaced as a result of categorizing four sets of interviews. Four major patterns were revealed and I used metaphors to interpret these. In Chapter Five I used a connecting procedure to construct narrative summaries for three of the participants. These summaries uncovered the more contextualized aspects of each participant's understanding of teaching and learning. Further, I conducted a fifth and final retrospective interview with the participants, during which I asked them to reflect back on their perspectives on teaching and learning over the two year period. I also examined other documents including the participants' concept maps and reflective journals. I used the data from the retrospective interviews and from the concept maps and journals to corroborate the findings that emerged from the first four sets of interviews. I also conducted member checks with the participants. Data from these different sources and methods of analysis converged to reveal similar results and I interpret these in this chapter. These findings show how this study is unique in five major ways. First, I am studying CEGEP teachers who represent a particular cohort of teachers in higher education. I am investigating the impact of a specific professional development program, the MTP on their perspectives on teaching and learning, a topic that has not yet been examined. Second, this study is unique from a methodological point of view, in terms of both data collection and analysis. Third, I uncover a process of evolution in perspectives on teaching and learning that is grounded in the voices of my six participants. In addition to describing this process through four major patterns, I show how it represents a movement from teacher to learner-centeredness. Furthermore, I identify three dimensions of this process: increased awareness of the learner and learning process, increased intentionality in teaching and in curriculum planning, and increased self-knowledge. Fourth, I show how self-knowledge is manifested in terms of heightened pedagogical knowledge, confidence, and identity as a teacher professional. Fifth, I identify reflection on practice and time as central factors that underlie the changes in perspectives.

These findings hold important implications for teacher development and teacher perspectives in higher education, and in particular for the development of teacher professional identity.

The MTP: A Model of Professional Development for CEGEP Teachers

In the late 1990s, a group of concerned individuals working in faculty development in the college (CEGEP) system in Quebec foresaw that within the current decade, massive numbers of teachers would be retiring, to be replaced by a new generation of younger, inexperienced teachers. Similar trends have been noted at Canadian universities (Charbonneau, 2003). The knowledge and experience that these CEGEP teachers had accumulated over several decades was at risk of being lost. The MTP originated in response to this challenge. By involving master teachers from the CEGEP system in planning the curriculum and delivering the courses, their collective expertise is transmitted to a new cohort of teachers. A recent article in the Montreal Gazette (Branswell, 2008), entitled *Masters of the Classroom,* is an example of how this program has attracted interest in the domain of learning to teach in higher education.

The aim of the MTP is to provide teachers with the requisite knowledge and skills that effective teaching at this level requires. One of its major objectives is to encourage CEGEP teachers to become aware of, to challenge, and if necessary, to restructure their existing beliefs about teaching and learning.

This study provides the first empirical evidence related to the development of CEGEP teachers who are involved in this professional development program. Findings from this study reveal a process that six teachers experienced as they completed the first four courses in the MTP. These results highlight the important role that perspectives play in one's teaching practice, and can help to inform this model of professional development. These findings are of interest to CEGEP teachers who participate in the program both as students and as course teachers, to MTP curriculum designers, and to college administrators. Outcomes from this study highlight the advantages for teachers to become involved in professional development programs, such as the MTP, at the CEGEP level.

Methodological Contributions

Research in the domain of teacher perspectives presents several challenges. Because thinking cannot be observed, it must be inferred, and inferences are usually based on teachers' self-reports (Dinham, 2002). Many of the studies have arrived at conclusions about teacher behavior based on unverified self-reports, or on what teachers say they do in the classroom (Kane, Sandretto, & Heath, 2002). These challenges are further compounded by critiques regarding methods of data collection and analysis. I have already noted the problems with confusing terminology and lack of definitions (see p. 3). An explosion of different approaches has ensued because of the multitude of questions that have been used across studies to uncover teachers' perspectives. Methods of data collection range from surveys, to repertory grids, to interviews. In a review of 13 studies on teacher perspectives in higher education, Kember (1997) noted that most of the studies involved single interviews with faculty members that ranged from 30-90 minutes. In some cases (Samuelowicz & Bain, 1992), a direct question such as "What is good teaching?" was used to elicit perspectives. The absence of clear terminology and the multiple approaches that have been used have led to confusion in the domain of teacher perspectives and impeded research efforts at all levels, including primary, secondary, and higher education.

In my study, I avoided many of the aforementioned problems related to methodology. I defined my terms clearly (see p. 3), and I conducted five, semi-structured interviews with each participant that lasted over four hours, and took place over a period of 12 months. Through this procedure, I was able to track the evolution in the participants' perspectives on teaching and learning. Six distinct voices arose from this process and my findings are firmly grounded in the data. In addition to conducting the interviews, I also collected over 360 pages of reflective journals from the participants and I examined these for emerging themes. Like the interviews, the reflective journals tracked their evolving perspectives over a two year period in the professional development program. While writing the journals, the participants often reflected on specific readings and discussed their use of particular instructional strategies. This information helped to extend and to clarify findings that emerged during the interviews. I also examined two concept maps on effective teaching that each participant had produced, and this represented another way of hearing their voices. During the interviews, I showed them their concept maps and asked them to comment on

these. The sight of the concept maps evoked ways of thinking, in the same way an old photograph evokes past memories (Chalfen, 1998). Through this exercise I was able to establish early signs of reorientation from teacher to learner-centeredness. By using a number of methods of data collection and by studying my participants over an extended period of time, my study has produced more comprehensive, explanatory research findings (Dinham, 2002).

Kane, Sandretto and Heath (2002) critique many of the studies on teacher perspectives in higher education for their lack of methodological detail, and the overall lack of rigor in research design. For example, they cite Fox (1983) whose study did not specify the process of participant selection, the number of participants, or how the interview data were gathered or analyzed. Other studies do not discuss the theoretical underpinnings or assumptions that guide the analysis. In my study I was careful to detail the processes of participant selection and data collection and analysis (see Chapter Three). I wanted to establish a systematic audit trail. I also clearly situated myself within the research design. I believe that by taking these steps, I have made my work more persuasive and have avoided the pitfalls that were present in several earlier studies. Others can easily understand the steps I have taken and can assess the adequacy and trustworthiness of my study.

This study is unique in terms of data analysis in that both categorizing and connecting procedures were used. This dual analysis is relatively rare in the field of teacher perspectives. I found one other example (Samuelowicz & Bain, 2001) that analyzed the data using both the constant comparative method and narratives. However, the analysis was based on academics' responses to one interview, during which they were asked directed questions about teaching. The authors also stated, "As much as possible, the coding was based upon the transcripts rather than on our preconceptions" (p. 304). They presented two narratives that they used to illustrate two separate teacher orientations. It is not clear whether these illustrative narratives represent unique stories of individual teachers or if they are composites. Furthermore, their reference to the teachers as Academic A and Academic B, and their use of the third person voice does not produce the same level of authenticity as does the use of the first person (Seidman, 1998). In my study, I categorized repeated, semi-structured interviews over time, and used the first person and the participant's own words in my narratives to avoid these shortcomings.

Maxwell & Miller (2008) have stated that whereas the dual processes of categorizing and connecting are not necessary in data analysis, they can complement each other in useful ways. This is because each process provides a unique analytic lens onto the data. When used individually, each procedure can present certain limitations. For example, contextual relationships are lost during coding, and the use of connecting strategies only, can lead to an inability to compare two things in separate contexts. When used together, they clarify important aspects of data analysis (Maxwell & Miller). In my study, I used the constant comparative method to code every line of 418 pages of transcribed data. The four major phases that emerged were therefore based upon the participants' experiences and grounded in the interview data. Furthermore, these phases were corroborated by findings that emerged from the participants' journals and from their concept maps. The three narratives that emerged through the use of connecting strategies revealed important distinctions that were linked to individual ways of learning, as well as to factors such as teaching experience and disciplinary background. These distinctions provided a deeper understanding of how the process of changing perspectives was unfolding for individual participants. The stories became even more authentic when I crafted them in the first person and used the participant's own words. Each analytic procedure yielded a distinct perspective on the data and together they provided a more comprehensive understanding of my phenomenon of teacher perspectives. Throughout the analysis, I remained conscious of issues of reflexivity and I detailed this in analytic memos. In sum, by producing an audit trail and using multiple methods of data collection and analysis, my study has addressed several methodological critiques that are present in earlier studies.

Changing Perspectives

In this study I describe a process of evolution in the participants' perspectives on teaching and learning through four major patterns. I show how this evolution represents a movement from teacher to learner-centeredness and how it can be understood through three dimensions. An overview of the four major patterns that characterize the evolution in perspectives is presented in Table 6 below. Factors underlying this change process are also included in the table.

Table 6: *Participants' Evolving Perspectives on Teaching and Learning*

	Awakening	Stretching	Exercising	Shaping
CRITERION				
Teacher/teaching	From transmitting content to seeking to involve learner	Understanding learner and learning process	Selecting strategies to match objectives; scaffolding learning; promoting active involvement	Assessing learning; aligning curriculum; facilitating learning; promoting independence
Learner/learning	From passive recipients to individual learner	Needs to become involved to integrate knowledge	Increasing input	Assuming more responsibility
Factors underlying change (the focus of reflections)	Encountering knowledge and challenging perspectives	Making cognitive links between theory and practice	Testing theory and practice	Understanding reciprocal teacher/learner role
ONGOING →	**REFLECTION**	→ **OVER**	→	**TIME**

The Process of Evolution in Teacher Perspectives

An analysis of the four interviews provides clear evidence that the participants have shifted in their perspectives over a two year period, from a teacher-centered to a more learner-centered understanding of teaching and learning. In Chapters Four and Five, I described this change in teacher perspectives, and I provide further evidence for this change in this chapter. Data from the retrospective interviews confirm this finding. Other researchers, including Kember (1997), Kember and Kwan (2002), and Samuelowicz and Bain (2001) also have conceptualized teacher perspectives as a continuum that evolves in this fashion. According to Kember, what is missing from the literature is a description of the process that underlies the shift in teacher thinking from teacher to learner-centeredness. My study describes a process of evolution that occurred among six participants. Typically, efforts to promote changes in teachers' perspectives are accomplished through professional

development programs that equip teachers with an adequate knowledge base. There are few documented examples of such cases and my study can help to fill in this gap.

The process underlying the evolution in the participants' perspectives on teaching and learning initially emerged through coding the interviews. In describing this process, I was able to distinguish among four main phases or patterns of development (see Table 6). I used the four metaphors of awakening, stretching, exercising, and shaping to represent these four patterns. Each phase presented the participants with unique and novel challenges. For example, during the first phase of awakening, the participants were initially operating from a teacher-centered position, and their focus was primarily on delivering content. Gradually they began to recognize some of the misconceptions they held about teaching and learning, and to reorient their thinking, particularly with regard to the role of the teacher. During the second phase of stretching, they were focused on the learner and the learning process. Several participants experienced difficulty making cognitive links between theory and practice during this phase. These struggles seemed to give way in the third phase to a greater commitment to involve the learner. During the third phase of exercising, the participants began to test theory in their classrooms by implementing new instructional strategies, and by critically reflecting on their practice. Habits of mind such as reflection, which many had initially resisted, were becoming a part of their repertoire. During the fourth phase of shaping, the participants came to appreciate the pivotal role played by assessment, and they reached a more integrated understanding of teacher, learner, and curriculum. The four patterns that emerged through the process of coding also appeared in the individual narratives to greater or lesser extents. For example, when describing her own process of learning, Deana outlined four steps in her narrative that closely resemble these four phases. The two other narratives suggest similar patterns, that knowledge and awareness of the complexity of the teaching and learning process precede changes in classroom practice. Some distinctions also arose in these narratives which can be linked to differences in disciplinary background, teaching experience, and personality factors. These distinctions highlight the importance of including a contextualized analysis. Therefore, findings from these two analytic processes converged to support these four patterns.

Robertson's (1999) model of teacher development provides a lens through which to view the findings that emerged in the four patterns outlined above. The author describes his

model as theoretical, and states that it is based on the college teaching and adult development literature. His model includes three stable periods of egocentrism, aliocentrism, and systemocentrism, and two transitional phases. The teacher-centeredness that I described in the participants' initial perspectives and in their first concept maps, are examples of egocentrism. The focus on the learner that emerged in the second set of interviews supports the period that Robertson refers to as aliocentrism. In the fourth set of interviews, the more integrated understanding of the teaching/learning dynamic that emerged is an example of his third period of systemocentrism or teacher/learner centeredness. My findings can also be viewed through the model of teacher development that has been described by Ramsden (1992). The focus on the "teacher as teller" or as transmitter of content that is evident in the participants' initial perspectives and in the first concept maps is an example of what he refers to as Theory 1 thinking. The emphasis on active learning that can be seen in the second and third sets of interviews shows the participants engaging in Theory 2 thinking. In the final set of interviews, the participants are able to critically analyze teaching/learning situations and the focus is on maximizing student success. This can be viewed as evidence of Ramsden's Theory 3 thinking. The models proposed by both Robertson and Ramsden offer frameworks through which my findings can be viewed. By providing empirical support for these theoretical models, my study increases the persuasiveness of these models.

The metaphors of awakening, stretching, exercising, and shaping that I used in this study helped me to understand the process that the participants were experiencing in terms of their evolving perspectives. As I examined the descriptive and analytic categories that had emerged after coding each set of interviews, I asked myself "What does this remind me of?" The images that resulted provided me with a way of clustering the categories, and allowed me to view the data, at increasingly abstract levels. I used a metaphorical term to represent these images. For example, the image of someone being roused surfaced while I was swimming and became the metaphor of awakening. The kinesthetic and emotional qualities that these particular metaphors evoked allowed me to view the phases in a qualitatively different way. As thematic pieces of a process, these four metaphors provided me with a novel way of thinking about my findings in a more complex, integrated fashion.

The display in Table 6 portrays the four metaphors as developmental phases along a continuum. Evidence for the four phases emerged from the data, and the participants

experienced these patterns to greater or lesser extents. That is, the participants did not all experience these phases in a uniform fashion. Some of the differences I have noted can be attributed to disciplinary background and to teaching experience (see Chapter Five). Other phases appeared as more stable patterns. For example, phases such as stretching appeared more difficult for most participants to navigate, while the fourth phase of shaping, and in particular the knowledge related to assessment, led to a generalized consolidation of thinking about teaching and learning. As well, participants often showed simultaneous evidence of more than one phase. For these reasons, I envision these metaphors as phases rather than distinct stages with rigid boundaries. Furthermore, although this model is not rigid and linear, it proceeds in a more or less sequential fashion. I would also describe it as helical in nature. In a helical model, knowledge builds upon knowledge to create new learning (Saunders & Hamilton, 1999). Throughout the four phases, early insights were integrated into later phases as the participants constructed increasingly sophisticated perspectives on teaching and learning. They also reported an increasing repertoire of skills such as reflection, and they reached a new understanding of themselves as teacher professionals. This way of conceptualizing changes in perspectives is supported by the literature. Researchers such as Kember (1997), and Samuelowicz and Bain (1992), have also described teacher conceptions as phases or orientations along a continuum and Robertson (1999) viewed development as the integration of new knowledge into existing systems.

While I was interviewing my participants, they were enrolled in four semester-long professional development courses, which they took in a particular sequence and in a continuous fashion over a period of two years. The curriculum related to each course represented a discrete phase in the program, and I questioned the participants about their perspectives on teaching and learning at the end of each course. I was aware of the role that the MTP curriculum might play in the participants' perspectives on teaching and learning. Evidence of the curriculum surfaced during the interviews as the participants displayed an increasingly sophisticated knowledge of teaching and learning. However, during the interviews I went to great lengths to assure them that I was only interested in their perspectives. The four phases that surfaced were not only grounded in the interview data, but also in the corroborating sources of information. These phases emerged from the common

experiences that the participants reported, and while they undoubtedly were related to the MTP curriculum, they were also distinct from it.

It is possible that the particular sequence of courses influenced the emerging patterns to some extent. Further research would be required to determine whether a different order of courses would produce different patterns. Several researchers have stated that changes in thinking about teaching and learning precede changes in pedagogy (Hativa, 2002; Kember, 1997; Kember & Kwan, 2002; McAlpine & Weston, 2002). This would suggest that the four patterns that emerged from my findings represent a generalized way of thinking about the evolution of teacher perspectives in higher education. Moreover, the participants appeared to be satisfied with the way the MTP curriculum had evolved. The general sentiment they expressed in the final interview was "If I had taken the third or fourth course earlier on, I would not have appreciated or understood its relevance." According to the participants, the MTP represents a successful model of professional development. I would add that this model is successful because of three critical components: a commitment on the part of the participants to examine their practice, a group of supportive colleagues, and a curriculum that represents a balanced mixture of theory and practice.

The four major patterns that I identified describe the particular evolution in perspectives that occurred among the six participants. Across these four patterns there was evidence of three major dimensions: an increased awareness of the learner and the learning process, an increased intentionality in teaching and in curriculum planning, and increased self-knowledge. In the following section, I demonstrate changes in these three dimensions by contrasting early perspectives with later ones.

Understanding the Learner and the Learning Process

Before they began the professional development program, the participants held thoughts about learners and the learning process that included:

Students are like sponges: they absorb the material through osmosis.

Students do not really need to understand, they just need to memorize and get through the system.

Students are here to take notes.

> I have no idea what it means to learn; I've never thought about it very much.
>
> My understanding of learning was based on my experiences as a learner. I thought everybody was motivated, like me.
>
> Students learn by listening, by hanging on to my every word. And by doing- that helps.
>
> A parallel situation between teacher and student exists. It's the teacher's responsibility to teach and the student's responsibility to learn.

These early descriptions are teacher-centered and egocentric in that the participants are operating from their own frame of reference. For example, they project their own experiences as learners onto their students. A number of misconceptions about the learner emerge from these early descriptions. Students are viewed as a mass, and there is no notion of individuality among learners. As well, they are viewed as passive recipients of knowledge or as vessels waiting to be filled. The power rests with the teacher. There is no sense of a dynamic or a relationship unfolding between teacher and learner.

Teachers in higher education often bring misconceptions such as these to their teaching (Fang, 1996; Hativa, 2002). These misconceptions arise because academics in higher education are usually disciplinary experts with research capabilities. They have little if any preparation in pedagogy. According to Hativa, their knowledge of pedagogy is based on their own experiences as learners, as well as learning through trial and error. This somewhat haphazard and privatized or self-referential approach to teaching can lead to misconceptions about teaching and learning. The author maintains that these misconceptions can negatively impact on teachers' approaches to teaching and on student learning. It is important for faculty members to acknowledge these misconceptions because improvements in teaching in higher education will only come about when teachers recognize and challenge these faulty beliefs. However, there is often little incentive in higher education to move beyond these initial perspectives (Robertson, 1999). In order for this to happen, faculty members must be provided with explicit support.

As the participants encountered new information on learners and the learning process, their perspectives began to shift, as can be seen in the following examples:

Students are here to learn. They learn by doing.

Students are not like sponges. They bring a lot of experiences to a learning situation. Students have great insight. Teachers don't often acknowledge this.

It's important to get students actively involved in the learning process.

Students want to be part of the learning process. They can recognize when they are a part of this process.

Students learn in many different ways. They do not learn the way I did.

Students come to a learning situation with various degrees and types of motivation.

You have to consider the student's learning style, their developmental stage, how they perceive an assessment, and what role they take in their own learning.

Students can learn but we need to give them the tools to do it.

Two key differences are apparent in these latter perspectives on the learner. First, there is a shift from viewing the student as a passive player to one who learns best when they are actively involved in the process. A second major difference that emerges is the realization of the individuality of student learning styles. The earlier tendency on the part of the participants to project their learning style onto the student is gone. They recognize the multiplicity of factors that are involved in the learning process. Increased knowledge and awareness of the learner and the learning process have been identified as principal components of effective teaching in higher education (Beaty, 1998; Wilson, Shulman, & Richert, 1987). This change in the participants' perspectives on learning came about as they encountered new information that contradicted their early beliefs. Mezirow (1992) describes this process as transformative learning. This occurs when we become aware of and dissatisfied with the beliefs that guide our practice, and reflection is seen as a primary means of bringing about this awareness.

A focus on the learner was particularly evident in the second set of interviews. Robertson (1999) refers to this as aliocentrism, in contrast to earlier egocentrism, or an exclusive focus on the teacher. I noted that as the participants continued in the professional development program, their understanding of the learner deepened and this impacted on their perspectives on teaching. They reached new insights about teaching in general, and they

reflected increasingly on their practice. They began to move away from an egocentric view of teaching to increasingly embrace teaching and learning as a dynamic, interactive process.

Understanding the Teacher and the Teaching Process: Increased Intentionality

When I asked the participants to describe their perspectives on teaching before they began the professional development program, their responses focused on the teacher and her characteristics. The emphasis was on covering the content. A lack of pedagogical knowledge was apparent, particularly in relation to assessment:

> All that counted was the teacher and her traits. She was the center.
>
> I was learner-focused at first, but learner as receiver. I was focused on how to get them to receive more.
>
> In the first assignment that I handed out to my students, I knew what I wanted them to do. When they questioned this assignment, I couldn't understand why they didn't understand what I was asking them to do.

The literature corroborates these findings. This teacher-centered/content-oriented perspective has also been cited by researchers such as Kember (1997), Kember and Kwan (2002), and Samuelowicz and Bain (1992). Furthermore, this perspective has been linked to surface as opposed to deep approaches to learning among students (Gow & Kember, 1993).

Throughout the four sets of interviews, there was a movement away from a teacher-centered/content-oriented position, toward a student-centered/learning-oriented position. The participants showed indications in their perspectives of a heightened sense of pedagogical knowledge, a more critical outlook on their teaching, and increased intentionality as they sought to align their curriculum by matching course objectives, learning tasks, and assessments:

> This has opened my eyes to a completely different perspective on teaching and learning. Before I thought, I'm the teacher, I have to know what we have to cover today, and it ended there. Now I think about how I'm going to be teaching the material, and I'm always questioning whether or not the students have learned. It was never like that before.

> Two years ago it was about me, learning the content, meeting my objectives. Now I have to close the loop- to make sure my objectives, learning tasks, and assessments match. It's no longer about me; it's about getting them to do the work.

There were additional signs of increased intentionality. In the fourth set of interviews the focus was on demystifying the learning process for students and orchestrating specific learning outcomes:

> I've always wanted them to learn. Now I'm just giving them what they need to be successful on their own.
>
> Students have so much information. I let them know what the most important things are, and the rest is gravy.
>
> I don't sweat the content as much as I used to. I'm much more focused on setting up [learning activities] in the classroom that they will go after themselves. That is the real learner to me, someone who is self-motivated.

A sense of relief is evident in the third quote, as the participant moves from a focus on transmitting disciplinary knowledge, to orchestrating specific learning outcomes with students. A number of participants expressed a similar sense of relief. They were pleased to shed the fraudulent cloak of the all-knowing sage on the stage. They recognized the foolishness that this position entails, in light of the fact that information is accessible to all, at the touch of a keyboard. Britzman (1994) has also written about the misconception of the teacher as the omnipotent knower. This false belief presents the teacher in a state of completion, as opposed to one of evolution.

Furthermore, there were signs that an increasingly transparent relationship was emerging with students. Coupled with this was the recognition of learning as a partnership between teacher and student, and the consequent need for students to assume their responsibility in this process:

> You have to view it from the student's perspective.

> I am more willing to share with students where I get my information. I no longer feel as though I have to be all knowing.
>
> I put much more of the onus on learning on my students. I've constructed things where they do work more collaboratively with one another.

Participants also reported that they possessed a larger tool box that provided them with a greater capacity to problem solve. Schön (1983, 1987) referred to this as thinking on your feet.

> Since those salad days of my early career, I can now examine the learning environment, assess the situation and adjust my practices accordingly.
>
> The change is in how I handle things in the classroom. If something is not working, I say "Let's try something else."
>
> You have to focus on the formative. There has to be a number of learning activities, well spaced.

This suggests that professional development programs in higher education must do more than simply expose teachers to new techniques. Effective teachers emerge not as technicians, but as thinkers. For example, the teacher needs to realize that an instructional strategy is selected in light of the particular learning outcomes one wishes to achieve, and this selection is grounded in knowledge of the learner and the learning process. It is through exposure to a pedagogical knowledge base and the regular practice of habits of mind such as reflection that teachers emerge as thinkers.

If there was a preference among the participants it was in the direction of active student involvement and the promotion of constructivist learning:

> You have to interact with the students. I still need to incorporate more of this because the best learning comes when they are involved. If you're just dumping, they're not engaged.
>
> Instead of just talking, I am more willing to listen to my students and then fill in the gaps in their learning. I'm more comfortable as a facilitator.

> My focus is, How can I get them to construct their own learning? I can't just stand up there and spew forth; we have to work together.

These quotes reveal that by the end of the fourth set of interviews, the participants were convinced of the importance of integrating active learning techniques into their pedagogical practice. However, they all stated that much work remained to be done in this area. As well, when faced with institutional challenges such as teaching new courses, their tendency was to revert back to a teacher-centered, content-oriented approach, a fact that has also been noted by Robertson (1999). Some stated that while they integrated active learning techniques, they still needed to lecture and model concepts in their discipline, and they expressed confidence in their stance. These findings suggest that the participants recognized that a variety of instructional strategies are possible within a learner-centered environment.

A number of important conclusions can be reached, based on the findings that have emerged in this section concerning the process of evolution in the participants' perspectives on teaching and learning. First, these findings are supported by general categorization schemes of teacher perspectives that have been described by researchers such as Kember (1997), Kember and Kwan (2002), and Samuelowicz and Bain (2001). These schemes describe development as a movement from a teacher to a learner-centered orientation. This shift in perspectives is supported by current thinking about faculty goals in teaching (Goodyear & Hativa, 2002). Second, teachers in higher education, like any learners, approach teaching armed with their personal beliefs or perspectives. These beliefs are based on their own experiences as learners and are often faulty. Therefore teachers, and particularly many in higher education who lack a background in pedagogy, must be encouraged to critically examine and challenge these perspectives. Third, the four patterns that emerged suggest that changes in perspectives precede changes in practice. While this was true for new and experienced teachers alike, evidence from the narratives suggests that experienced teachers, such as Fran, were more prepared to integrate pedagogical innovations earlier on. New teachers like Deana needed more time to link theory with practice. It was only when the cognitive connections had been clearly forged that she felt confident enough to consider implementing change in the classroom. Deana described her process of change in terms of

three logical steps. This process may not be as logical for veteran teachers. This has implications for the way professional development programs are structured. Fourth, as the teacher's role in higher education continues to shift from an exclusive emphasis on content-area expertise to include that of pedagogic expertise (Day, 1993), teachers must be provided with adequate support through CPD. Based on the participants' self reports, three critical components have emerged as essential elements of successful programs. These include a commitment on the part of teachers to examine their practice, collegial support, and a solid curriculum that provides a good mixture of theory and practice. Finally, results from this study show that changes in perspectives are characterized by an increased awareness of learners and the learning process, and an increased intentionality to orchestrate specific learning outcomes with students. Increased awareness and intentionality were particularly evident in the fourth set of interviews as participants reached new insights about the meaning and purpose of assessment. If I had to describe the most significant group awakening moment that occurred among the participants, it would be their encounter with assessment (see pp. 126-128). In addition to these two major dimensions, participants also reported changes in self-knowledge and, in particular, in their sense of themselves as teacher professionals.

Changes in Self-Knowledge

Knowledge of self has been identified by Grossman (1995) as one of the key factors linked to successful teaching in higher education. It involves an awareness of one's values, strengths, weaknesses, and goals for teaching. Hativa (1998) has shown that teachers who receive poor student ratings often lack this knowledge of self.

In the first set of interviews one of the participants alluded to a lack of self-knowledge when she stated, "I didn't know what I didn't know." As they progressed through the program, the participants cultivated new habits of mind such as reflection, and this led to an increasingly sophisticated knowledge of self. In both Chapters Four and Five, I provided several examples of the development of self-knowledge. In Chapter Four, I referred to this self-knowledge as something that was informed by their increasing awareness of what was transpiring in the classroom. The participants reported that they were seeing more, and this led them to critically evaluate their teaching. In Chapter Five, the narrative summaries

revealed more contextualized evidence of this burgeoning self-knowledge, as the participants reached new insights about themselves as educators.

Furthermore, as they became more aware of themselves as educators, the participants reported an increased enjoyment in their teaching. They also reported an enhanced sense of confidence. This confidence was manifested in their sense of themselves as teacher professionals:

> Now that I understand about learning, my job is more exciting. I'm more interested in teaching.
>
> I'm much more confident in the classroom. I speak from a position of knowledge of teaching, as opposed to just my discipline.
>
> How can I pretend to teach just because I have a Master's in my discipline? You cannot have an identity [as a teacher] if you cannot explain what you are doing.

In spite of some of the challenges that participants had referred to, such as balancing teaching responsibilities with their studies, an important outcome of this professional development program appears to be an enhanced sense of identity as a teacher professional. According to these self-reports, the participants have moved beyond viewing themselves uniquely as masters of their discipline, to viewing themselves also as master teachers of their discipline. This identity as a teacher professional is manifested through their capacity to speak about their discipline from the viewpoint of pedagogy.

This identity is founded on several types of teacher knowledge that the participants had accumulated throughout the professional development program. These include general pedagogical knowledge, knowledge of the learner, pedagogical content knowledge, and knowledge of self (see pp. 22-24). While knowledge of oneself as a teacher professional originates from these sources of knowledge, it should be considered as a specific sub-category of self-knowledge. Furthermore, I would suggest that this type of self-knowledge is an integral part of successful professional development programs. While attention has been paid to self-knowledge and identity in the pre-college literature through the work of authors such as Jean Clandinin, this area has been neglected in professional development in higher

education. The participants in this study have indicated that professional identity is a critical element of self-knowledge. I suggest that the definition of knowledge of self that was proposed by Grossman (1995) as "teachers' knowledge of their personal values, dispositions, strengths and weaknesses, and their educational philosophy, goals for students, and purposes for teaching" (p. 20) should be expanded to integrate knowledge of self as a professional teacher.

Two other findings emerged in relation to professional identity. One is the recognition of the importance of engaging in professional dialogue with colleagues. The second concerns the fact that, aside from a professional development program such as the MTP, few opportunities exist for teachers in higher education to engage in this type of professional dialogue:

> You need to step back. And the way to do this is to set aside time to discuss pedagogy.
>
> The MTP is the only time I talk to teachers about teaching. I needed some mechanism to do this [because I] couldn't rely on colleagues or the administration for this. The program exposed me to people who were interested in learning, in making the classroom a better place, and in making students more successful.

The privatization of teaching, particularly in higher education, is a theme I have addressed in the literature review in Chapter Two. There are many drawbacks to remaining what Becker and Riel (2000) refer to as a private practice teacher, among them being the formation of misconceptions that can seriously interfere with effective teaching and learning (Hativa, 2002). In contrast, professionally engaged teachers invest more in their education and tend to integrate constructivist learning activities in their classrooms (Becker & Riel). The privatization of teaching leads to isolation, and this feeling of being marginalized from colleagues had served as the impetus for one of the participants to join the MTP. It would seem that there is a need for forums where teachers in higher education can meet to discuss pedagogy and to learn from one another. However, I am reminded of Stephen Brookfield's (1995) quote that "Teachers are busy people, working at a craft that is emotionally draining, physically tiring and financially unrewarding" (p. 159). While critical conversations around

pedagogy are important, professional development programs such as the MTP offer more promise for long-term, sustained faculty involvement. This is because programs such as this contain three critical components: a commitment on the part of teachers to examine their practice, a group of supportive colleagues, and a curriculum that is based on current findings about teaching and learning. In meeting these criteria, successful programs provide a space in which teacher development can occur. However, we must remember that the participants in this study had volunteered to participate in this professional development program. Questions remain about finding incentives that would encourage teachers who may not be as inclined to embark on a critical examination of their practice.

The examples I have cited that relate to acquiring an identity as a teacher professional focus on teaching. An unexpected outcome of acquiring this type of identity was increased faculty involvement in professional activities outside of the classroom. Toward the end of the program, all of the participants had expressed some form of professional involvement through activities that included presenting at conferences, organizing and hosting workshops, and assuming leadership roles within their colleges. This extracurricular involvement seemed to be linked to increased levels of confidence. The relationship among factors such as professional engagement, professional identity, self-confidence, and teacher perspectives is worthy of further research.

My analysis of the data enabled me to map the process of evolution in the participants' perspectives on teaching and learning within a professional development program. I described this process through the four metaphors of awakening, stretching, exercising and shaping. This evolution from teacher to learner-centeredness was characterized by three major dimensions: increased awareness of the learner, increased intentionality in teaching, and increased self-knowledge. Furthermore, in my analysis of self-knowledge, I uncovered the aspect of identity as a teacher professional. In Table 6 (see p. 162) I identified two factors underlying the process of evolution in perspectives. These two factors, time and reflection on practice, are discussed in the following section.

Underlying Factors

> "Suddenly I saw things differently, and because I saw differently, I thought differently, I felt differently, and I behaved differently" (S. Covey, 1989, p.31).

Steven Covey's reference is to a paradigm shift, and he describes it as a seemingly instantaneous change in thinking. While I do believe that all of the participants experienced a paradigm shift to greater or lesser extents as they came to embrace a more learner-centered vision of teaching and learning, findings that emerged from this study suggest that the shift in thinking was gradual, and it took place over the course of the professional development program. The question of how much time it takes to bring about changes in perspectives on teaching and learning had surfaced in my review of the literature in Chapter Two. For example, Martin and Ramsden (1992) recommended a period of at least one year, and Kember (1997) maintained that a sustained effort on the part of teachers was necessary to bring about these changes. It is difficult to reach conclusions about time when we compare studies that involve qualitatively different experiences. However, based on the findings from this study, I am able to conclude the following concerning the time frame. First, changes in perspectives on teaching and learning occurred in a gradual and a somewhat helical fashion, with early insights integrated into later, more sophisticated conceptions. Second, evidence from this study suggests that changes in the participants' perspectives on teaching and learning occurred before they reported changes in their pedagogy.

Many participants had begun the program hoping to find prescriptive solutions early on to some of the challenges they faced in the classroom. Instead of being offered quick answers, they were told that they had to think about and reflect on their practice. Data from the first and second sets of interviews provide examples of the participants making increasing references to curriculum building as a long-term process, and to the realization that there was a lot to learn about teaching and learning. Their perspectives gradually began to shift as their knowledge base on teaching and learning expanded, and they began to link this to their practice. According to the participants' self-reports, changes in their perspectives on teaching and learning preceded changes in their classroom practice. For example, their second concept maps on effective teaching, which they completed toward the end of the first semester, involved the learner to a much greater extent. However, participants did not report corresponding adjustments to their classroom pedagogy. They clearly stated that at this early stage, they were not ready to implement changes. Gradually the new framework on teaching and learning became absorbed into their habitual ways of thinking. According to Block and Hazelip, over time beliefs form a system or network, and the stronger the belief the more

resistant it is to change (cited in Kane, Sandretto & Heath, 2002). Data from the second and third sets of interviews demonstrate that as participants found more ways to link theory to their practice, they reported an increase in confidence and began to adjust their classroom practices. The following examples provide evidence for this:

> First I had to [learn] this new knowledge. Then I had to see how I could connect it to my discipline. The third step was to try it [in the classroom]. It takes time to take that knowledge and make it your own.
>
> Over the four courses, I've had more opportunity to put [the knowledge] into practice.
>
> I've learned more in my last four courses…I can't even remember what I learned in my first two degrees. One day or a half [professional development] day at the end of the year- it's nice, but I don't think it instills change in a person.

These findings suggest that changes in perspectives evolved gradually over the two year period. In general, the participants only reported feeling confident enough to implement changes in their pedagogy in the second year of the program, when they had begun to test out theories in the classroom. This would imply that it took the participants at least one year before their emerging perspectives on teaching and learning were firmly grounded in personal pedagogical experience. In the second year, when the links between theory and practice were forged, they were more prepared to initiate change. During the interviews, the participants discussed an assignment for the MTP in which they had videotaped one of their classes and subsequently analyzed their teaching. The videotaping and analysis were done in the second year of the program. It is possible that this particular assignment encouraged the participants to implement changes in their classroom pedagogy and that it also influenced the evolution of perspectives. In a follow-up study, the impact of the videotaped assignment on evolving perspectives could be examined.

Although the sequence of changes in perspectives preceding changes in practice held for all of the participants, experience may have mediated this process somewhat. The narrative summaries revealed that the more experienced teacher began the exercising phase earlier on than the teacher with less experience (see pp.149-150). It may be that the four patterns I have identified are particularly applicable to new teachers, whereas experienced

teachers may exhibit simultaneous evidence of more than one stage. The general finding that changes in perspectives precede changes in practice is not surprising, and it is supported by other theories such as Mezirow's (1981) theory of transformative learning. What is unique about this study is the specific time frame that it advances, as well as the questions it raises concerning the role of experience in the evolution of teacher perspectives.

In this study, reflection over time emerged as a major factor that moved perspectives forward. In my analysis in Chapters Four and Five, I provided many examples of how reflection on practice had influenced the participants' perspectives. Initially, many of the participants had found the process of reflecting to be difficult. Over time, they came to regard it as a key element of their professional identity. The process of reflecting helped them to link theory with their practice, and it served as the basis for the development of various types of knowledge, including pedagogical knowledge and pedagogical content knowledge (see pp. 22-24). It also provided them with tools to deconstruct what was happening in their classrooms, and afforded them critical insights into their practice, as evidenced in the following examples:

> Through reflection, I started to link knowledge to my discipline. If I had not reflected I would not have changed. I would have kept on making the same mistakes and wondering why the students were not learning.
>
> Reflection is a key part of being a professional.
>
> It's the process of writing that does the teaching … that helps you shape those ideas. I feel like I am now embarking on a career as a connoisseur and it changes things entirely. I see with new eyes, sometimes things I have seen for years and not really seen.

The first quote identifies reflection as a principal element in the development of pedagogical content knowledge. It also demonstrates that experience alone will not guarantee an informed practice. Without reflection, twenty years of experience can equal one year repeated twenty times (Dewey, 1933). However, reflection that is grounded in experience and in pedagogical knowledge can lead to improved teaching (McAlpine & Weston, 2002). The third quote shows how reflection enables the teacher to view her practice with new eyes. A sense of

increased awareness is apparent and there is evidence of the paradigm shift that Covey (1983) referred to earlier in his quote. The importance of adopting a reflective practice in higher education has been documented in the literature review in Chapter Two. The results of this study have confirmed that reflection is a key element in a teacher's professional development.

The interviews also provided another medium for the participants to reflect on their practice. On one occasion, Deana referred to the fact that the interviews had given her a unique opportunity to discuss, at length, some of the changes she had experienced. According to her, without the interviews, these changes would not have been "measured." As well, the participants expressed an appreciation for the retrospective interviews, which enabled them to reflect on their process over the previous two years. Opportunities such as this, which entail the gathering of anonymous feedback from someone who is not involved with the MTP, can both provide teachers with an opportunity for reflection, and can serve as an important source of feedback for the program

Findings from this study suggest that reflection over time served as the principal factor underlying changes in teachers' perspectives. Furthermore, my analysis of the interviews and my examination of the participants' journals suggest that, as their knowledge base increased, their reflections became increasingly sophisticated and grounded in theory. McAlpine and Weston (2002) maintain that, in order to be effective, reflection needs to be grounded in pedagogical knowledge. The links between pedagogical knowledge and level of reflection need to be further explored.

The Evolving Practitioner

Donald Schön (1983, 1987) referred to reflective practitioners as individuals who are able to move into a situation of doubt and call upon a type of professional mental map to guide their actions. In particular, they rely on tools of reflection, both reflection in action and reflection on action. In this study, the participants functioned effectively as reflective practitioners. In addition to reflection, they demonstrated other signs of continuing to evolve. In this chapter I describe how the participants became increasingly aware of the learner and the learning process. They also became more intentional in their choice of instructional

strategies and assessment techniques, and they worked to align their curriculum. As well, they increased in self-knowledge and developed an identity as teacher professionals. Collectively, these factors suggest that the participants should be viewed as evolving practitioners. An experienced teacher expressed the following thought:

> I am an old dog who has learned new tricks and they are not small changes but profound revisions of how I wish to teach. My basic philosophy of teaching has not changed, but it is even more student-centered and collaborative than it was when I began this MTP journey. (Fran, interview 4, May 2007)

I am reminded of Eraut's statement (as cited in Beaty, 1998), that if faculty members in higher education wish to become learning professionals, they must be prepared to become professional learners.

The participants referred to their identity as teacher professionals as a key aspect of their evolving practice. This professional identity was founded on knowledge of teaching and learning, and the regular practice of habits of mind such as reflection. The confidence that ensued from this enabled the participants to begin to adjust their practice. Thus, the key components of teacher professional identity are pedagogical knowledge, critical reflection on practice, and the confidence to bring about change.

This study has demonstrated the pivotal role that perspectives play in teacher development. In the final section of this chapter, I provide a synthesis of the research on teacher perspectives in higher education. I suggest how my study will make a contribution to the field in this area. I reiterate how an understanding of teacher perspectives can lead to improved teaching and learning in higher education.

The Importance of Examining Teacher Perspectives

Over the past several decades, increasing importance has been paid to teaching and learning in higher education. Although clear relationships have been established among student beliefs, approaches and outcomes, much less is known about the teacher's role in the process (Kember, 1997). A worldwide student population that has increased in both number and diversity, as well as limited resources have led to demands for greater accountability

among teachers in higher education. To promote the complex levels of thinking that are required among college and university students today, teachers are being asked to rethink their pedagogy (Goodyear & Hativa, 2002). The fact that teachers in higher education are usually well prepared for their role as researchers, and less well prepared for their role as teachers compounds this issue. As well, teachers in higher education are hired based on their disciplinary knowledge, and many have a limited understanding of theories of learning and strategies of teaching (cited in Ballantyne, Bain, & Packer, 1999). Former McGill professor Dr. Ralph Harris (2004) has likened his early experiences with teaching to parenting. When he first started out he had nothing to go on but his own ideas, and it did not occur to him to get help. In order to meet today's demands for greater accountability, teaching in higher education has to become more professional (Goodyear & Hativa).

Professional development programs offer a variety of structures to increase teacher effectiveness in higher education. Several participants in this study stated that simply telling academics about effective teaching strategies and approaches, or providing them with short-term interventions will not lead to improvements in the quality of teaching. These findings were also reported by Kember (1997). As well, my study showed that when many of the participants began teaching, they held a number of misconceptions about teaching and learning, and these exerted a negative influence on their practice. These misconceptions have been reported by Hativa (1998, 2002) and by others. Professional development programs such as the MTP that take these perspectives into consideration represent a productive way forward. The focus should be on promoting conceptual change (Ho, 1998).

A significant body of research exists at the primary and secondary levels to support the important role played by teacher beliefs or perspectives. Studies have revealed that these perspectives are resistant to change, act as filters that either accept or reject new knowledge, and exist in tacit form (Kane, Sandretto, & Heath, 2002). In contrast, less research has been conducted into teacher perspectives in higher education. For example, Kember and Kwan (2000) have investigated important links among teachers' perspectives, their approaches to teaching, and student learning outcomes, and they have identified teachers' perspectives as a crucial area to explore. According to Goodyear and Hativa (2002), the discourse on teacher beliefs and perspectives offers an opportunity for radical change. Studies have shown that efforts to change teacher approaches or to teach new skills without examining and reorienting

teacher beliefs or perspectives will be short-lived (Kember, 1997). Several authors, including Kember (1997), Kember and Kwan (2002), McAlpine and Weston (2002), and Hativa (2002), have concluded that if the objective is to improve the quality of teaching in higher education, teachers' underlying perspectives about the fundamental nature of teaching and learning must be addressed.

My study showed how teachers' perspectives evolved along a continuum from a teacher-oriented position toward a learner-oriented one. These findings have been corroborated by several other researchers (Kember, 1997; Kember & Kwan, 2002; Samuelowicz & Bain, 2001). More attention needed to be paid to the process underlying this continuum (Kember). My study outlined a process of evolution in teacher perspectives through four major patterns. I also identified three dimensions of this perspectival evolution and two factors underlying the process. Therefore, by describing a process of change in teachers' perspectives over time, by identifying three major dimensions of this change process, and by explaining how reflection and time function as two factors that underlie these changes, I believe my work has something to contribute to the area of teacher perspectives.

Summary

In this chapter, I discussed the findings that emerged from my analysis over time of six participants' interviews, using the methods of categorizing and connecting. By coding the interview data, I identified a four phase developmental process of evolving perspectives on teaching and learning. I used the four metaphors of awakening, stretching, exercising, and shaping to represent these phases. The narrative summaries that I constructed provided a more contextualized analysis of the interview data. Through their participation in the professional development program, the participants reached new insights about themselves as educators, and the narratives revealed some of the unique ways that this learning had taken place. Together, these findings helped me answer my main research question which was: How does reflecting on teaching and learning over a period of two years in the first four courses of a professional development program (the MTP) contribute (or not) to teachers' changing perspectives on teaching and learning? Results from these two analytic processes converged to suggest that the participants' perspectives on teaching and learning had shifted from a teacher-centered orientation to a more learner-centered position. In particular, the

participants reported an enhanced understanding of the learner and the learning process, an increased intentionality in their curriculum planning and implementation, and a greater sense of self-knowledge. These findings suggest that the participants have emerged as evolving practitioners.

Throughout the professional development program, the participants were encouraged to reflect on their practice on a regular basis, and reflection emerged as a major vehicle for connecting theory and practice. Through the process of reflecting, they were able to consider information that conflicted with their perspectives, and, if necessary, to restructure these. Thus, reflection served as a major factor underlying changes in perspectives. Time also exerted an important role. Findings from this study show that changes in perspectives preceded changes in practice. Changes in perspectives emerged gradually over the course of the program. Findings also suggest that a period of at least one year is necessary before changes in perspectives lead to changes in practice, although this time frame might be mediated by experience. As well, over time, as the participants' knowledge of pedagogy increased, their reflections became increasingly sophisticated and grounded in theory. The impact of pedagogical knowledge on the level of reflection and on emerging perspectives needs to be further explored.

A particular aspect of self-knowledge that emerged was a sense of identity as a teacher professional. This identity seemed to consist of both cognitive and affective components. The cognitive components included knowledge of pedagogy and the capacity to use this knowledge to critically reflect on one's practice. The affective component was the self-confidence that ensued as a result of this. The area of teacher professional identity in higher education has not been adequately explored. I believe this area holds important implications for professional development in higher education, and that more avenues need to be created to foster this exploration.

CHAPTER SEVEN: CONCLUSIONS AND RECOMMENDATIONS

After teaching in higher education for over thirty years, I wanted to explore what would happen to teachers at this level who were exposed to pedagogical knowledge and skills. Would their ideas about teaching and learning change? Would this have implications for their practice? I conducted this study to answer the following question: How does reflecting on teaching and learning throughout the first four courses which cover a two year period in a professional development program (the MTP) contribute (or not) to teachers' changing perspectives on teaching and learning? Through my methodology of repeated, open-ended interviews over time, and through my dual analytic processes of categorizing and connecting, I described, in the results section, a process of evolution in six participants' perspectives over a two year period. I also displayed some of the more contextualized ways through which this change process had taken place.

In my interpretation of the results in Chapter Six, I describe a four phase process of evolution in teacher perspectives. I conclude that the participants' perspectives on teaching and learning have shifted from a teacher-centered/content-oriented focus, toward a more student-centered/learning-oriented stance. This evolution is marked by three major dimensions: an expanded awareness of the learner and the learning process, an increased intentionality in curricular planning and teaching, and an increase in self-knowledge. Further, this increase in self-knowledge is manifested through the acquisition of identity as a teacher professional.

In this concluding chapter, I discuss the limitations of the study, avenues for future research, and final recommendations.

Limitations of the Study

This study has a number of limitations. Among these are the nature of my sample, the role of peer support, my interviewing skills, and the level of analysis that I applied to the various materials.

My sample of volunteer participants was composed of six females. When I first met with the cohort to explain my research project, two of the three male students in the class expressed initial interest in participating. When I contacted them to begin the interviews, they

were unable to commit to the interview schedule. While I believe that my sample of six participants can be described as purposive, in that I have included teachers from both professional and pre-university programs, from various disciplinary backgrounds, and with various levels of teaching experience, I would have liked to include some male voices in my study. In future work I would strive for greater representation by including teachers from all of the CEGEPs who participate in the MTP. Both of these factors would, I believe, result in an even more comprehensive understanding of the impact of the MTP on teachers' perspectives.

Peer support has been identified as a valuable aspect of professional development programs (Brookfield, 1995; Sprinthall et al., 1996). This topic surfaced in the interviews and also in the narrative summaries. While I mention peer support as an important component of successful professional development programs, the time and scope of my study did not afford me the opportunity to explore this factor more fully. In future research, I would examine the role of peer support further.

I had no prior experience with the interviewing process when I began this study. The protocol I developed for the interviews included a combination of Patton's (1987) interview guide approach and Seidman's (1998) standardized open-ended interview approach. I felt that my position as a CEGEP teacher was an advantage, in that it provided me with insider knowledge. I also tried to ensure that my participants felt comfortable at all times, and that they understood the questions I was asking. In retrospect, interviewing is like any other learning task: It improves with practice. I feel that my initial interviews can be described as more structured and not as semi-structured as I would have liked them to be. My later interviews were more characteristic of the open-ended, semi-structured style I was aiming for. I attribute my earlier, more structured approach to two factors: lack of experience and lack of confidence. First, if I had prior experience developing open-ended questions and conducting open-ended interviews, this difference would have been diminished. Second, I was initially concerned that the interviews would not yield enough data for my analysis, and hence my questions were more directed and structured. When I began to uncover the wealth of information that was unfolding through the interviews, I began to relax, and my questions became less directed and more open-ended. Practice is important before trying out any new skill, and this was brought home to me through the experience of interviewing.

Finally, I based this analysis on several sources of data. These sources included interviews, concept maps, and reflective journals. I believe that the processes of categorizing and connecting that I applied to the interview data resulted in a thorough analysis, and led to conclusions that were firmly grounded in the data. I also feel that I was able to successfully integrate the participants' first and second concept maps into my findings. The reflective journals were read for major themes and this information was successful in corroborating my major findings. However, I feel that there is a wealth of information in these journals that could be uncovered through further analysis, although time did not permit this in my study.

Future Research

Several avenues for future research have emerged from this study. Some of these deal with the general literature in the area of professional development and teacher perspectives; others are related to more specific outcomes of this study. In terms of the general literature, there is a need to address methodological problems, to investigate connections between teachers' perspectives and their practice, to continue to define the critical elements of successful professional development programs, and to explore ways for teachers in higher education to acquire a sense of professional identity. In terms of this study, research efforts should focus on a closer analysis of the participants' reflective journals and on integrating other sources of information to shed further light on the evolution of teacher perspectives.

Efforts to advance research in the areas of both teacher perspectives and reflection have been thwarted by several methodological problems. The lack of clear terminology, the use of different approaches to measure the phenomena, the absence of rigor in research design, and the frequent exclusion of an audit trail are some of the difficulties that have been identified. Concerning teacher perspectives, in the review of the literature I conducted in Chapter Two, I encountered multiple terms such as beliefs, conceptions, perspectives, and orientations that were used interchangeably across studies, and sometimes within the same study. Moreover, these terms were rarely defined. I encountered similar problems with the use of the term, reflection. The methodology also varied considerably from one study to another. Different approaches were used, for example, to assess perspectives, and details concerning research design were often sparse (Kane, Sandretto, & Heath, 2002). This made it difficult, if not impossible, to compare findings across studies. In order to move the research

on teacher perspectives and on reflection forward, it is imperative that a consensus is reached concerning the use of terminology. If such an agreement is not forthcoming, at the very least, researchers must define their terms and provide details about their methodology. In addition to problems concerning methodology, another area that interferes with advances in research is the lack of a coordinated sharing of findings across contexts. This has been identified as a major problem in the field of education (Bransford et al., 2000; Sprinthall et al., 1996), and it can lead to the unnecessary duplication of research efforts. For example, a substantial body of knowledge on teacher perspectives exists at the elementary and secondary levels, but it is rarely cited to inform studies in higher education. Researchers need to find ways to bridge these gaps and to share this knowledge. Efforts in the domain of methodology, and in the sharing of information across contexts, will advance research in continuing professional development.

One of the major challenges with research on teacher perspectives is that these perspectives cannot be directly observed and verified; they must be inferred. Although interviews serve as a primary way to uncover this covert thinking, they rely on self-reports alone. This leads to the second major area that needs to be addressed, which concerns the discrepancy in many studies between what teachers say they do, or their espoused beliefs, and their actual practices, or their theories-in-use (Kane, Sandretto & Heath, 2002). According to the authors, when we focus only on what teachers say they do and neglect to examine what they do, we "risk telling half the story" (p. 177). Consequently, several studies have reached premature conclusions about teachers' practice, based on their self-reports alone. In this study, the participants often referred to their classroom practices, during reflections that surfaced both during the interviews and in their journal entries. Based on this data, I reached conclusions about their perspectives, and not about their practice. Studies have shown that the links among teachers' perspectives, their teaching approaches, and their practice are complex, and have not been clarified. For example, Kember and Kwan (2002) have explored interesting links between teachers' beliefs or perspectives and their approaches to teaching. Preliminary research has also suggested connections between conceptions of teaching and student approaches to learning (Gow & Kember, 1993). What is missing from much of this research is access to the teacher's practice, in order to verify their theories-in-use (Kane, Sandretto & Heath). One way to gain access to teacher practice in a future study

would be to examine the videotape that each participant made of their teaching, in the second year of the program. I could also view the videotape with the participant and ask them to comment on their teaching, in an effort to further explore the link between perspectives and practice. In their 2002 study, McAlpine and Weston used a similar methodology. Including this direct observation of teacher practice would add more credence to the claims that the participants had made during the interviews, concerning their practice. Future research needs to elaborate the complex interactions among teachers' perspectives, their approaches, and their practice.

The participants in this study were part of a professional development program, and an analysis of their reflections revealed considerable changes in their perspectives on teaching and learning. Furthermore, according to self-reports, changes in perspectives preceded changes in practice, a result also reported by Mezirow (1992). My study showed that it is important to target perspectives early in one's teaching career, since this has implications for teaching practice. This finding has been corroborated by others (Hativa, 2002; Saroyan et al., 2004). Moreover, this study showed that the process of reflection must be sustained over time, in order to bring about significant changes in perspectives. Professional development programs need to continue to define the best ways to encourage teachers to examine and critically assess the role that perspectives play in their practice. An even greater challenge is finding ways to entice all teachers in higher education to embark on the journey of critical reflection on practice.

Identifying the critical components of successful theory-based models, such as the MTP, represents an important step forward in research on professional development in higher education. In this study three components emerged: collegiality, a curriculum, and committed teachers. We need to explore further these specific program elements, and in particular to elaborate the role played by a supportive community of colleagues in a teacher's professional development. The second factor, identifying the right mixture of curricular knowledge and skills, also remains a challenge. Investigating educational models from other contexts, such as medicine (e.g., Cole et al., 2004), can help to shed light on this aspect. The importance of a well-thought out curriculum was reiterated in a recent e-mail that I received from one of the participants.

> Taking courses forces you to do the reading in the field that I do not do without some sort of external motivation. But once stimulated, I hook into other sources of interest. It's like priming the pump. One stimulus does have wider reaching effects than are immediately apparent. (Fran, personal communication, January 15, 2008)

Other researchers including Lauzon (2006) and Poellhuber (2001, 2002) have also referred to the critical role that a given stimulus can play, in terms of serving as an incentive to encourage teachers to further their professional development. The third component, which involves a commitment from teachers to critically analyze their practice, remains the greatest challenge for professional development programs. It will require nothing less than a paradigm shift in the way academics envision their role as educators. In most professions, the expectation is that individuals will continue to evolve. It is surprising that teachers in higher education hold so few prospects for their own growth. The participants in this study have signaled the acquisition of teacher professional identity as an important element in their evolution as teachers. We need to create spaces that will enable this type of professional identity to emerge, so that teachers will come to recognize that their identity as teachers lies as much in pedagogical expertise, as it does in disciplinary expertise. Fostering this sense of teacher professionalism can be the spark that leads teachers to make a commitment to critically examine their practice. Researchers need to continue to investigate these three critical components in order to elaborate models of excellence.

In addition to these general areas of concern, there are specific questions that arose from this study that I would like to explore further. These include integrating more avenues to examine teacher perspectives, investigating the impact of the MTP on institutional climate, and assessing the long-term impact of the program on teacher satisfaction.

In a follow-up study, I would explore additional sources of data that might shed more light on how teacher perspectives evolve. For example, I interviewed the teachers who taught the four MTP courses, and I used this information to provide me with background knowledge on the program and the courses. This information also helped me develop questions for the interviews. Although I did not analyze this interview data, I feel that the voices of the teachers could represent an important source of information. For example, it would be interesting to see whether a relationship exists between the perspectives that the participants

held at a given point in time, and the corresponding perspectives that their course teachers held for them. As well, I examined the course syllabi and the course readings for general themes. Integrating the voices of the teachers and examining course documents in a more purposive fashion would provide other avenues of input, and also would shed light on the potential impact that individual teachers, as well as the MTP curriculum, might have on the participants' emerging perspectives. In a future study, I would also like to examine, more attentively, the level of reflections that were present in the participants' journals. I noted that over time, as their knowledge of pedagogy expanded, their reflections demonstrated correspondingly higher levels of cognitive complexity. Analyzing the journals, using a coding scheme such as that outlined by Kember et al. (2000), could provide evidence for the evolution of levels of reflection over time. Since this scheme is based on Mezirow's (1992) theory of transformative learning, this type of analysis could also help to clarify the link between critical reflection and transformative learning. However, this coding scheme has quantitative dimensions. In line with the qualitative nature of this study, it would be more appropriate to devise a qualitative methodology to assess the level of reflection in the participants' journals.

Second, during the interviews several participants mentioned that they had become involved in professional activities beyond their teaching. Studying the institutional impact of the MTP would prove interesting. For example, what happens when a core of teachers from a particular CEGEP embark on a program of professional development? Does the climate within the college setting change, and if so, how? At what levels are these changes felt, for example among colleagues, and at the departmental, program, and provincial levels? How is this change manifested?

Finally, the long-term impact of the MTP on teacher satisfaction and enjoyment of teaching would also be interesting to explore. In the final interviews I asked the participants whether they felt teaching had become easier or more difficult for them, as a result of their participation in the MTP. The general response was that because their level of awareness had increased, teaching had become more labor intensive; however it was also more interesting. Doubt concerning one's teaching ability is a factor interfering with teaching enjoyment (Cole et al., 2004). As the program evolved, the participants reported an increased sense of confidence in their teaching. I would like to extend these findings further by investigating

whether increased awareness, pedagogical knowledge, and confidence translate into greater satisfaction with teaching, both short-term and long-term. The MTP's curriculum coordinator, Dr. Dianne Bateman, is under the impression that teachers who have been through the program and who understand teaching and learning will show fewer signs of burnout in the long term (personal communication, June 2007). Longitudinal research could shed light on this theory. Examining teacher satisfaction on both a short and long-term basis, and comparing these results with teachers in higher education who have not been exposed to a curriculum such as the MTP, would prove interesting.

Final Recommendations

Based on the findings I have uncovered in my study, I wish to advance the following recommendations, both general and specific. These recommendations can help to inform the future of teaching in higher education and at the CEGEP level, in particular. The specific recommendations identify critical elements that professional development programs need to foster, to encourage teachers to evolve as effective practitioners.

General Recommendations

- Recognize that teaching is a complex process that evolves over time:

  The notion that good teaching ensues as a natural byproduct of acquiring disciplinary expertise is a grave misconception, and it seriously underestimates what is involved. Saroyan et al. (2004) compare teaching to an iceberg: The multifaceted cognitive and affective processes, including reflection, represent the invisible 7/8 of the iceberg. Rege Colet and Romainville (2006) reiterate the fact that developing new pedagogical approaches takes time and immediate positive results are often not forthcoming. As well, Bessette (2006) refers to the fact that developing a reflective stance in one's teaching is a life-long process. Therefore, teachers need support in order to persevere. They also need resources to ensure their professional development and these resources cannot be left to chance. A report by the Parity Committee (2008) entitled *Teaching at the College Level: Profile of the Profession,* states

> One of the features of teaching is its "reflective" nature. It is essential for each individual instructor to examine, analyze and develop their own practice. Thus they determine their own professional development needs based on the resources available. (p. 49).

This perspective appears to favor an overly individualistic approach to professional development, and, in doing so, it neglects the role of the teaching and learning community in the ongoing professional development of teachers. Resources can vary across CEGEPs and within departments. If there is no collective vision or leadership within this milieu, it is not clear that individual teachers will be sufficiently motivated to engage in ongoing professional development. Teachers need a stimulus to embark on this quest and to persevere (Poellhuber, 2001, 2002). At the very least, we need to recognize at all levels, administrative, departmental, inter-collegial, and individual, the complex processes that teaching entails. We also need to encourage teachers to adopt the stance of the learner that Boyer (1987) referred to when he stated, "All faculty, throughout their careers, should themselves remain students" (p. 10).

- Reconceptualize fundamental ideas about teaching and learning in higher education:

  The deep conceptual change I am referring to involves thinking about teaching as "the ability to simultaneously observe, monitor, analyze, and adjust when necessary, the complex intellectual, psychological, and emotional processes that occur in our respective classrooms" (Bateman, 2002, p. 2 of 6). Moreover, this challenge is renewed every time we step into a classroom. In terms of learning, the individuality of the learner, and the complex cognitive, motivational, emotional, and social processes that are involved must also be taken into consideration. As well, teachers need to understand the intricacy of the teaching/learning dynamic. This will necessitate nothing less than a paradigm shift in our current way of thinking about teaching and learning. Perhaps one of the best ways to integrate this new paradigm at the institutional level is to ensure that new faculty members who are hired share these perspectives, and demonstrate these in their teaching.

- Provide teachers with structured opportunities to meet and engage in "critical conversations" around issues of pedagogy:

Teachers in this study reported that opportunities such as these are almost nonexistent in their colleges. Unless occasions to discuss pedagogy are explicitly planned and integrated, the faulty assumption of double professionalism (Beaty, 1998), that is, the belief that knowing your discipline is synonymous with being able to teach it, will prevail. Furthermore, these occasions should highlight for teachers, the advantages of increased understanding: Teaching can become more interesting and more enjoyable, and student learning and success can increase. A document such as this study can serve as a springboard for discussion at the CEGEP level. Within these discussions teachers need to embrace a fundamental principal: Master teachers are not born, but expertise in teaching can be learned.

Specific Recommendations for Professional Development Programs in Higher Education

- Scaffold pedagogical knowledge for teachers. Encourage teachers to link this knowledge base to their teaching. The MTP and the Teaching Community (MacDonald, 2001) provide excellent models in this domain.
- Promote an awareness of perspectives on teaching and learning, early on, in professional development programs. Challenge these perspectives with findings from cognitive science. Whenever necessary, support teachers in restructuring their perspectives.
- Advance the regular practice of reflection. This habit of mind can lead to improved teaching, if it is grounded in pedagogical knowledge. Teachers can be encouraged to reflect through journal writing, and in their discussions with colleagues. Reflections can focus on activities related to class preparation, to teaching, and can also include post-teaching analysis. Teachers should also be encouraged to reflect critically on larger issues, such as their philosophy of teaching and learning.
- Encourage teachers, through reflection, to become more aware of their own development, both as teachers and as learners. The evolution of teacher professional identity emerged as a major finding in this study. Teachers reported that when they understood and were able to articulate what they do as teachers, their confidence in their ability to teach improved. They also regarded themselves as teacher

professionals. This increased metacognitive awareness includes both cognitive and affective components. Teacher professional identity can serve as an important hook that encourages teachers to establish benchmarks for themselves, in order to improve their practice. Excellence in teaching needs to be viewed as "an ongoing process, not a measureable end point" (Kane, Sandretto & Heath, 2004, p. 287).

- Finally, provide teachers with external incentives to encourage them to persevere in improving their practice. Participation in professional development programs should be rewarded. Preferential scheduling of classes, release time from teaching, merit pay, attendance at conferences, and awards for teaching excellence are some examples. If institutions want to promote teaching excellence in higher education and encourage teachers to evolve as practitioners, they must be prepared to invest in this process.

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APPENDIX A:

List of Courses Offered in MTP

Fall 2007

Psychology of Learning for the College Classroom

Credits: 3 — Course ref: PED-893

Location: John Abbott College, Ste Anne de Bellevue, QC

Dates: Fridays		
	Aug. 20, 22, 24, 2007	3:00-6:00
	Sept. 7, 21, 28, 2007	3:00-6:00
	Oct. 19, 26, 2007	3:00-6:00
	Nov. 2, 16, 30, 2007	3:00-6:00

Plus a 12-hour on-line component

Prerequisite: *College Teaching: Issues and Challenges*

Instructional Strategies for the College Classroom

Credits: 3 — Course ref: PED-872

Location: Vanier College, St Laurent, QC

Dates: Fridays		
	Aug. 20, 22, 24, 2007	3:00-6:00
	Sept. 7, 21, 28, 2007	3:00-6:00
	Oct. 19, 26, 2007	3:00-6:00
	Nov. 2, 9, 16, 30, 2007	3:00-6:00

Plus a 9-hour on-line component

Prerequisites: *College Teaching: Issues and Challenges*
Psychology of Learning for the College Classroom

Critiquing a Research Project Proposal

Credits: 1 — Course ref: MEC-803

Location: tba

Dates:		
	Sept. 14, 28, 2007	tba
	Oct. 12, 19, 2007	tba

Prerequisite: *Designing a Research Project Proposal*

M.Ed. *Program Structure*

Course	Credits
College Teaching: Issues and Challenges (PED-873)	3 credits
Psychology of Learning for the College Classroom (PED-893)	3 credits
Instructional Strategies for the College Classroom (PED-872)	3 credits
Assessment as Learning (PED-892)	3 credits
Planning and Preparing Your Teaching Portfolio (DVP-800)	1 credit
Developmental Psychology: The Emerging Adult (PED-882)	2 credits
Dynamics and Diversity in the College Classroom (PED-874)	2 credits
Integrating Technology into the College Classroom (TIC-804)	3 credits
Constructing Knowledge in ***Your*** Discipline (DID-855)	3 credits
Philosophy of Education (PED-883)	3 credits
Constructing Knowledge ***Across*** the Disciplines (DID-869)	3 credits
Presenting Your Teaching Portfolio: An Integrative Activity (DVP-801)	1 credit
Understanding the Research Cycle (MEC-800)	3 credits
Exploring Research Strategies (MEC-801)	3 credits
Designing a Research Project Proposal (MEC-802)	2 credits
Critiquing a Research Project Proposal (MEC-803)	1 credit
Conducting a Research Project (MEC-804)	6 credits
	45 credits

Integrating Technology into the College Classroom

Credits: 3 — Course ref: TIC-804

Location: Vanier College, St Laurent, QC

Dates: Fridays		
	Aug. 20, 22, 24, 2007	3:00-6:00
	Sept. 7, 21, 28, 2007	3:00-6:00
	Oct. 19, 2007	3:00-6:00
	Nov. 2, 23, 30, 2007	3:00-6:00
	Dec. 7, 2007	3:00-6:00

Plus a 12-hour on-line component

Prerequisites: *College Teaching: Issues and Challenges*
Psychology of Learning for the College Classroom
Instructional Strategies for the College Classroom
Assessment as Learning.

Constructing Knowledge In *Your* Discipline

Credits: 3 — Course ref: DID-855

Location: Dawson College, Westmount, QC

Dates:		
Friday	Sept. 14, 2007	4:00-7:00
Saturday	Sept. 15, 2007	9:00-4:00
Friday	Oct. 19, 2007	4:00-7:00
Saturday	Oct. 20, 2007	9:00-4:00
Friday	Dec. 14, 2007	4:00-7:00
Saturday	Dec. 15, 2007	9:00-4:00

Plus a 9-hour on-line component
Plus 9 hours of independent research

Pre-requisites: *College Teaching: Issues and Challenges*
Psychology of Learning for the College Classroom
Instructional Strategies for the College Classroom
Assessment as Learning.

APPENDIX B:

Letter of Approval from MTP Steering Committee

Master Teacher Program
Consortium of Anglophone Colleges

April 4, 2006

Susan Kerwin-Boudreau
1535 Bachand
Carignan, QC
J3L 4E6

Dear Susan,

As a result of our meeting with you today, the Steering Committee for the Master Teacher Program has agreed to allow you to use our students in the sample group for your doctoral dissertation: *The Impact of a Professional Development Program on Teacher Development in Higher Education*. We discussed and agreed on the parameters of your use including the confidentiality of the data.

We wish you the best of luck in your endeavor.

Denise Bourgeois, MTP Program Coordinator
For the Steering Committee

Université de Sherbrooke PERFORMA | Champlain St-Lambert | Dawson College | Cégep John Abbott College | Cégep Vanier College

APPENDIX C:
Interview Questions

INTERVIEW QUESTIONS FOR COLLEGE TEACHING: ISSUES AND CHALLENGES (SUMMER 2006)

First Interview

Objectives

- To build rapport
- To establish a baseline of beliefs (before onset of MTP)
- To investigate impact of first course (*College Teaching: Issues and Challenges)* on the participant's beliefs about teaching and learning

Questions

Before the MTP

1. Before you began the MTP, can you tell me about your teaching experience?
2. What were your ideas (or assumptions) about teaching? How did you view your role as a teacher in the classroom?
3. What were your ideas about how students learned best? What did you consider to be the role of the student in the classroom?
4. What were these [original] ideas based upon? How did they originate?
5. At this point, what was your idea of an exemplary teacher? Did you think that 'learning to teach' happens as a result of experience? How would you have responded to the following statement: "good teachers are born, not made".

The beginning of the first course

Let's examine some of your early work in this course (reference to student products…)

1. Can you talk about your ideas or your beliefs about teaching that are present here? About student learning?
2. What was your primary focus as a teacher in the classroom at this time? What was your role?
3. Was there a difference between knowing your subject and teaching your subject?
4. How did you view the student's role in the classroom? What did you consider to be the student's role in the learning process?

Throughout the course

1. Were there any specific readings, learning tasks, discussions that affected how you view the teaching/learning process?
2. What role did peer interactions/support play?

At the end of the first course

1. If we examine this particular learning task, do you see any changes in your views about teaching and learning at the end of this course, as compared to the beginning?

2. Can you discuss your view of teaching/learning at this point in the program? What assumptions about teaching and learning did you bring into the classroom?
3. How did you envision your primary role as a teacher in the classroom? What was the student's role?
4. At this point, had your ideas of what makes an 'exemplary teacher' changed in any way?
5. How did you think students learned best in your course? What were the most important things you could do to enhance student learning?
6. Have your [changing] views about teaching and learning impacted upon areas beyond your teaching? Explain.

INTERVIEW QUESTIONS FOR PSYCHOLOGY OF LEARNING (SUMMER 2006)

1. If you had to select a slogan that would represent the key idea of this course, what would it be?
2. How would you describe your overall theory of learning before this course began?
3. How would you describe the learning process now?
4. What role does the teacher play in the learning process? What role does the student play?
5. How can theories of learning influence our teaching? Which theory of learning did you most identify with during this course? Why? Did this knowledge impact upon your teaching in any way? How? Did it impact on your dealings with your students? How?
6. Which theory of learning did you least identify with? Why? Did this knowledge influence either your teaching or your dealings with students? Explain.
7. Can you talk about how you reflected on teaching and learning in this course? Did this reflecting have any impact on your ideas about teaching and learning? How? Did this reflecting impact on your practice? How?
8. Have your ideas about what constitutes intelligence changed in any way, as a result of this course? How do you understand “intelligence” now?
9. Have your ideas about students and their individual needs changed as a result of this course? Has this impacted on your teaching? Explain.
10. How would you summarize the impact that this course has had on your philosophy of teaching? On your philosophy of student learning?
11. In terms of your teaching strategies, were you able to connect theories of learning with your classroom practices? Explain.

INTERVIEW QUESTIONS FOR INSTRUCTIONAL STRATEGIES

(JANUARY 2007)

RECAP: Main purpose of research: To explore teachers ideas re T & L in response to their reflections on first 4 courses in MTP

Responses are pooled across participants: Searching for underlying themes

1. One of the first readings is an article by Porche and Spencer entitled "*We've come a long way*". In terms of your experiences in the MTP to date- do you feel you have come a long way? How?

2. The main course objective is to be able to select an instructional strategy that suits a particular classroom situation. What does this mean to you now? How did you apply this to your instructional strategies overview chart (Smith & Regan chapter)?

3. Philosophy of Education: One of the learning outcomes of this course is to understand how a chosen instructional strategy relates to one's philosophy of education. Did this course help you to better understand your own philosophy of education? Can you describe it now? Which instructional strategies are most linked to your philosophy of education?

4. Course objectives**:** Another objective is to relate teaching strategies to course objectives. Can you talk about your videotaped classroom teaching assignment? What did you learn from this experience?

5. Curriculum development: Curriculum development is a long process. Do you feel that your curriculum is more aligned now?

6. Psychology of Learning course: When I interviewed students last June, many felt the content of the *Psychology of Learning* course was rather dense. Do you feel that some of this theory was activated in this third course- were you able to link pedagogical theory or types of knowledge with instructional practices? Explain.

   Do you feel that after this third course your ideas of how people learn have changed (do you have a better idea of how this occurs?) Have your ideas re role played by teacher in learning process changed? What about your ideas re role played by the learner?

   Do you identify more NOW with a particular theory or approach to learning than you did during the Psychology of Learning course?

7. Classroom teaching: Did your ideas about what it means to teach effectively shift in this course? Do you find yourself experimenting more with instructional strategies in your classroom? How has the MTP helped you to orchestrate this process?

8. Active learning: Do you feel that you are now more able to use instructional strategies to promote active learning in your classroom? Have you experimented with active learning strategies?
9. What do you do if things don't work out? Do you think the MTP has provided you with coping tools or habits of mind to problem solve? What are some of these tools?
10. Student-centered vs. teacher-centered teaching and learning:
11. How would you describe yourself at this point in the program?

    Confidence: Do you have more confidence in terms of trying new strategies? Do you have more confidence or more security in terms of yourself as a teacher (legitimate authority)? Do you feel you have found that balance in terms of how you work with students?

    Do you feel you know more "what you are doing in the classroom"?

    Are your students benefiting? Do you think they are learning more now?

    Do you find yourself questioning more and more what you are doing in the classroom? At the beginning of the program several people said they were hoping for a magic wand to apply to their teaching. Has this other road (critical reflection) paid off?

12. Reflection on/and course readings: What role did reflection play in any change process you experienced this semester? Were you able to reflect on the link between teaching strategies and philosophy of education?

    What role did the course readings play?

    What role did classroom discussions play?

What role did the on-line course component play?

Re-examine concept maps from first course:

SUMMARY:

Where are you now in terms of your ideas about what it means to teach? Where are you now in terms of what it means to learn? How do you feel at the end of this course?-Are you satisfied with this course? With the program? What do you see as the main advantage of the MTP? Have you experienced transformative learning? At this point in the program-what do you think is missing in terms of tying things together?

INTERVIEW QUESTIONS FOR ASSESSMENT (MAY-JUNE 2007)

1. How would you define assessment? What does the term "meaningful assessment" mean to you?
2. How is assessment related to student learning? Can you give an example?
3. How do your assessment tasks reflect what students learn? How students learn? Can you give examples?
4. Can you explain or give an example of how an assessment task might encourage student learning? Discourage student learning?
5. It has been stated that assessment should be viewed as a part of teaching- and not separate from it. What does this mean to you?
6. It has been stated that, from the student's point of view, assessment defines the actual curriculum- that is, where the focus lies for them. What do you think of this?
7. Do you plan your courses differently now? If so, can you discuss how?
8. Do your assessment methods reflect your educational philosophy? Please explain.
9. How does assessment tie in with an aligned curriculum? Do you feel your assessment tasks are connected to your instructional objectives? Please explain.
10. What have you learned most from this course? Explain why.
11. Do you feel that your teaching has changed as a result of this fourth course? Why or why not?

12. Have you revised any of your assessment methods as a result of this course? If yes, give an example. If no, explain.

13. Can you talk about whether your teaching has become easier as a result of this new knowledge on assessment? Why or why not?

14. Do you use self-assessment in your classes? What are the benefits? Are there any drawbacks?

15. Have your ideas about how students learn changed as a result of this fourth course? If yes, explain how. If no, explain.

Questions for Retrospective Interview (MAY-JUNE 2007)

1. Let's begin by reexamining the first 2 concept maps you created in the first course. Where are you now? What adjustments (if any) would you make to these maps? Explain why.
2. Has your conception of teaching changed since the beginning of the program? If yes, explain how. If no, explain.
3. Has your conception of student learning changed? Please explain.
4. Has your philosophy of education changed? Please explain.
5. Have you noticed any changes in terms of how you prepare for your classes? Please explain.
6. When you are in the classroom with your students, do you perceive things differently now? Please explain. Can you give an example?
7. Can you describe your understanding of curriculum design now? Have these ideas changed (if they have) since the beginning of the program?
8. Have you experienced any changes in terms of how you understand and select different instructional strategies in the classroom? Please explain.
9. How would you situate yourself today in terms of integrating active learning in the classroom? Please explain.
10. What would you say are the 3 or 4 most important items or "pearls of wisdom" (if any) that you have learned from the MTP to date?
11. What would you say to a new teacher who believes that classroom experience alone is sufficient for learning to teach (i.e., no MTP)?

12. How valuable has the process of reflecting been to you throughout these first 4 courses? Can you give examples?
13. Describe how you think you learn best. Which aspects of the following (if any) are important to you in your learning? (Order from most useful to least useful): course readings, learning journals, classroom discussions, learning tasks, assessment tasks, other.
14. Describe what this program has done for your teaching? For example, has teaching become easier/more difficult? Mote technical? More fun etc.?
15. Teaching has often been described as an art or a science. How would you respond to this?

APPENDIX D:

Participant Consent Form

The Impact of a Professional Development Program on Teacher Development in Higher Education

PARTICIPANT CONSENT FORM

Name of participant____

Date____

Address____

E-mail address____

Telephone____

I, the undersigned,

- Agree to participate in the research project entitled **The Impact of a Professional Development Program on Teacher Development in Higher Education**
- Understand the purpose of this study and know about the benefits and any inconveniences that may be involved
- Understand that I am free to withdraw from this study for whatever reason and at any time without penalty or prejudice
- Understand how confidentiality and anonymity will be maintained during this research project
- Understand the anticipated uses of the data with respect to my dissertation, related publications and presentations.

I, therefore, freely consent and voluntarily agree to participate in this study.

Signature____

1/14/07

APPENDIX E:

Contact Summary Sheet

CONTACT SUMMARY SHEET

PARTICIPANT:

SITE:

DATE OF CONTACT:

1. Outline the nature of the contact.

2.a What were the main themes about teaching that emerged?

b. Did any patterns re. changes in thinking about teaching emerge?

3a. What were the main themes about learning that emerged?

b. Did any patterns re. changes in thinking about student learning emerge?

4. What else struck me as interesting, illuminating or important in this contact?

5. What new target questions should be explored in my next contact?

SYNTHESIS OF MAJOR THEMES:

APPENDIX F:

Initial Discovery Sheet

IDEAS FOR INITIAL DISCOVERY SHEET (July 2006)

RECURRING WORDS

Teacher

Learner

Learning

Teaching

Disequilibrium

Change

Perspectives

Growth

Pedagogy

Parallel situation

RECURRING CONCEPTS

Teacher-centered

Students as sponges

Parallel situation (teacher/learner)

Learning by doing

Changes in pedagogy

Changes in ideas

Learner centered

Different stages of learning

CEGEP education

RECURRING THEMES

Teachers are content driven

Teachers focus on themselves

PD seemed like a good idea

PD was a way to connect with peers

PD was offered to me

I need the credits

There’s more to this than I thought

I’m confused

I don’t understand how students learn

Students learn like me

I didn’t want to lecture but I did

Changing ideas about teaching

Changing ideas about learning

Teacher characteristics and personality are important

The learner is absent in the concept maps

Teachers don’t like reflecting

Reflecting is useful- I haven’t done this for a while

APPENDIX G:
Sample Reflective Journal

Assessment as Learning

Journal #1

Due: 2 February 2007

It is interesting that you suggest giving advice to a novice teacher. I share my office with a PhD student who is teaching math for the first time at the College and he asks my advice on various matters. Today he asks me a question just as I'm heading off to class. He says "I have a quick question to ask you" and then he proceeds to ask me about students submitting poor quality assignments. He wonders is it him or is it the students. I told him that the response would take longer than the minute I had available before running off to class.

In a quick minute I said to him that there are many factors he might need to look at, to understand his students and how they are performing with regard to the requirements of the assignment. I think I'll give him a copy of the Shepard article. And then we can have coffee to discuss it!

I reflected back to when I first started teaching (three years ago) and how I felt when I first collected a group of assignments from students and was quite dismayed at the poor quality of work (not by all the students but by some of them). I now know that it was a combination of a poorly designed assignment, and poor structure around the teaching and learning activities to lead them to successful completion. And probably more importantly, I didn't provide enough direction about what was the expected outcome (what were the objectives, what were the standards to meet, what tools (and guidance) did they need to lead to successful completion. I was firmly rooted in the behaviourist camp – I would reward them or punish them in order to control their behaviour. And most were quite used to that treatment. The high achievers (those interested in high marks – not to be confused with deep learning) just wanted to know what to memorize to get a high mark. Others just didn't give a "sh--." They didn't see any value in what we were doing in the classroom and had no interest in becoming engaged in the process.

I would tell the students what they needed to know, they would regurgitate it to me on a test – and everyone was happy. The slackers wouldn't know what to regurgitate and hence would fail. It really was their fault. However, since those salad days of my early teaching career, I can now examine the "learning environment" and assess the situation and adjust my practices accordingly. Now I closely align the teaching and learning activities with the course objectives and the assessments now seem to fall naturally into place. I've put more responsibility on the students to take control of their learning (but that is still struggling and somewhat a work in progress). I'm much more enlightened about understanding the needs and hence the motivations of the student.

So if I were to have coffee with my novice colleague, then I would probably want to find out more from him before getting into this instruction/assessment issue. I would want to get an idea of his teaching philosophy first. See what he has to say about his role as a teacher and how he sees the role of the student and the learning process overall. Also, I would ask him to examine where his students are coming from – does he have a sense of their individual needs and their motivations. Then I would ask him about his course objectives and how he designs his teaching and learning activities. This would help me find out where he is coming from (is he a social constructivist or a behaviourist). And then I would move into the assessment discussion.

We could discuss the negative effects of high-stakes accountability testing (chat about what Shepard has to say on the subject). Are students still extrinsically focused – they only think about what they have to do to get the marks – because with the highest marks, they'll get into the best school, or they'll get a job in the best company. This is the system they are used to and they've clearly learned how it works (the rewards and the punishments). So Shepard points out that students understand the system and respond accordingly. The keen students learn how to play the system and the focus is on beating it rather than truly being about "the excitement of ideas."

How can a teacher use assessment in the process of learning? I would suggest to my colleague that there are ways to use assessment to support a culture of learning. I would refer to Shepard's discussion about creating an environment for learning that is based on a collaborative and participative approach.

Consider how you give feedback. Don't just correct students, but try to give them hints to facilitate the learning process and bring the student along to the correct answer. Try to maintain student motivation and help build his/her self-confidence, and at the same time address the errors.

Consider how the student not only understands the concepts but how they are able to transfer it to multiple new situations. Students need lots of opportunities to practice, to move from easy to more complex, and to explore ways of relating the concepts to new situations (this includes an ability to analyze the situations and determine the best way to deal with it – either apply a known model, or create something new).

And give the student clear direction. They should know what are the expected outcomes are, and then specifically what are the standards of performance. Don't just assume they know exactly what you're thinking. Some students may be able to read your mind, many though, need the support and direction. Be clear about the objectives and the standards. This will also ensure equitable treatment within the classroom – everyone has a good chance of succeeding if the rules of the game are clearly stated and you've worked towards developing their skills and knowledge to tackle the problem and you've encouraged and supported them so that they are confident in what they're doing (this also relates to motivation – if the student can see that his effort will lead to a certain level of performance, and he's confident that he can do it, and he values the outcome, then there is probably a good chance that he will exert the effort.

If you've created an environment where there is trust, and student/teacher collaboration and participation, then the student should also take an active role in assessing his performance. Let the student take ownership of his work. They are responsible for the learning process – they aren't a spectator on the sidelines, they are an active participant!!

Finally, be open to feedback from the students and adjust accordingly. I do a student feedback form around week 4 in the semester and if I am off track with regard to the students expectations, then I can adjust accordingly (and in line with what we have to do in the course).

I'll end my journal with some final thoughts on "the culture of learning." In order to create a certain type of culture, we, as teachers, have to understand the culture that currently

exists. The current culture is based on the values and the beliefs of that group within it. And those values and beliefs are not always matched (just think about different values you see in dysfunctional departments, within institutions, and between teachers and administration). And then there is the student body, shaped and influenced by a variety of sources (their own culture, their parents, the education system, and so on).   We can work individually to try to change the culture, by creating an environment that promotes collaboration, information sharing, power sharing, and participation. Individually we can change things, but the most important ingredient is visionary leadership (of the institution).

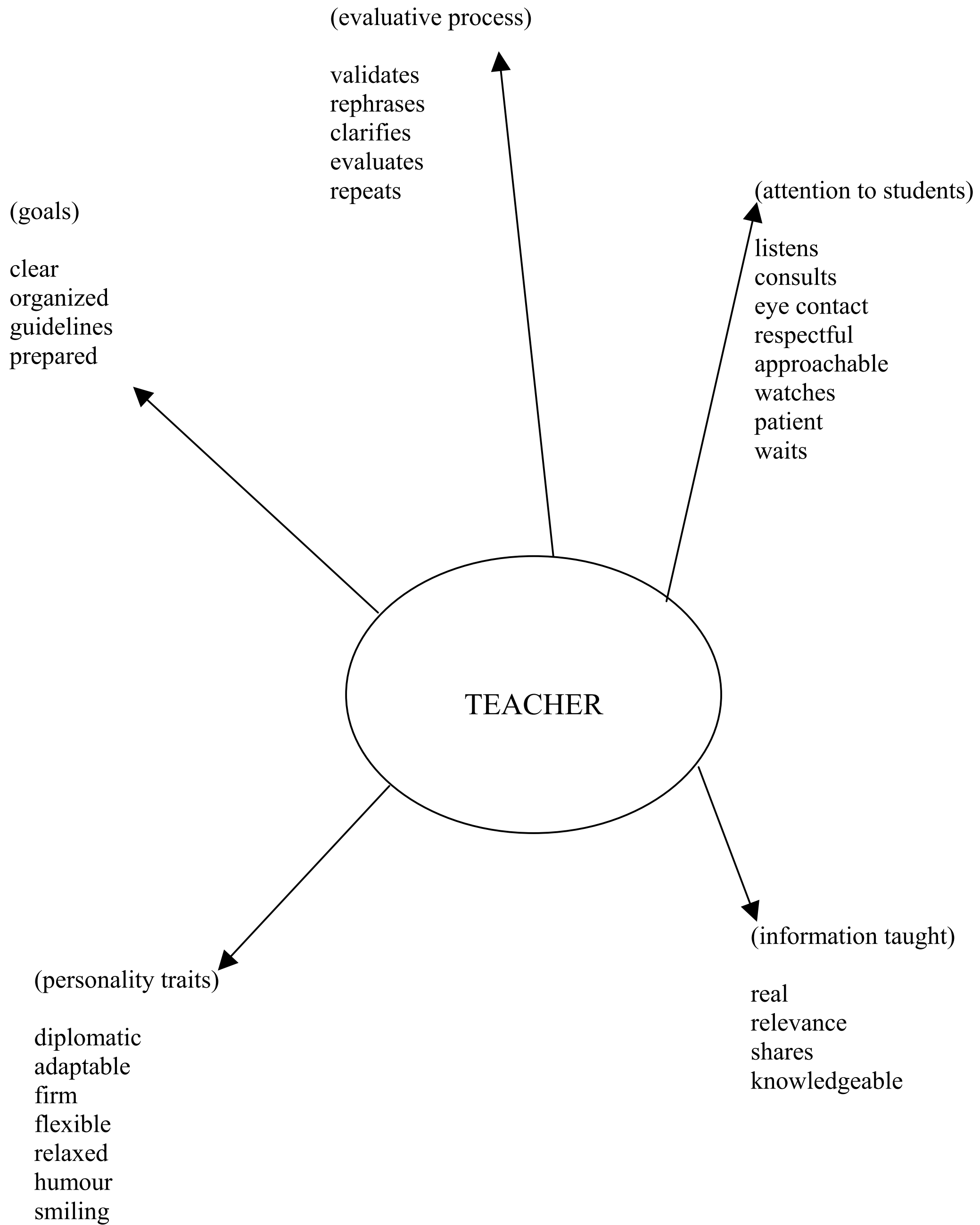
That's it for now. I've gone on longer than originally planned!!

Ella

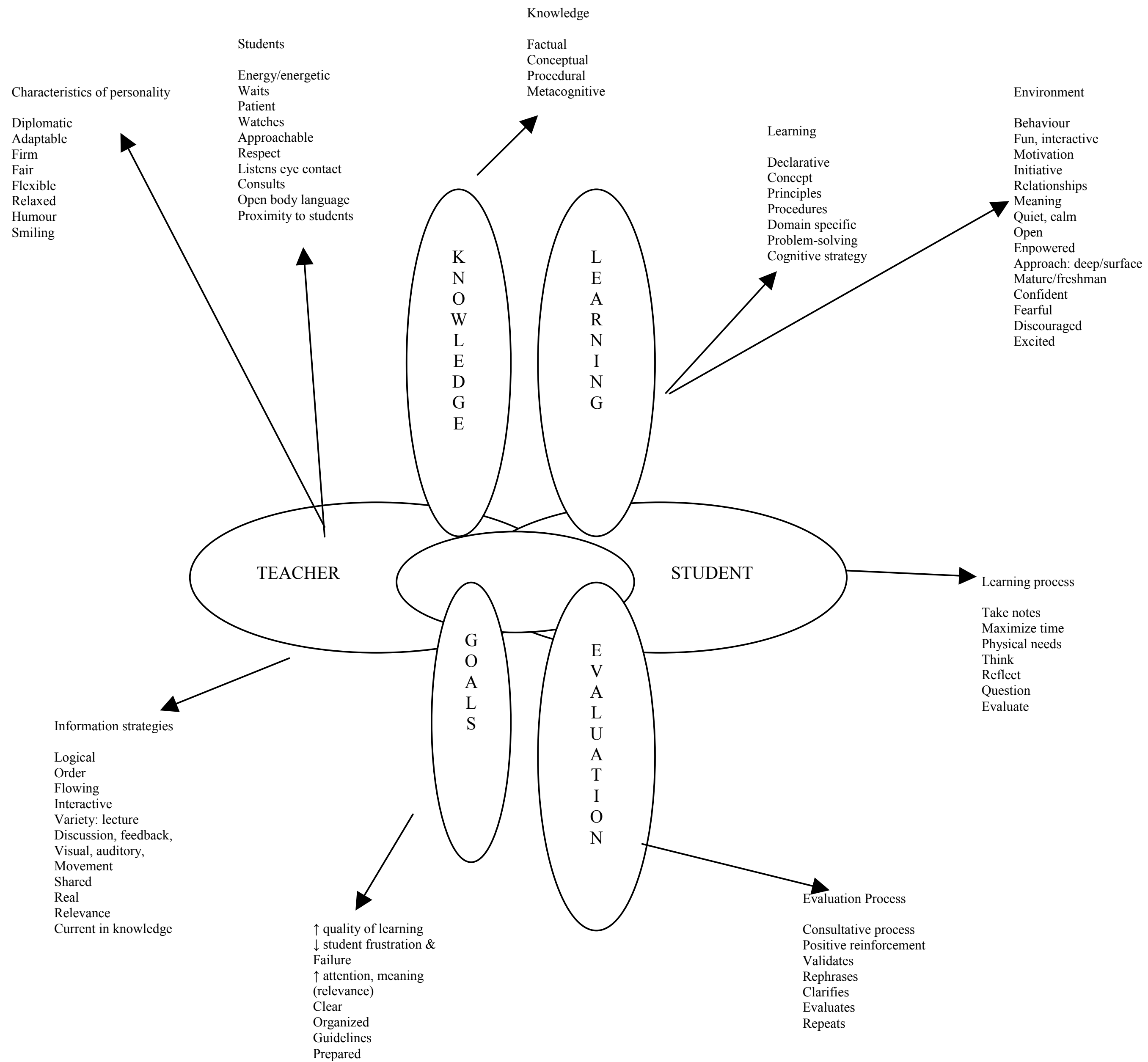
APPENDIX H:

Sample Concept Maps

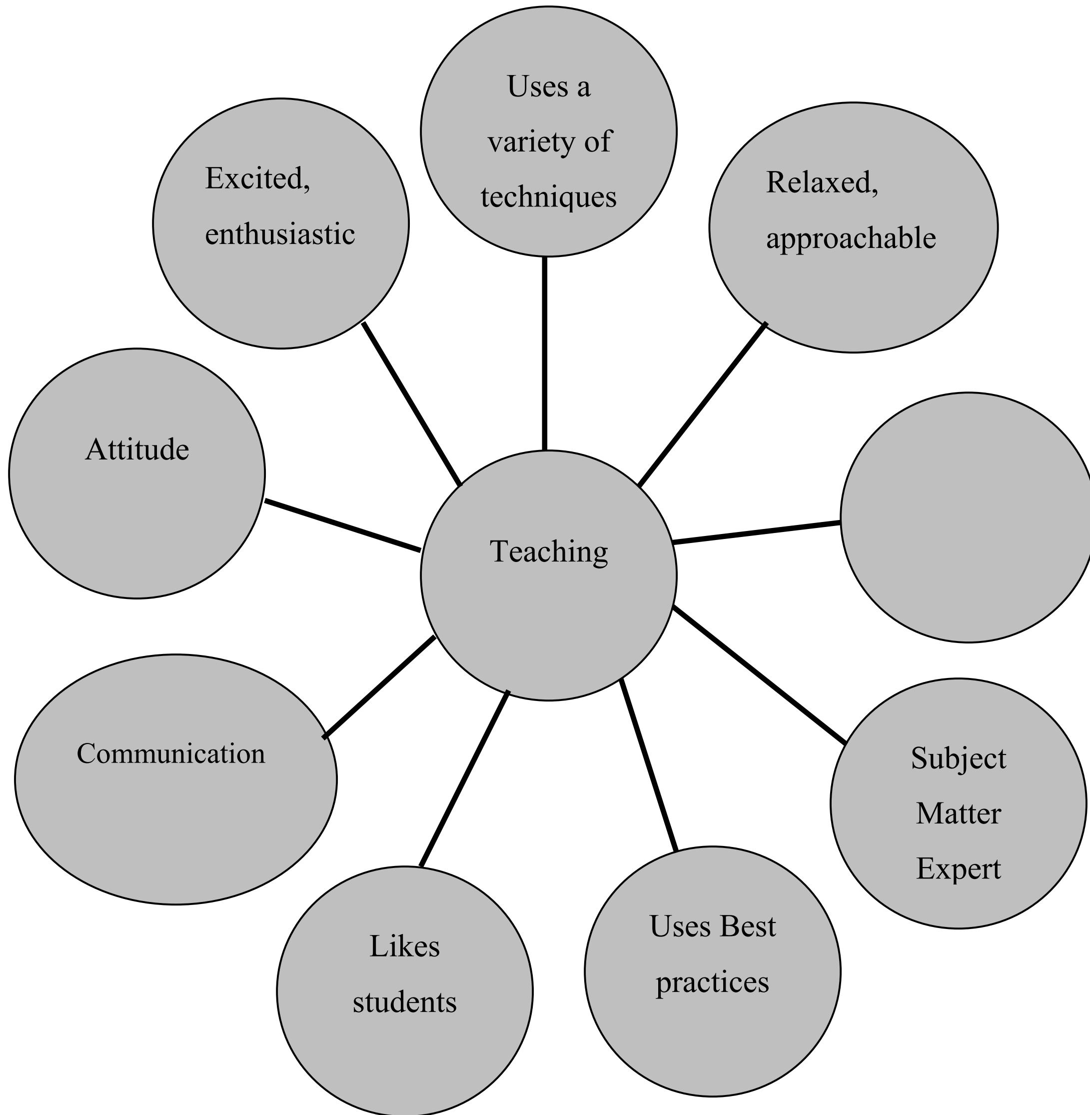
Concept Map 1 (Anne)



Concept Map 2 (Anne)



Concept Map 1 (Ella)



Concept Map 2 (Ella)