The Pennsylvania State University

The Graduate School

School of Behavioral Sciences and Education

EDUCATION ACTION RESEARCH IN HIGHER EDUCATION AS FACULTY PROFESSIONAL DEVELOPMENT

A Dissertation in

Adult Education

by

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Submitted in Partial Fulfillment
of the Requirements
for the Degree of

Doctor of Education

December 2008

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ABSTRACT

The purpose of this qualitative action research study was to experiment with an integrated, holistic, personalized, and more informal approach to faculty development. This research engaged untenured faculty in a teaching institution of higher education, and from disciplines outside of Education, as adult learners in education action research and peer-led discussions focused on the professional development of their individual teaching practice. Then, the professional development process for each participant and the group was analyzed through the lenses of constructivism and transformative learning theory.

It was found that participants did reflect on their practice and engage in their own professional development through education action research, combined with peer-led discussion, and that some changes to thinking and teaching approaches did manifest themselves in the practices of some participants. It is inconclusive, however, if their engagement in this research will be a step toward developing a critically reflective practice over time. Other findings are that: (a) participants in this study, in spite of their status as newer faculty members, are motivated to develop their teaching practice; (b) engaging these participants through education action research served to introduce many of them to new approaches to teaching and to research; (c) participants lacked formal educational preparation and found value in focusing (and reflecting) on their teaching practice; (d) participants found unique value in their peer-based discussions as a part of their professional development; (e) this approach to professional development requires rethinking faculty development and the role of the faculty developer; (f) and in practice, constructivism and transformative learning theory are useful lenses and goals for professional development of faculty.

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A large part of the life-altering experience of becoming a doctor of education is the relationships formed and cemented along that road less traveled. While following this path I have also realized that this quest cannot be accomplished without the amazing guidance and support from others. I would like to acknowledge and thank you briefly and inadequately here.

My deep thanks to Dr. Patricia Cranton, my thesis advisor, whose renown in adult education and transformative learning circles is rivaled by the priority she places on her work and, especially, her work with students like me. It has been a true privilege to get to know you and to benefit from your steady guidance and constant support.

My committee also includes Dr. Edward Taylor, Dr. Denise Meister, and Dr. Ernie Dishner. I thank you all for being engaged in this process and for pushing me to new levels in my academic work. A special thanks to Dr. Taylor who, literally since my first day in the program, has consistently challenged me to think again and think differently. Thank you too to Dr. Libby Tisdell, Dr. Daniele Flannery, and Dr. Patricia Lawler who have played significant roles in making this experience life altering.

My thanks to Dr. Carol Phillips, Dr. Thomas Burns, and Dr. Eric Darr for your investment in making this work a reality. Many thanks also go to my research participants and the small group of senior faculty at the university where I conducted my research. Without your courage, commitment and energy, this work would not exist.

My thanks to the 2003 Cohort members, you know who you are, whom I have had the honor to get to know and with whom I have had the pleasure of working and

studying. Our experience together is a unique foundation for what I hope will be a long-time network of valued colleagues.

My thanks to Dr. Loréal Maguire. You inspired me to begin this work and were unwavering in your support along the way. I will value and keep close our experiences together in work, in school, and in life. Thank you my friend.

For my family, to whom this work is dedicated, a simple thank you does not begin to express the deep level of gratitude that I feel. I thank and love you all from the deepest reaches of my heart. For Joseph, my son, I hope that this work will inspire you to always keep reaching in your learning, and some day that it will explain for you the countless times I was not there and could not play. For my Dad, Bill Searls, you have made it your mission over the course of my life to instill in me the value of pursuing my education. You have been generous and tireless in your support of this effort. I thank you. I guess this train does go somewhere after all. For my Mom (in memory), Rita Searls, I know if you were here you would say, “Gut gemacht, mein Schatz!” I thank you for being Dad’s co-conspirator in his mission. For Jon, my husband, it is hard to know where to start. You have quietly and without complaint supported this work and me for many years. I thank you and honor you for all you have done to keep us going as a family.

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CHAPTER 1: INTRODUCTION

Background of the Problem

Four years ago, a discussion with a university advisory group, which is made up primarily of faculty from a variety of academic disciplines, focused on our university's push to create development and delivery standards for distance learning courses. As part of the discussion, I asked what the university standards were for the development and delivery of traditional, face-to-face courses. This one question sparked a long and animated discussion that started with group members bemoaning the fact that no such standards exist. One faculty member pointed out that he wished these types of standards did exist because they would be a tremendous help and guide for the overall development and delivery of courses. This comment led members to reminisce about their struggles as new faculty to figure out how best to develop and deliver the courses to which they had been assigned. What was striking about this conversation was the consistently negative language used by faculty to describe their early teaching experiences at our public, teaching university. Words and phrases such as "painful," "lonely," and "terrifying" were used more than one time by more than one participant in the discussion. The discussion seemed almost cathartic in nature since, at the end of the meeting, everyone appeared relieved and somehow closer to one another. I also sensed that this may have been the first time this topic had been discussed "in public" by some of the group

members. It was at the end of this meeting that the group decided to try to get together socially about every other month to "just talk and visit."

I share this story from my professional life in higher education because it caused me to seriously pause and reflect on what had happened during that meeting. Here were highly-regarded senior and junior faculty members from different disciplines describing a similar and early experience related to teaching in consistent and negative terms. If this type of early teaching experience is fairly consistent across disciplines, why does such a negative experience persist? What can be done to change this in order to make teaching for untenured (and all) faculty a positive personal and professional development experience? What conceptions and beliefs about teaching and learning might be at the root of this experience?

The following section of this chapter presents the rationale for this study by highlighting key points from the literature reviewed. In particular it shows how norms and traditions within higher education connect with teaching conceptions and beliefs, and how the creation of professional development (specifically, faculty development) that positions professors as adult and self-directed learners can be transformative. That is why my research worked to create a new approach to faculty development that engages faculty in research on teaching and learning in their disciplines and studied the impact of this engagement on the professional development of their teaching practice.

Rationale: Teaching and Learning in Higher Education

To explore the questions posed earlier about how to improve early teaching experiences in higher education and why this negative experience seems to be consistently true, I reviewed the literature on higher education, teaching in higher

education, socialization into the professorate, reflective learning, teaching conceptions and beliefs, faculty development, continuing professional education, and adult learning theory and professional development. I discovered that teaching is a primary role and practice within the professorate, yet it is a role for which the majority of faculty is not prepared during their socialization into the academy and their specific discipline (Austin, 2003; Boice, 1992; Cranton, 1996). Instead, the dominant perspective and assumption within higher education in the United States is that once an individual becomes expert in a discipline, they will somehow and instinctively know how to help others learn about that discipline. Faculty members primarily communicate what they know to students through teaching. Therefore, the assumption is that discipline experts will know how to teach in a way that promotes student learning (Barr & Tagg, 1995; Boice, 1992).

Further, and reinforced by the current recognition and reward structure, academia in Western society has fragmented the faculty role into three silos (i.e., research, teaching, and service), and into an implied "zero sum game." This means that should a faculty member focus on developing her/his teaching practice, it is perceived to take away energies from research and service. Angelo (n.d.) states that:

> Simply put, many faculty fear that attempts to increase productivity and promote learning-centered practice will undermine scholarship and academic freedom, two deeply held values in academic culture; at the same time, few believe that more attention to teaching and learning will lead to more rewards or recognition. (Introduction, ¶3).

In this fragmented approach to the professorate, it is no wonder that calls for reform in education, such as those supported by Barr and Tagg (1995), Boyer (1990), Guskin and

Marcy (2003), and Hargreaves (1994), have met with resistance to a non-traditional emphasis on teaching over research since it implies taking away something from (instead of adding something to) the various aspects and roles of the professorate.

This fragmentation of faculty roles results in helping maintain the educational and cultural status quo within higher education. Teaching within higher education remains largely rooted in the positivist philosophical tradition that values technical rationality, reductionism, and objectivity, and what is learned remains rooted in the same philosophical tradition (Barr & Tagg, 1995; Schon, 1987). This tradition, in turn, perpetuates the existence of a privileged elite of discipline experts with power over non-experts (or learners). In addition it has been argued, for example by Palmer (1993; 1998), that elite status comes at a high personal and professional price for many. Elite status, for example, is supported by a culture of silence (i.e., isolation), a culture of individualism (as supported by the existing rewards system), and a culture of secrecy (that stunts self discovery) for teaching, research, and service as fragmented elements of professors' roles (Brookfield, 1995).

In particular, the entrenched philosophical, social, and structural traditions within higher education serve to reinforce and perpetuate traditional conceptions of teaching and learning. Traditional teaching and learning is most identified with the teacher being in control, making all decisions, and being the subject matter expert who imparts and professes (especially through lecture) information and knowledge (Brubacher & Rudy, 1997) . Students within this traditional and, as yet, predominant model are blank slates waiting to receive information and knowledge to be banked for future use and application (Barr & Tagg, 1995; Brubacher & Rudy, 1997). This model is reinforced through

observation for the majority of professors over the course of their own college careers in preparation for the professorate, as well as socialization into the academy which continues to emphasize discipline and research expertise while most often ignoring the development of expertise in teaching and learning within a discipline (Austin, 2003; Cranton, 1996; Lortie, 1975).

It is important to note too that the status quo, especially related to teaching and learning, appears to be more and more misaligned with an espoused shift in the foundational premise for higher education which appears to be moving away from a faculty-centered approach toward being learning and learner-centered (Barr & Tagg, 1995; Weimer, 2002). This shift toward a learning-centered approach is pushed by societal drivers such as the rise of the knowledge economy, changing demographics, and new technologies, and is seen as democratically moving from the dissemination of expert information to pupils toward developing learners' abilities to learn and develop critical and higher order thinking skills (Tsui, 2001, 2002).

From a learning perspective, for example, Bandura (2001) points to the rapid pace of informational, social, and technological change today (and the complexities this change creates) as the catalyst requiring learners to take on responsibility for learning and expansion of their knowledge and cognitive competencies on a continuous basis in order to remain competent. Brancato (2003) and Tsui (2001) highlight, therefore, the prominence of developing critical thinking skills, as a key learning objective across disciplines in higher education, and how this differs from traditional definitions of learning based more on the acquisition of information and knowledge. Weimer (2002) positions the emerging definition of learning as being learner-centered and requiring

learner-centered teaching. The emphasis on the changing nature of learning, and what it means to be educated, concentrates on changing what it means to teach as a component of the learning process in higher education, and what it means to teach in higher education is heavily influenced by the teaching conceptions and beliefs of faculty (Fang, 1996; Martin, Prosser, Trigwell, Ramsden & Benjamin, 2000; Murray & McDonald, 1997; Pratt, 1992; Weimer, 2002). Let us, therefore, briefly explore what is meant by teaching conceptions and beliefs, how these are perceived to influence teaching and learning, and how they might be addressed through professional development.

Teaching Conceptions and Beliefs

Pratt (1992) defines a conception as "…specific meanings attached to phenomena which then mediate our response to situations involving those phenomena" (p. 204). He poses that teaching beliefs and conceptions are anchored in cultural, social, historical and personal realms of meaning, and that "to teach" means different things depending on one's beliefs, values and intentions. These cognitive and emotional frameworks, then, define how we see ourselves and the world, how we determine what is important, and how we make sense and meaning out of new information. Pajares (1992) concludes that theorists generally agree that beliefs are formed early, tend to self perpetuate, withstand external influences, and are created through a process of enculturation and socialization, especially through schooling. Beliefs are entrenched at a deep, affective, and illogical level of self that make them enduring and highly resistant to change, and the more central a belief is to our concept of self (especially in terms of providing personal meaning and defining relevancy), the more difficult it is to define and express and the more resistant it is to change. Pajares (1992), citing Tabachnick and Zeichner, therefore, makes the

distinction between teaching beliefs and teaching perspectives which are socially evolved and reflective interpretations of experience utilized as a basis for action with the implication that these perspectives are more open to potential change than beliefs. It is only through cognitive dissonance (and recognition that an anomaly exists) and reflection that new information or ideas are, borrowing from Piaget, accommodated through a reorganization and replacement of existing beliefs instead of assimilated into existing belief structures. He goes on to discuss that there is a significant gap in the research focused on the teaching beliefs of entering teachers and their relationship to teacher practice, teacher knowledge, and student outcomes. "Unexplored entering beliefs may be responsible for the perpetuation of antiquated ineffectual teaching practices" (Pajares, 1992, p. 328).

To accomplish a shift toward a learning-centered paradigm of teaching and learning, therefore, requires a change in beliefs or perspectives about what it means to be educated and what it means to teach as a component of the learning process in higher education. This, in turn, requires new understanding and approaches to teaching and learning that are learner-centered instead of content- or instruction-driven (Barr & Tagg, 1995; Weimer, 2002). Therefore, the potential change advocated within higher education approaches the more profound level of the belief systems upon which the professorate (including the teaching role) are traditionally based, and not simply to the instrumental level of acquiring techniques and skills for better teaching approaches and updated expertise. In order to lift up and explore existing assumptions and beliefs held by individual faculty about teaching and learning, engaging faculty in possible ways of

developing a critically reflective practice, as in my research, may prove the most insightful and useful in gaining new understandings.

Critical Reflection and Teaching

To lift up and examine traditional teaching conceptions and beliefs through faculty and professional development requires creating new ways of engaging faculty in the development of their own (critically reflective) teaching practice which has not been a focus in either preparation for the professorate or faculty development to date. It is important to better define what it means to evolve a critically reflective teaching practice before exploring how my research sought to foster such a practice and explore its implications.

By way of definition, Mezirow (1998) distinguishes between reflection, critical reflection, and critical self-reflection:

> Reflection, [is] a 'turning back' on experience…[but]does not necessarily imply making an assessment of what is being reflected upon, a distinction that differentiates it from critical reflection. Critical reflection may be either implicit, as when we mindlessly choose between good and evil because of our assimilated values, or explicit, as when we bring the process of choice into awareness to examine and assess the reasons for making choices…Critical self-reflection of an assumption (CSRA) involves critique of a premise upon which the leaner has defined a problem…(p. 186).

This reflection should be followed by considering and imagining the alternatives, and incorporating new alternatives into our practice. Therefore, a critically reflective practice is one that continuously engages in questioning in pursuit of new meaning and

understanding that informs practice. The desired result of this process (and arguably the central role of adult development) is a perspective transformation, which Mezirow (2000) defines as a process by which "habits of the mind" are identified, examined, and revised to develop more open and better-justified perspectives and new ways of acting based on new understanding. Finally, Mezirow (1991) and others make the strong case that this is a social process that cannot be achieved completely in isolation since some form of cognitive dissonance (often brought on by others in the course of critical discourse) must exist in order to motivate exploration of one's assumptions. That perspective transformation is a social process is especially true within teaching which is also considered to be a social and political process (Brookfield, 1995; Brookfield & Preskill, 1999; Cervero & Wilson, 2001; Kemmis & McTaggart, 2000).

At the crux of the variables affecting change in higher education (such as socialization into the professorate and a discipline), therefore, seems to be a fundamental, and often unexplored, difference in learning paradigms and how they are manifested in higher education. In this light, to effect changes in teaching and learning within higher education, faculty need to be engaged as adult learners in the development of what Brookfield (1995), Cranton (1996), and Schon (1987, 1991) refer to as a critically reflective practice that examines deep-seated assumptions (defined by Brookfield [1995, p. 2] as taken-for-granted beliefs about the world and our place in it) about teaching and learning, as well as an exploration of alternative ways of thinking about and practicing teaching and learning. As described by Fang (1996), this marks a shift in research from "…a unidirectional emphasis on correlates of observable teacher behaviour with student

achievement to a focus on teachers' thinking, beliefs, planning and decision-making processes" (p. 49).

Faculty Development and Teaching in Higher Education

Consistent with Fang's (1996) observation, the faculty development literature describes early (tracing back to the 1960s and 1970s) and many existing efforts in faculty development as being focused on the continued development of disciplinary expertise and refining the existing teaching skills of individual faculty members (Sorcinelli, Austin, Eddy & Beach, 2006). In contrast, the current leanings in faculty development research are toward exploring issues of vitality and renewal by expanding personal awareness, strengthening relationships among colleagues, supporting institutional missions, and dealing with survival issues (Camblin & Steger, 2000; Chopp, Frost & Jean, 2001; Eleser & Chauvin, 1998). The literature on current trends in faculty development reflects a shift from a lack of preparedness to teach and teaching in isolation to the development of teaching communities. Teaching communities, in turn, imply a move from the traditional, one-way method of teaching -- wherein the teacher is the sole expert -- to a participatory model of teaching and learning -- wherein the learner and teacher exchange roles throughout their interaction (Caffarella & Zinn, 1999; Cottrell & Jones, 2003; Eleser & Chauvin, 1998; Reybold, 2003; Robertson, 1999; Shaw, belcastro & Thiessen, 2002; Sherer, Shea & Kristensen, 2003; Stark, 2000; Travis, 1995; Tsui, 2001). For example, researchers such as King and Lawler (2000) maintain that in order to move faculty beyond traditional educational theory and approaches to teaching, they must be considered adult learners themselves and their ongoing, professional development should be rooted in sound adult learning theory. These two major trends in faculty development

(i.e., a move from teaching to learning and the creation of faculty learning and teaching communities for the improvement of teaching and learning outcomes) coexist with the third major trend to develop teaching again as a recognized and valued scholarly activity (Boyer 1990; Cottrell & Jones, 2003; Koch, Holland, Price, Gonzalez, Lieske, Butler, Wilson & Holly, 2002; Lazerson, Wagener & Shumanis, 2000; Shulman, 2004a, 2004b). Within the research on faculty development, however, a gap exists in how to engage faculty in the development of a critically reflective teaching practice within the context of the academy. Theories and research exist on how to engage teachers (i.e., K-12) and teacher educators in the development of a reflective and critically reflective teaching practice (Argyris & Schon, 1974; Brookfield, 1995; Cranton, 1996; Kincheloe, 2003), how to position teachers as researchers for their own empowerment (Elliott, 1991; Kincheloe, 2003), and on engaging teachers in action research for staff development and critical awareness (Noffke & Stevenson, 1995), but no such research is evident in higher education and faculty development in the United States and, in particular, with untenured faculty outside of Education. Limited research on engaging faculty (especially Education faculty) in action research as a means to critical reflection does exist outside of the United States (for example by Zuber-Skerritt (1996) in New Zealand and by Kemmis (1995) in Australia), but none is evident among untenured faculty in fields outside of Education who are part of the professorate within self-described teaching institutions within the United States. Therefore, I designed my research on faculty development to position faculty outside of Education as adult learners and researchers engaged in the development of a critically reflective teaching practice within the context of the academy and their discipline in order to lead to new understandings and potential changes in

teaching beliefs, conceptions and practice. The research participants were untenured faculty members which means that they were early-career, tenure-track faculty who had not yet earned tenure. This approach is consistent with the very broad theoretical approach that has begun to emerge as the essence and future direction of faculty development that seeks to move beyond discipline-specific updates and remediation for unsatisfactory student evaluations or teaching techniques, and incorporates a focus on teaching as scholarship and as holistic and integrated (considering both personal and professional elements) professional development in support of a learning- and learner-centered paradigm.

Purpose of the Research

The broad purpose of my research was to engage untenured faculty, positioned as adult learners, in a meaningful and integrated approach (considering both personal and professional elements) to professional development that could result in new and critically-evolved understandings about their roles and practices (especially related to teaching and learning) in the professorate and in their discipline. My specific design was to engage participating faculty in the development of a potentially critically reflective teaching practice through their own education action research on teaching and learning in their respective disciplines. This research was designed to foster a critical examination of, and discourse on, underlying assumptions and beliefs about higher education, teaching, and learning.

The questions guiding this research were:

- How can we foster critical reflection on faculty teaching beliefs?
- How do we engage faculty in their own action research in their classrooms?

- How do faculty members see their role differently after questioning their beliefs related to teaching and learning?
- How does change in teaching conceptions and beliefs manifest in practice?

Conceptual and Theoretical Perspectives

Conceptions and teaching beliefs among faculty members in higher education are predominantly acquired during socialization (to include school) into the professorate and a discipline (Austin, 2003; Blackburn & Lawrence, 1995; Boice, 1992; Pajares, 1992; Pratt, 1992). Therefore, any evolution of understanding or change in perspective to these that may be assisted by faculty development must seek to deconstruct the assumptions upon which beliefs and conceptions of teaching and learning are founded (Kemmis, 1995; Noffke & Stevenson, 1995; Pajares, 1992). Further, faculty members in this research were positioned as adult learners and faculty development was framed as professional development to which theories of adult learning were applicable as theoretical perspectives and lenses. Therefore, the lenses that most informed this study were constructivism and transformative learning theory.

Constructivism

In the humanist tradition, constructivism is a philosophy of learning that is based on the belief that the learner, as an active and autonomous agent, is responsible for his or her own learning through reflection on experiences that help construct and make meaning, as well as understand the world in which we live (Elias & Merriam, 2005). Constructivism is in response to liberalism and behaviorism (as manifestations of positivist philosophy). Constructivism is at the root of student-centered learning and new approaches to teaching and learning within higher education that also position professors

as learners. Learning occurs through an active and individual construction of knowledge and meaning making on the part of the learner with the instructor in the role of a facilitator of learning (Stage et al., 1998). Constructivist theory ranges from advocating its personal and cognitive nature to individuals focused on its social and dialogic nature. Social constructivism, for example, provides the foundation for "…the movement in education to expand the focus beyond the cognizing individual and to place learning squarely in a dynamic social context" (Stage et al., 1998, p. 47).

Transformative Learning Theory

Transformative learning theory which combines individual and social construction of new knowledge schemes "…takes place when this [learning] process leads us to open up our frame of reference, discard a habit of mind, see alternatives, and thereby act differently in the world" (Cranton & King, 2003, p. 32). Cranton and King (2003) point to transformative learning as an appropriate goal for professional development endeavors while acknowledging that all professional development is not necessarily transformational in nature.

Mezirow (1991) defines transformation theory as a constructivist theory of adult learning that specifically addresses those involved in helping adults learn (p. 33). If faculty development is grounded in adult learning theory and is considered continuing professional education for faculty, and faculty members are positioned as adult learners, then transformative learning theory provides a theoretical basis for a teaching and learning lens for faculty development aimed at moving teaching concepts and practice beyond the traditions of positivist philosophy. This is especially true because transformative learning theory has as its focus the concept of growth through change

which is at the heart of the called-for, evolutionary and paradigmatic changes in teaching and learning in higher education.

Mezirow, based on the writings of Habermas (1970), proposed his theory of transformative learning in 1978. Mezirow's theory is rooted in humanism and social critical theory and focuses on personal transformation that can lead to cultural and social transformation. Taylor (2000) describes transformative learning theory as, "…uniquely adult, abstract, idealized, and grounded in the nature of human communication. It seeks to explain how adult's expectations, framed within cultural assumptions and presuppositions, directly influence the meaning individuals derive from their experience" (p. 2). Transformative learning focuses on profound and fundamental change by looking at learning within and among adult learners as a meaning-making activity. Mezirow (1997) defines transformative learning as a meaning-making activity that can consist of a change in one of our beliefs or attitudes, or in our entire perspective. At the center of the learning process within this theory are the life experiences of the learner and critical reflection (including critical, self reflection). Said differently, all adults have significant life experiences from which we construct our meanings within the world and how best to negotiate its perceived realities. We come to our own mental construction of experiences in a variety of ways that, over time, become entrenched and reinforced (such as how best to teach as a faculty member). In order to continue development in adulthood, it is necessary to continuously examine these constructions and habits to ensure their transformation and alignment with new understandings.

In summary, my research seeks to position untenured faculty as adult learners engaged in critical reflection on teaching and learning through engagement in their own

action research, and discussion with one another, with the intent of evoking new meaning and understanding through perspective transformation that can be manifested in their teaching practice and toward a learning-centered approach to learning. Therefore, viewing this research through the perspectives of constructivism and transformative learning theory as a teaching and learning lens for faculty development is appropriate to my study.

Overview of Research Methods and Design

My qualitative research design centered on my action research that engaged participating faculty through their own education action research in professional development of their teaching practice and included group discussions on teaching and learning, exploration of alternatives, and experimentation. My research was more focused on individual change and transformation (that can lead to broader, social change), and less on broader social change through the specific examination of power relationships within the teaching and learning process.

Merriam and Simpson (2000) state that, “the key philosophical assumption upon which all types of qualitative research are based, is the view that reality is constructed by individuals in interaction with the social worlds” (p. 97). This is consistent with the theoretical perspectives of constructivism and transformative learning theory through which this study is viewed. Krauss (2005) says that it is the epistemology (or philosophical perspective) of the researcher, as well as what is being researched that in combination define appropriate research paradigms. In broad terms, Krauss (2005) states that:

> …qualitative research is based on a relativistic, constructivist ontology that posits that there is no objective reality. Rather, there are multiple realities constructed by human beings who experience a phenomenon of interest. People impose order on the world perceived in an effort to construct meaning; meaning lies in cognition not in elements external to us; information impinging on our cognitive systems is screened; translated, altered, perhaps rejected by the knowledge that already exists in that system; the resulting knowledge is idiosyncratic and is purposefully constructed (p. 760) … Qualitative research has the unique goal of facilitating the meaning-making process (p. 763).

This meaning making and learning process in qualitative research is framed as an intensive, hands-on and intuitive search for new knowledge on the part of both the researcher and participant(s). Again, Krauss (2005) says, "…qualitative research and qualitative data analysis in particular have the power to be transformative learning tools through their ability to generate new levels and forms of meaning, which can in turn transform perspectives and actions" (pp. 273, 274).

Creswell (1998) poses that research studies, such as the one I conducted, that begin with "how" or "what" questions and that need to present a detailed view of a topic are best served by qualitative inquiry. According to Patton (2002), a qualitative approach was also appropriate because my study focused on a purposeful sample of participants, I was an instrument of research and actively participated in the study, the research design unfolded as my study progressed, and rich and deep descriptions were used for analysis and reporting.

Though not uniquely qualitative or critical in nature, action research too (and consistent with characteristics befitting a qualitative study) is characterized by the researcher as participant and as facilitator for problem-solving; by immediate applicability of findings to practice; and by a research design that emerges as a part of the research process. According to Merriam and Simpson (2000), citing Lewin, the principle of action research is that in order to gain insight into a process, the researcher must create a change and then observe the effects and new dynamics of the change. Noffke and Stevenson (1995) describe this process for research as an "unpacking" of everyday things that constitute our theoretical orientation to the world and decide the elements of our practice; this "unpacking" works to problematize the underlying assumptions and unconscious actions that are a part of who we are and our practice (p. 5). Kemmis (1995) makes the point that among all the variations of action research, the common elements are analysis, getting facts, identifying the problem to be addressed, planning and taking action on the problem, then repeating the cycle as new concepts and understanding emerge. In particular, action research ideally works to incorporate critical reflection on beliefs and their impact on practice. As stated by Noffke and Stevenson (1995):

> In the collection of data, or evidence, related to practice, action research emphasizes the educator's own, often intuitive, judgments of teaching and help locate one's vision of good teaching within those of others involved in the educative process. In so doing it helps make the educational process continually problematic. This continual revisiting of issues and practices builds a new kind of theory-practice relationship, one in which our understanding of practice, and of the situations in which practice occurs (p. 5).

Noffke and Stevenson (1995) make the claim that action research has been a part of educational work for over 50 years, and that the emphasis in the United States has been on professional development among K-12 teachers and, more recently, educators of K-12 teachers.

Within the action research methodology, and in particular action research that is participatory, I chose to design my study so as to engage faculty participants in the planning, design, implementation, and processing of their own education action research on teaching and learning within their discipline and classrooms, and as a part of their personal and professional development and discovery. In simplest terms, education action research is defining a problem within one's teaching practice, designing a change or solution, experimenting with (or implementing) that change or solution, reflecting on outcomes, re-planning, and so on as consistent with the action research, self-reflective spiral (Kemmis, 1995; Noffke & Stevenson, 1995). The change, then, that I introduced to participants in my action research, and then studied (in terms of the effects and dynamics of that change), was to engage untenured faculty outside of Education in the design and implementation of their own education action research on teaching and learning within their discipline and as part of the development of their teaching practice. The design and conduct of participants' education action research included multiple discussions with colleagues about teaching and learning in general as well as within particular disciplines, and especially around their own education action research in their practice and classrooms.

This provided an opportunity to engage untenured faculty members from disciplines outside of Education in education action research as a means of self-directed

development of a critically reflective (teaching) practice that can move that practice toward a Learning Paradigm. This was especially true given that a research activity such as the one built into this study for participants is already recognized as a scholarly activity in all disciplines, the results of participants' research can potentially be published in discipline-specific journals, and research and publication are recognized within the existing promotion and tenure process. Therefore, for the faculty members who participated in this study and who practice within what Parker Palmer (1993) characterizes as traditionally being a culture of isolationism, it can be argued that education action research within their discipline supported both problematizing teaching and learning and legitimizing a focus on the same.

Research Design

My overall design concept was to systematically apply elements of action research methodology collaboratively with participants engaged in their own education action research in their practice and classrooms that is directly related to teaching and learning within their discipline. In this way a broad, action research inquiry served as an umbrella for individual, education action research projects defined and designed by participants. The change my action research design planned and implemented was to engage faculty participants in their own education action research as professional development of their teaching practice. Participants' education action research projects were of their own design and focused on some aspect of teaching and learning within their discipline. Over the course of ten months, three working and discussion sessions were scheduled to identify education action research issues, design and plan education action research, discuss the collection of data, and share and reflect on research outcomes

and next steps. These working sessions were loosely correlated with the phases of an action research project (i.e., plan, act/observe, reflect, and revise the plan). Time was incorporated in these sessions to allow participants to share reflections and insights related to their own teaching assumptions and beliefs, teaching practice, and potential changes, as well as to discuss strategies for experimentation with new approaches. I provided resources (such as articles, websites, texts, and studies) in support of their research, as requested. For example, one participant was particularly interested in educative assessment and I provided her with resources in the form of internet links, articles and chapters on the topic.

The study began with a purposeful sample of seven untenured faculty members from one public, teaching institution of higher education in the eastern United States. The study concluded with five of the original seven participants; one participant received a very large research grant that required her to leave the study and the other was not able to continue due to complications with a pregnancy. Participation in this research was on a voluntary basis for ten months beginning in the spring semester of one academic year and concluding at the end of the fall semester of the next academic year and spanning one summer. Specific criteria for participation in my research included faculty members who: (a) were on the tenure track, but not tenured; (b) had no formal preparation for teaching in higher education; (c) are subject-matter experts outside of Education (such as in the social and life sciences); and (d) have a full-time, faculty position within an institution of higher education that defines itself as both *public* and as a *teaching institution* (and not focused on research).

Primary data collection methods were interviews (with individual participants before convening the group and toward the end of the research study), working and discussion sessions with participants, field notes including observations (especially related to group discussions), and my own journaling to capture observations, insights or new understanding gained as part of the research process. I employed prolonged engagement, triangulation, peer review of debriefing, and member checks to ensure credibility and trustworthiness of the data collected and analysis conducted.

Significance of the Study

My research can inform and contribute to: (a) the world of practice by having engaged faculty in the self-development of a critically reflective practice related to teaching and learning in their discipline that can move their practice toward a constructivist paradigm; (b) the field of adult education by having positioned faculty in academic disciplines outside of Education as adult learners and participatory researchers within a qualitative and action research paradigm and as a means of professional development; and (c) my hope of developing an integrated, lifelong, and holistic approach to faculty development that significantly contributes to the personal and professional development of professors, as well as develops a student-centered approach to teaching and learning in higher education.

To the World of Practice

Gergen (1999) speaks to a shift brought on by the megatrends of globalization, technological advancement, changing demographics, and the emergence of the knowledge economy as possibly "…equal in significance to movement from the Dark Ages of Western History to the Enlightenment" (p. 4). He goes on to describe this

transformation as “catastrophic” for some because it represents “…the erosion of beliefs central to our ways of life, including our sense of truth and morality, the value of the individual self, and promise of a better future” (p. 4). This shift, then, seems to call into question traditional Western beliefs around rationality, concept of self, and the concept of truth that are changing within our emerging global and interconnected context. Schon (1987) has described this shift as creating a “crisis in confidence” in professions and professionals in this country whose education and practice are rooted in the beliefs, values, norms and behaviors springing from the positivist tradition institutionalized in higher education. Schon (1987) postulates that the academic epistemology that has evolved from this positivist tradition (especially around technical rationality) within universities has, over time, produced knowledge that does not address complex and broad issues within society, does not foster practical competence and professional artistry, and may or may not be of relevant value to society. Barr and Tagg (1995) speak to a needed shift in higher education, therefore, from an Instruction Paradigm to a Learning Paradigm. These broad shifts also have powerful implications for the teaching role for faculty in higher education because they potentially signal the end of a privileged knowledge class that alone defines truth and what is worth knowing; the end of academic and learning power residing solely with faculty and their disciplines; and the introduction of the unobservable and complex as viable and worth studying. In essence, this turns the philosophical traditions and norms institutionalized within higher education potentially on their collective head. By engaging faculty in education action research focused on their practice, I hoped to understand better how faculty, as self-directed learners, can look beyond the cultural and social traditions that shape their practice and toward new ways of

thinking about and practicing teaching within their discipline and within the professorate. Bess (1997) captures this need to reposition faculty development around teaching roles as professional development that is intrinsically motivated both in theory and in practice by stating:

> There is hope and promise for the future, for teaching is, after all, a potential source of answers to life's most profound questions: who am I, how am I connected to others, how can and do my interactions with others provide sustenance and quality to my intellectual and emotional life? When faculty comes to see teaching as providing answers to these conundrums, they will be motivated to teach well – and to like it (p. 436).

To The Field of Adult Education

There has been a growing tradition of action research within organizations, K-12 education, and among teacher educators within higher education. There have, however, "…been relatively few cases where the professional development process associated with educational action research has been systematically studied" (Zeichner, 2001, p. 278), especially within higher education in the United States and in academic disciplines outside of teacher education. In addition, King and Lawler (2000) and Cranton (1996) speak to a need for the establishment of theoretical frameworks or development models to guide professional development for faculty as adult learners. My research sought to address this gap by engaging faculty (as adult learners) in education action research related to the teaching and learning practice within their discipline in order to explore the professional development process associated with this type of participatory research.

To Me

Changes in society that influence and/or are influenced by higher education appear to consistently point to the need for more holistic and integrated approaches to continuing education for faculty. Additionally, faculty development initiatives should include significant learning experiences; be interprofessional in nature, and span across a career – from pre-service education through retirement. My research, though focused on untenured faculty (in order to capture the professional development process early on), was designed to attempt such a holistic and integrated approach to professional development and study the process and outcomes. This type of attempt was necessary for a group of professionals for whom the central role of teaching has long, and often, been neglected (especially in terms of preparation and reward for this role even at a self-proclaimed teaching institution) as a potentially integral part of one's personal and professional satisfaction and success. It was necessary because only with such an attempted holistic and integrated approach to continuous education for academic professionals can real change be effected in higher education and, especially, in how professors learn about teaching. This research sought to move teaching from a skill that one acquires and that is external to oneself, toward teaching being an integrated part of a professor's professional and personal self. This research may help reframe what it means to be "educated" within the professorate, since it should include being motivated to teach, liking it, and doing it well. It was an opportunity to begin to reposition faculty development from a means of remediation to a path for professional development; to address the central role of teaching for faculty that has long been neglected; to help motivate lifelong learning among our educators; to motivate student-centered teaching

and learning in higher education; to ensure that professors are fulfilled and successful as academic professionals both individually and collectively; and to re-establish a positive, relevant, and responsive relationship between the academy and society at large.

Assumptions and Limitations of the Study

This section addresses the key assumptions and limitations of my research. By articulating these assumptions and limitations, my frame of reference and philosophical preferences that are rooted in constructivism and humanism are further illuminated.

Assumptions

The key assumptions of my research are primarily rooted in educational philosophy, especially the belief that professional development can be transformational as long as it is holistic, integrated, ongoing, and critical in nature. It is also clear that I believe in the need to relevantly realign higher education with the changing needs of society and learners. In particular, the key assumptions underlying my research are that: (a) the traditional learning and teaching paradigm within higher education is misaligned with the current and evolving needs of society; (b) developing a critically reflective practice is valuable to faculty members as people, practitioners, and professionals, as well as to their students, and their institution, and that many faculty will want to develop such a practice; (c) student-centered approaches to teaching and learning create significant learning experiences for students and professors alike; (d) socialization into the professorate is the primary means by which faculty learn to teach, and that this process is virtually invisible and unexplored; and that (e) the shift from an Instruction Paradigm to a Learning Paradigm requires different assumptions and beliefs that are/will be manifested in teaching practice.

Limitations

The primary limitations of this study were resources, especially time, and risks of participation. It is common wisdom within higher education that untenured faculty members are stretched thin in terms of their available time and that they are focused on establishing themselves within their discipline, department, and institution. Therefore, accomplishing the full breadth and potential of this research within ten months spanning the end and beginning of two different academic years was simply the tip of the process. Second, there existed a risk of self-awareness that may or may not have proven to be favorable, and/or potential of peer and student criticism for participating in this study or for experimenting with non-traditional approaches to teaching within a discipline. Finally, participation in research focused on one's teaching practice with the intent of exploring a constructivist approach to learning can result in significant changes in teacher to student relationships. In the traditional paradigm, the teacher is the ultimate authority and power figure within higher education, whereas in a constructivist paradigm, the teacher abdicates this power position in favor of a more collaborative and democratic approach. These personal and professional risks could have proven overwhelming, so it was important that I explored these thoroughly with individual participants prior to their final agreement to be a part of my collaborative discovery, and to articulate that voluntary departure from the project was acceptable as we moved forward.

Definition of Terms

For the purposes of my research, the following definitions are offered to provide further understanding, clarity and boundaries.

Learning Paradigm

The Learning Paradigm specifies the mission and purpose of a university as producing learning. Learning is framed holistically within a Learning Paradigm and recognizes the learner as the chief agent in the learning process. Learners are active discoverers and constructors of their own knowledge within frameworks that they create (Barr & Tagg, 1995, p. 9), and these frameworks interact with one another in a non-linear way that provides deeper meaning and understanding of the elements and the whole. The purpose of education, then, is to teach learners to learn (to gain higher order and critical thinking skills), as well as to grow as self-directed and lifelong learners. This is considered a learning-centered, learner-centered, and student-centered approach to teaching and learning for the purposes of my research.

Instruction Paradigm

The Instruction Paradigm highlights the mission and purpose of a university as providing instruction and teaching. According to Barr and Tagg (1995), the Instruction Paradigm frames learning atomistically which implies knowledge is transmitted from the teacher who is the subject-matter expert to passive students who bank the knowledge for future use; that all power and authority rests with the teacher who, by virtue of her/his expertise, is best qualified to teach the subject; and that learning is cumulative for which a degree is awarded when a certain amount of instruction, determined by faculty experts, is received. The purpose, then, of education is to receive knowledge that seems to benefit those who teach and the disciplines they represent in perpetuating their key ideas, beliefs, and norms. This is considered a teacher-centered approach to teaching and learning for the purposes of my research.

Faculty Member

I recognize that part-time, adjunct, and non-tenure track professors are a growing resource in higher education. My research, however, was restricted to full-time, early-career, tenure-track faculty who had not yet earned tenure in academic disciplines outside of Education and who are employed within an institution that describes itself as both *public* and *teaching* (versus research) institutions.

Faculty Development

The website of the Professional and Organizational Development Network in Higher Education (POD) (http://www.podnetwork.org/development/definitions.htm) offers that the arena of faculty development covers three major areas: (a) faculty development, (b) instructional development, and (c) organizational development. POD provides a further definition of each of these three areas: faculty development includes focus on the faculty member as (a) a teacher, (b) a scholar and professional, and (c) a person; instructional development is focused on design and technology issues revolving around (a) the course, (b) the curriculum, and (c) student learning; and finally organizational development focuses on the organizational structure of the institution and its sub-components to help build an organizational structure which will support faculty and students so that teaching/learning will thrive. This research used POD's definition of faculty development as simultaneously focused on faculty members as a teacher, a scholar and professional, and a person.

Teaching Beliefs

Roche and Marsh (2000) offer a definition of self concept (as previously constructed by Shavelson, Hubner and Stanton) as "…a person's self-perceptions that are

formed through experience with, and interpretations of, their environment," while a belief can be characterized as how one understands oneself within the context of one's specific environment (p. 442). Kane, Sandretto, and Heath (2002), for example, point out areas of consensus around teacher beliefs that indicate their importance to the discussion. These are that beliefs are created over time, robust and resistant to change, filters for new knowledge, and are usually invisible or implicit (and therefore difficult to articulate).

Teaching Conceptions

Pratt (1992) defines a conception as "…specific meanings attached to phenomena which then mediate our response to situations involving those phenomena" (p. 204). He poses that teaching beliefs and conceptions are anchored in cultural, social, historical and personal realms of meaning, and that "to teach" means different things depending on one's beliefs, values, intentions, and context.

Socialization

Austin (2003) defines socialization as "…the process through which an individual becomes a part of a group, organization, or community" (p. 96). Austin (2003), Healey (2003), Reybold (2003), Stark (2000) and Weidman, Twale and Stein (2001) all focus on the socialization process as the key means of professionalization into the professorate, and as a key predictor of faculty's concept and practice of teaching and learning. It is logically proposed that through the observation of their own professors, especially at the graduate level, aspiring faculty members develop similar behaviors and norms as professionals. These behavioral norms include, but are not limited to, their approach(es) to teaching, relating to other faculty, relating to their discipline, relating to the university,

deciding what is important and not, relating to students, teaching and research, and determining what is rewarded and not rewarded.

Critically Reflective Practice

Mezirow (1998) distinguishes between reflection, critical reflection, and critical self-reflection:

> Reflection, [is] a 'turning back' on experience…[but]does not necessarily imply making an assessment of what is being reflected upon, a distinction that differentiates it from critical reflection. Critical reflection may be either implicit, as when we mindlessly choose between good and evil because of our assimilated values, or explicit, as when we bring the process of choice into awareness to examine and assess the reasons for making choices…Critical self-reflection of an assumption (CSRA) involves critique of a premise upon which the leaner has defined a problem…(p. 186).

This reflection should be followed by considering and imagining the alternatives, and incorporating new alternatives into our practice. Therefore, a critically reflective practice is one that continuously engages in questioning in pursuit of new meaning and understanding that informs practice.

Continuing Professional Education

The definition of Continuing Professional Education (CPE) continues to evolve from an update model of learning, to a competency-based model, to a more holistic, lifelong, interprofessional and integrated model of learning. The trends and theories within CPE are useful in the evolution of faculty development models of learning given that CPE is rooted in adult learning theory.

Action Research

Merriam and Simpson (2000) characterize action research as including the researcher as participant and as facilitator for problem-solving; immediate applicability of findings to practice; and a research design that emerges as a part of the research process (Merriam & Simpson, 2000). According to Merriam and Simpson (2000), citing Lewin, the principle of action research is that in order to gain insight into a process, the researcher must create a change and then observe the effects and new dynamics of the change. Kemmis and McTaggart (2000) point to the emergence of an accepted model for participatory action research that features "a spiral of self-reflective cycles" of collaboratively planning a change, acting and observing the consequences of the change, reflecting on the processes and re-planning, and so on (p. 563). This is a "fluid, open, and responsive" process with less rigor around adherence to the process and more focus on outcomes, especially that "…they [participants] have a strong and authentic sense of development and evolution in their practices, their understandings of their practices, and the situations in which they practice" (p. 563).

Education Action Research

Noffke and Stevenson (1995) describe education action research as being "…about taking everyday things in the life of education and unpacking them from their historical and ideological baggage…" that "allows for a focus on teaching, in addition to student outcomes, and on the interplay between the two" (p. 5). Carr and Kemmis (1986) offer engagement in research on one's own practice as an extension of professionalism that helps bring theory from its esoteric heights and closer to the practical that has to do with everyday concerns.

Organization of the Study

The purpose of this first chapter is to introduce my research through its primary purpose and guiding research questions, and to offer the rationale for my approach. Chapter 2 provides a detailed literature review of the major areas of study, including higher education in the United States, the theoretical and conceptual perspectives for this research, reflective learning and practice, teaching conceptions and beliefs, faculty development and Continuing Professional Education. The details of my research methodology and design are described in Chapter 3; participant profiles appear in Chapter 4; Chapter 5 further displays and organizes the data collected; and Chapter 6 relates the findings identified back to the literature and provides analyses, conclusions and recommendations for further research.

CHAPTER 2: LITERATURE REVIEW

The purpose of my education action research study was to engage untenured faculty, positioned as adult learners, in a meaningful and integrated approach to professional development that could result in new and critically-evolved understandings about their roles and practices (especially related to teaching). The purpose of my research was to address a gap in the literature on faculty within public, higher education teaching institutions. While research has been conducted on how to engage teachers and teacher educators in the development of a reflective or critically reflective teaching practice (Argyris & Schon, 1974; Brookfield, 1995; Cranton, 1996; Kincheloe, 2003), no research is evident on how to engage faculty (especially untenured faculty) in fostering the development of a reflective teaching practice.

This literature review informed my research by providing a contextual understanding of the strong traditions and emerging imperatives for change within higher education in the United States, the theoretical and conceptual frameworks for this study, the concept of evolving a reflective practice, the evolving role of faculty development in higher education, the theoretical and empirical literature on teaching conceptions and beliefs, and the concept of positioning faculty as adult learners within an academic profession and faculty development as Continuing Professional Education. The five main sections of the literature review are: Section 1: Higher Education in the United States, Section II: Theoretical and Conceptual Frameworks, Section III: Reflective Learning, Section IV: Faculty Development; Section V: Teaching Conceptions and Beliefs, and Section VI: Continuing Professional Education and Adult Learning Theory for Faculty Development. A synthesis of these main sections is provided highlighting the gaps within

the literature reviewed that justified the need for my research. Because of its long history and strong traditions, it is first important to highlight the evolution of higher education, especially in the United States and the influence of that evolution on what it means to be a faculty member within a university.

Higher Education in the United States

Higher education has been portrayed, overall, as an institution within our society that operates within philosophical, organizational, political and cultural structures originally conceived in the 15th and 16th centuries (Stage, Muller, Kinzie & Simmons, 1998). In broad terms, higher education has traditionally operated in an insulated and well-funded environment, more protected than not from market forces. Our larger institutions have been faculty-centered and provider-driven (Rowley, 1997). Historically, higher education can be further characterized as having educational and credentialing monopolies in this country that perpetuate a mentality of exclusivity catering to the few and not the many (DePree, 1989; Katz, 1999). Norms manifested in higher education are still predominantly rooted in the industrial, and even agrarian, economy, and have created highly traditional organizational, philosophical and policy structures that are resistant to and difficult to change.

The norms in higher education also provide a blueprint for operations and a level of predictability that is almost non-existent in the current environment of rapid change and uncertainty that has come to “define” the knowledge economy. The key issue as we move forward to look at the emerging realities of the knowledge economy is that many, many institutions of higher education remain solidly grounded in traditional philosophies, structures and practices. Bates (2000), for example, states that “the introduction of

technology is usually accompanied by major changes in the organization of work to postindustrial forms of organizations with highly skilled and flexible workers…while universities and colleges remain organized according to a mix of agrarian and industrial organizations" (p. 4).

Because of its historical development and strong traditions, it is the estimation of some experts that deep reform and timely change in higher education (especially in relation to teaching and learning) is not evident even after decades and centuries of discussion and debate, which raises questions about its continued relevance in society (Briggs, Stark & Rowland-Poplawski, 2003; Camblin & Steger, 2000; Guskin & Marcy, 2003; Lazerson, et al., 2000; Levine, 2001). This means that there appears to be a misalignment between the traditions and practices of higher education in this country and the emerging realities of our societal and educational needs, and this misalignment highlights questions of relevancy for higher education within our emerging society. Let us, therefore, broadly follow the historical development of higher education for a better understanding of, and perspective on, the longstanding and deep traditions within higher education, especially within the United States and as they relate to teaching.

General Historical Development of Higher Education

From the Greeks of antiquity, higher education has inherited the debate between the Socratic method of teaching through questioning and discovery and the dilemma (traced to Plato and Aristotle) as to how scholarship and teaching are tied together, if at all (Westmeyer, 1985). Early in the history of higher education, monasteries had a great deal to do with education in the Catholic Church and centers of learning focused on book copying and stimulation of thought. Between the 9th and 17th centuries, according to

Westmeyer (1985), a primary purpose of higher education was preparation for the clergy, and scholasticism was the dominant philosophy movement in education with teaching primarily comprised of reading to pupils who, in turn, copied down the words, as well as the practice of disputations (or debates) rooted in logic more so than facts. After the crusades (and learned from the Saracens), Aristotelian science became embedded in scholasticism with emphasis on logical science while experimental science took much, much longer to enter the curriculum of higher education. Logical science, according to Westmeyer (1985), had a significant impact on the curricula of America's colonial colleges. Later, the influence of the German research university model on American institutions has been noted by many authors who are expert in the history of higher education (Lucas, 2006; Rüegg, 2004; Thelin, 2004; Westmeyer, 1985; Westmeyer 1997). In particular, as noted by Westmeyer (1985), the concepts of *lehrfreiheit* or the academic freedom to discover new information and do research, as well as the idea that new knowledge has value whether or not it contributes to the betterment of daily life; and *lernfreiheit* or a student's freedom to learn what he or she wants that, for example, influenced the evolution of the elective systems in higher education; and *wissenschaft* or an emphasis on investigation and writing (publishing) about what one discovers as central roles for both teachers and students evolved from the German university model. Westmeyer (1997) identifies three major trends in the history of the evolution of higher education as a movement from religious to secular education, from serving an elite student body to a popular student body, and from a general curriculum to a specialized curriculum. To these trends, I would add a fourth which is a movement from the

education of the few to the many (elite to popular) and a corresponding growth of bureaucracy and hierarchy in academic affairs and governance structures.

American Higher Education

Because my research took place in a public institution of higher education in the United States that is self-defined as a teaching (versus research) institution, it is useful to provide an overview of the evolution of higher education in America, as well as the key traditions and current trends influencing teaching and learning within these institutions. This is important because teaching and learning within higher education must be considered within its own context that includes its historical evolution, as well as social influences.

American higher education has only been in existence for three centuries and, though based largely on European models, its evolution has been (and continues to be) significantly and uniquely influenced by science, religion and politics within America (Geiger, 2000; Westmeyer, 1985, 1997). For example, Hoeveler (2002) highlights the perspective that colonial colleges were political to the core, engaged in "intellectual warfare" based on different religious beliefs and foundations, identical in curriculum, and a means for American nationalism. Because of the diversity (and often contradictory nature of) factors that appear to have contributed to making higher education in the United States uniquely American, there exists heterogeneity among institutions of higher education (Shapiro, 2005) along with a simultaneous, and fairly consistent, traditionalism that is maintained and dating back to antiquity. Another example of the contradictions that have shaped American higher education is the concept that democracy is the unique and distinguishing factor within American higher education that promotes access,

practicality and relevance (Brubacher & Rudy, 1997). This concept is challenged by critics who maintain that higher education in America (almost since its inception) because of traditional power and control issues, outdated teaching methodologies, and a culture of isolation and insulation fosters a lack of access, practicality and relevance. It appears that higher education in America is made up of all these seeming contradictions simultaneously which has resulted in a system of education with only one constant—diversity. Brubacher and Rudy (1997) state that, "from this process of transplantation and continuous adaptation have emerged those aspects of academic culture which we have come to recognize as 'characteristically American' " (p. 424). These uniquely American aspects include mass higher education, a broadened scope of higher education, the idea of service as a part of education and learning, unsystematized diversity, voluntary cooperation in setting standards, the corporate structure of college government, and a place of the extracurriculum (Brubacher & Rudy, 1997).

Another unique factor in the evolution of higher education in America is the rise of the practical curriculum which created a division between it and the classical curriculum which is grounded in learning for learning's sake. This division is still evident today. After the Revolutionary War and prior to the Civil War, Westmeyer (1985) states that it was clear that the purpose of the colleges in this country was to serve people through science (especially agriculture and engineering), research, and learning. In 1828, for example, the Yale Report was published stating a need for change in Yale's curriculum especially through an introduction of science and discovery as a significant part of education. Research in the modern sense with its emphasis on objectivity, data, and process, however, is still a relatively new emphasis in academia since it requires the

ability to call existing, educational beliefs into question with a move toward rationalism and positivism and a belief that the truth is not divinely defined, but out there to be discovered scientifically (Westmeyer, 1985).

Other major influences in the shaping of higher education, especially in the post-Civil War era, were the growth in the population at large, that public school attendance became mandatory by 1900, an increase in business and industry and its influence on education, increased mobility (for example, through rail transportation) for the population, and the rise of the great research societies. Immediately following the Civil War, Midwestern universities led a movement to make standards and requirements more uniform and democratic in order to serve a much broader population (and including women and other minorities) than did earlier colleges. Between 1815 and 1914, as noted earlier, the German model of a research university also greatly influenced American colleges. Johns Hopkins University and the University of Chicago, for example, became focused on the creation of graduate schools with top scholars, research, and publishing at their center. According to Westmeyer (1985), "under the leadership of Hopkins in the preparation of university professors, the doctorate became the necessary credential for university teaching, especially in the new profession of 'professing' which combined teaching and research (and publishing) if one was to be considered a scholar" (p. 90). By the late 1800s, professors were, for example, required to have some graduate studies in order to earn tenure. Westmeyer (1997) makes the distinction between early colleges with fairly low levels of education (with undergraduate education roughly equivalent to an eighth grade education today) and geared toward younger students, and the universities of the post-Civil War era and today.

Moving into modern times (post 1900), Cardinal Newman's pronounced ideal of a university (in 1931), according to Menges and Mathis (1988), again focused on knowledge for the sake of knowledge and increasing mental capacity instead of the simple accumulation of knowledge. This pronouncement appears to have moved the societal standard for higher education away from practical studies and back toward the classical curriculum. At the same time, Thelin (2004) highlights that there was, between 1940 and 1970, tremendous growth in the number and size of colleges in the United States, with California and Massachusetts demonstrating an extreme commitment to the expansion of higher education. The 1940s saw the rise of the modern research institution and an influx of adult learners who were veterans on college campuses; during the 1950s, the community college and commuter institution model were introduced and expanded; the1960s began the move to mass higher education and student discontent became organized around issues of relevance of the curriculum, research supporting the military structure, and the impersonality of education; the 1960s also saw a tremendous gain for professors in income, power, and prestige, a trend that began to reverse itself as early as the 1970s when higher education experienced a glut of potential faculty.

It is clear from this very abbreviated step through the evolution of higher education that there is no one single portrait that can best define American higher education (or the role of teaching within it) which, of course, has been influenced by the political, cultural, religious, economic, military, and social history (both nationally, regionally, and locally) of the United States. What has emerged is, according to Menges and Mathis (1988), a system that is defined by its diversity and heterogeneity, as well as the tension between tradition and current and future societal trends and needs. This is

evident, for example, in the rise of the Carnegie classifications for various institutions: the research university, doctoral-granting university, comprehensive universities and colleges, liberal arts colleges, and two-year colleges. The institutions within these various classifications, according to Shapiro (2005), all serve a public purpose from different venues and perspectives. Within this evolution, and of key importance perhaps, is what Menges and Mathis (1988) reference as Riesman's concept of the rise of student consumerism as a replacement for faculty dominance and the ensuing tension that this perpetuates. While this trend may be true across classifications of universities and colleges, it is also true that tension between student demands and faculty dominance (control and authority over what is taught, by whom, and how) may be found in varying levels within each classification. Traditions dating back to antiquity may, for example, be more apparent in research universities and liberal arts colleges and less influential in newer, two-year colleges.

Based on its history and the contradictions and diversity inherent in this evolution, therefore, what it means to be a faculty member within higher education in America (including what it means to teach) is both defined by the context of individual institutions, as well as often being consistent with traditions traceable to antiquity. This was important to my research because it highlighted the point that teaching and learning, and what it means to be a faculty member, could not be separated from the context within which professors practice and had to be individually defined by the participants in my study. To that end, it was useful to examine the current external drivers and emerging, societal realities impacting higher education and the role of teaching and learning within

this context. These influences, in turn, impact how my participants viewed and defined themselves as faculty members to include what it means to teach and learn.

The Impact of Society's External Drivers and Emerging Realities on Higher Education

Again, in order to have the complete context of higher education in America as a foundation for what it means to be a faculty member and what it means to teach and learn within this system, it was important to consider the impact of current, societal drivers and emerging realities. A predominant trend within our society has been the call for reform in all levels of education including college and university levels. For example, Rowley (1997) states that:

> Higher education is a system under fire. For decades, if not centuries, colleges and universities have enjoyed the status, prestige, reverence, and support that has helped them to become fonts of knowledge in both the generation and sharing of knowledge within our society. This focal role is now undergoing significant change. (p. 3)

Lazerson, Wagener, and Shumanis (2000) lay out the evolution of the call for modern reform within higher education as spilling over from the public concern in the mid-1980s about the poor quality of teaching and learning at the elementary and secondary levels of education that has made assessment and accountability a norm within the education sector. Not unexpectedly, this public and external mandate for assessment of learning and accountability met with strong resistance from faculty in higher education. Prior to concerns expressed in the 1980s for accountability, it was the student movement's demand for better teaching and relevant curriculum in the 1960s that

initiated, for example, the creation of faculty development centers (Berquist & Phillips, 1975).

Further evidence of the call for reform in teaching and learning within higher education is provided by Pendleton (2002) who highlights the demand from the growing population of adult learners for greater efficiencies, cost effectiveness, and technological competence among institutions, programs and faculty. Growing diversity of the student population in higher education is primarily due to the growing numbers of adult learners and under-represented populations in this country, as well as the historical and societal mandate for higher education, especially public higher education, to become more accessible to these under-represented populations. This mandate in combination with changing demographics in this country combine to ensure increased diversity in the university classrooms that will demand different conceptions, philosophies, and approaches to teaching and learning.

Levine (2001) speaks directly of the megatrends that demand change and reform within the academy (especially in relation to teaching and learning paradigms). These are: (a) the rise of an information economy, (b) changing demographics, (c) new technologies, d) privatization of higher education, and (e) the convergence of knowledge producers (pp. 255-261). These megatrends combine with a decline in public funding and public trust to demand new structures and approaches in higher education that are non-traditional, lifelong, inclusive, innovative, and collaborative in nature. Levine (2001) goes on to speculate that these forces are most likely to effect the following realities in the future: (a) there will be a greatly expanded and far more diverse set of higher education providers beyond traditional campuses; (b) colleges and universities will either

be traditional (brick), virtual (click) or a combination of the two (brick&click), and traditional colleges are most likely only to appeal to a narrow market of traditional and residential student populations; (c) there will be a reduction of the number of physical campuses in the U.S.; (d) there is likely to be an unbundling of the traditional functions of research, teaching and service in higher education; (e) faculty will be independent of colleges and universities; (f) there will be worldwide campuses; (g) higher education will be individualized to the learner; (h) the focus of higher education will shift from teaching to learning; (i) degrees will wither in importance; (j) every American will have an educational passport with portable and transferable educational achievements; and (k) educational dollars will follow learners instead of institutions (pp. 261-266).

Also of key importance in the changing landscape of higher education, as pointed out by Briggs, Stark, and Rowland-Poplawski (2003), is the decline in public funding to support higher education. This reality, which is not predicted to reverse itself, means that the short-term, cost-cutting measures adopted by most institutions of higher education to this juncture will not ensure the financial survival of many institutions over time. Instead, institutions of higher education must both look at permanently reforming their business practices, as well as decide how best to attract and retain new student markets such as adult, non-traditional, international, and under-represented populations that are not necessarily best served or taught using traditional teaching approaches (Guskin & Marcy, 2003).

Camblin and Steger (2000) point to these external trends, issues, and forces as being a threat to the very survival of higher education brought on by outdated organizational structures and practices, including, and especially, the obsolescence of

traditional faculty conceptions and practices of teaching and learning. However, authors such as Levine (2001) and Briggs et al. (2003) question whether or not real change will occur within higher education in a timely fashion (and especially given the strong traditions that remain a part of universities and teaching in universities) and in response to these external pressures. These authors point out that if higher education is not responsive with regard to teaching and learning, then it is likely that higher education as we know it faces extinction due to its loss of monopoly on advanced learning and its inability to respond to changes in the environment. "And yet, for all the pedagogical innovations –even the advent of the Web – there has been precious little deeper reform" (Lazerson et al., 2000, p. 12). Instead, there has been what Lazerson et al. (2000) term "observed rituals of compliance" in response to demands for changes in teaching and learning in higher education. Though these predictions of decline for higher education have existed and been heard for many decades, it is the changing definition of what it means to be learned and educated in our society that will continue to drive these debates over teaching and learning paradigms and the role of teaching and learning within new paradigms. Before discussing the changing nature of learning, what it means to be learned, and the impact of these changes on faculty preparation and development, however, let us examine a history of teaching in higher education created by authors and researchers such as Brubacher and Rudy (1997) and Westmeyer (1997).

Teaching in Higher Education

Brubacher and Rudy (1997) trace the transitions in higher education since its inception, including early methods of teaching and underlying teaching philosophies. They tell us that in the early days of American higher education classes entered college as

cohorts that remained together for the first four years of their educational pursuits. Tutors taught the entire curriculum for a year and were usually recent graduates awaiting job offers. Teaching was comprised primarily of lecture and recitation. As noted earlier, lecture has its roots in the medieval universities (and therefore is traceable to antiquity) wherein teachers recited from texts and students wrote down the words (especially prior to the invention of the printing press). Lecture was paired with experimentation as a new teaching method beginning in the mid-1800s. Lecturing, as an approach to teaching, was further influenced by the German research university lecture model wherein professors spoke enthusiastically about their own research, organized large amounts of information into a timed talk, and identified future research priorities with the intent of motivating students about their own educational subjects and research. The lecture has been retained as the dominant method of instruction in American universities and colleges (Brubacher & Rudy, 1997).

Another early teaching method of note was disputations (also dating back to medieval universities). A tutor put forth a particular thesis which students argued for or against until objections were overcome. The discussion was then traced and summarized by the tutor. Brubacher and Rudy (1997) make the point that this method of teaching began to lose its popularity in the mid-1700s, but it is certainly still evident today in the form of debate and defense that are used as teaching (and evaluation) methods within higher education. Westmeyer (1997) traces the evolution of teaching procedures from dialog to lecture, to disputation and declamation (seminars, colloquia, and recitation), to the introduction of experimentation, to honors programs (beginning in about the 1920s), to theses (both undergraduate and graduate), to the Great Books approach (learning for

learning's sake), to cooperative learning, to technology and individualization, to teaching and research as complementary methods, and finally to competency-based education. While various approaches to teaching have evolved over time, however, it remains that in the 21st century lecture continues to dominate as the preferred teaching methodology.

Westmeyer (1997) notes that the early colleges in America were oriented toward vocational preparation of students (for example, for the ministry), then moved toward training of the mind and liberal studies. Much later, they became oriented toward research (especially around the 1940s), then toward humanism and development of the individual, and still later to a focus on practical topics. Although Brubacher and Rudy (1997) make the point that the philosophical foundations of higher education were not explicitly examined for the first 200 years of its 300 year history in America, they and Westmeyer (1997) attempt to parallel the broader evolution of American higher education and the teaching methods highlighted above with an evolution of dominant and changing philosophical foundations for higher education. Brubacher and Rudy (1997) trace the philosophical orientation evolution of higher education as moving from mental discipline early on to humanism, to rationalism, and to pragmatism (as espoused by Dewey).

Brubacher and Rudy (1997) highlight a key philosophical influence on teaching in higher education as being the student movement of the 1960s. In particular, the movement's contentions that liberal education was obsolete and irrelevant owing to its lack of relevance in industrial society, colleges were being overshadowed by universities, undergraduate education was being overshadowed by graduate education, and *professional scholars* were emerging from graduate schools with dissertation, research,

and publishing priorities overshadowing their interest in teaching. Another important aspect of the 1960's student movement that impacted higher education was its advocacy for value-free education (or education that is autonomous and not a vehicle of indoctrination or nationalism). Westmeyer (1997) poses a philosophical evolution similar, yet different, from Brubacher and Rudy (1997) with a move from mental discipline, vocationalism, and transfer of information and knowledge to pragmatism (solving daily problems), to humanism (lifting up all of humanity through education), to rationalism (learning for learning's sake), to a re-emphasis of pragmatism, to reconstructionism (education as value free with focus on improving society by questioning the status quo), and notes that today there is a re-emphasis on humanism and a move back to basics.

While interesting, these tracings of philosophical foundations from one to the next seem too simplistic. While it is true that all these philosophical orientations have manifested themselves in higher education and that they imply different roles for faculty, students, and teaching, it is difficult to endorse such a linear evolution. Given that teaching methods predominant in the 21st century are traceable back to antiquity in spite of the introduction of new forms of teaching over the centuries, it is probably prudent to say that the philosophical traditions underpinning these teaching methodologies and the role of the faculty are also traceable to antiquity in spite of the influence of modifications and changing orientations over the centuries. In fact, Brubacher and Rudy (1997) state that, based on a survey of some liberal arts faculties conducted after World War I (now over 90 years ago), few faculties have traditionally taught from a specific and stated philosophical perspective, and that most consistent, over time, has been how students are

taught in higher education, especially through the lecture method. This apparent consistency of teaching methods within higher education over time might also imply a consistency in learning and teaching philosophies or orientations, as well as a consistency in faculty roles over time.

The consistency of faculty roles over time is influenced, however, by exceptions as noted by Lucas (2006). He emphasizes that the professorate began to change in the late 1800s toward specialization and careerism of faculty expertise and research which meant the loss of broader, master knowledge and expertise and the introduction of complicated hierarchy within academic rank. Specialization and careerism served to highlight issues of relevance (or lack thereof) in teaching, learning and research, as well as to push issues such as elitism, self-servitude, loss of community, neglect of undergraduate education, and academic commodification among faculties to the forefront of social debate and ensuing calls for reform (Lucas, 2006). The need for reform in higher education is a societal demand that appears continuous within higher education and also traceable through history (Alstete, 2000; Cole, 1940; Lucas, 2006). In 1940, for example, Cole (1940) speaks to the 30-year old “battle” (i.e., tracing back to the 1910s) between new and old educational methods and speaks to the eight primary criticisms of his time of teaching in higher education that were: (a) lack of recognition for good teaching; (b) teaching ignoring individual differences; (c) the practice of old fashioned teaching methods without enough student participation; (d) the lack of professional training for teaching and teachers; (e) the poor organization of courses; (f) the lack of adequate guidance received by students on their education and learning; (g) that freshman and sophomore courses were taught by inferior teachers; and (h) that too much emphasis

was placed on class work and insufficient emphasis was placed on self-education of the student (pp xii). What is striking is that many of these same themes and criticisms are found in the literature of the 20th and 21st centuries, both popular and scholarly, about teaching and learning in higher education (Akerson, Medina, & Wang, 2002; Alstete, 2000; Boice, 1992; Brown & Thornton, 1963; Gess-Newsome, Southerland, Johnston & Woodbury, 2003; Hargreaves, 1994; Menges & Mathis, 1988; Wolverton, 1998).

As put simply by Cole (1940), "the aims of education are, in their very nature, matters of opinion; they are not susceptible to objective proof" (p. 15). He goes on to state that, "the only way in which a college can get superior teaching is to recognize it, emphasize it, respect it, honor it, and reward it" (p. 589). This simple advice, however, appears to go largely unheeded almost 70 years later, and it seems reasonable to say that the diversity within philosophical traditions, the definition of faculty roles, and teaching and learning within American higher education is likely to perpetuate ongoing and constant reform and experimentation (Menges & Mathis, 1988). The consistency that higher education demonstrates in approaches to teaching and learning spoke to the need for my research. In particular, the traditional learning model or paradigm within which faculty members are the authorities in a subject and who profess their knowledge to students as the primary method of learning also speaks to a teaching practice that is defined by deeply rooted tradition instead of the exploration of new approaches and paradigms. Therefore, a discussion of the socialization process into the professorate follows in order to highlight the strength of tradition in preparation for the professorate that had to be considered in my research that sought to engage faculty in a meaningful

and integrated approach to faculty development that could move beyond traditional teaching methods and paradigms.

Socialization into the Professorate

Blackburn and Lawrence (1995) state “universities are among the world’s most dominant and enduring social organizations” (p. 1). Socialization into the professorate has been the primary means by which future faculty form conceptions, beliefs, and their practice of teaching and learning. This section focuses only on the modern issues within the literature on socialization into the professorate.

Austin (2003) defines socialization as “a process by which an individual becomes a part of a group, organization, or community “ (p. 96). The results of her four-year longitudinal study of graduate students conclude that socialization into the professorate and a discipline begins in graduate school. Graduate school, for example, offers first-hand experience with, knowledge of, and observation of the variations that exist within and between disciplines about the definition and legitimization of research questions, research methods, relationships between teaching and research, and work relationships between scholars. For example, as part of their socialization into the professorate, competition has often replaced collegiality within the academy, there are relatively few tangible or measurable results for teaching, and there is no consensus on what it means to provide high quality teaching. Graduate students learn to distinguish between the mixed messages sent by public statements about teaching and learning (especially about being learning and learner centered) that come from university leadership and the observed teaching practice among their faculty that often remains rooted in traditional teaching and learning approaches. Her overall conclusion is that the graduate school experience, and in

turn the beginning of socialization into the professorate and a discipline, has remained remarkably unchanged in spite of the modern, changing expectations and requirements for faculty such as an emphasis on learning outcomes, the need for broader subject-matter expertise, the effective use of technology, the integration of knowledge and application, and the ability to solve open-ended problems. In particular, the graduate school experience overall can be portrayed as lacking in the provision of preparation for teaching within higher education. This lack of emphasis on preparation for teaching appears to extend into the early years of development as a new faculty member and as a professional (Boice, 1992), especially within disciplines outside of education.

On the other hand, Blackburn and Lawrence (1995), as well as Fairweather (1996), take the position that socialization into the professorate and graduate school is not the heaviest influence on teaching and learning philosophies and practice among untenured faculty. They offer a different theoretical framework for the development of teaching attitudes and practice. It centers on self knowledge and social knowledge as influenced by environmental conditions, environmental responses, and career and sociological demographic characteristics. Self and social knowledge produce behaviors and result in products, as well as the personal value each faculty member gives to an activity such as teaching. They argue that it is this perspective and understanding that should drive the professional development of current and future academics, especially related to teaching and learning.

Fairweather (1996) concurs that graduate school is not the primary socialization process into the professorate and a discipline; instead he proposes that individual faculty have either a high or low propensity toward research or teaching, and that it is finding the

appropriate institutional and cultural fit between propensities that is key to restoring relevance, alignment, and trust in higher education. Research-oriented faculty should go to research-oriented institutions and teaching oriented faculty should go to teaching institutions. One flaw in this perspective is that it ignores the unlucky fate of students, especially undergraduate students, in these research institutions since their learning, by definition, will forever take a position of lesser priority.

In yet another perspective, Weidman, Twale and Stein (2001) make the distinction between socialization, which they define as acquiring the knowledge, skills and dispositions that will make individuals better members of their respective society, and professionalization that happens on the job and rarely in a graduate classroom. Professionalization, unlike socialization, is more geared toward defining and upholding standards and traditions in scholarly work and professional ideology. For example, based on current tenure-track policies and evaluations, Wolverton (1998) makes the point that punishment for poor teaching in higher education is rare and that the "teaching-quality threshold" is usually self defined as "teaching to a tolerable level," which means teaching defensively so as not to receive complaints about one's teaching being submitted to the department chair (p. 63).

Consensus appears to exist among authors such as Austin (2003) and Weidman et al. (2001), therefore, about the need for change in how individuals are socialized and professionalized into the professorate and their disciplines. My research sought to address this need by focusing on engaging untenured faculty in an approach meant to begin to lift up and examine the teaching conceptions reinforced by socialization and professionalization into the professorate.

The historical development of higher education, both in general and in America, provides a context for the evolution of modern universities and highlights a strong and lasting foundation in traditions dating back to antiquity. These traditions include remarkable consistency over time (at least over the past 100 years) in teaching methods and in preparation for the professorate, as well as how one gains admission into a discipline as a scholar. The point is that faculty members do not typically define their teaching and learning orientation in an active way, but instead most often are guided by the traditions found within the individual and collective historical, social, and philosophical development of universities, as well the norms of behaviors within their discipline and among their fellow scholars. Tension arises, however, in that societal needs and demands on higher education have shifted which includes different expectations from, and requirements put upon, faculty (Austin, 2003). This means that new ways of forming and influencing conceptions and beliefs about teaching and learning (as well as practice) in higher education must be explored. My research was designed to do this by engaging faculty in an integrated and meaningful approach to professional development that went beyond discipline updates and teaching techniques. This is important because what it means to learn and to be learned in our society seems to be shifting toward new definitions.

The Changing Nature of Learning

Merriam and Caffarella (1999) remind us that what is defined as learning that is legitimate and relevant to the needs of society is largely determined by society at a particular time. So, from a learning perspective, Bandura (2001) points to the rapid pace of informational, social, and technological change today (and the complexities this

change creates) as the catalyst requiring learners to take on responsibility for learning and expansion of their knowledge and cognitive competencies on a continuous basis in order to remain competent. The need to become more self-directed as learners highlights, according to Brancato (2003) and Tsui (2001), the prominence of developing critical thinking skills as a key learning objective across disciplines in higher education, and points to how this differs from traditional definitions of learning based more on the acquisition of information and knowledge. Weimer (2002) positions the emerging definition of learning as being learner-centered and requiring learner-centered teaching. The emphasis on the changing nature of learning, and what it means to be educated, concentrates on changing what it means to teach as a component of the learning process in higher education. Again, what it means to teach in higher education is heavily influenced by the teaching conceptions and beliefs of the time.

The variables affecting change (or lack thereof) related to teaching and learning in higher education (and discussed more fully in the faculty development literature section of this review) include, but are not limited to: (a) the socialization process into the professorate and a particular discipline that most often ensures that professors teach as they were taught and focus on subject expertise instead of teaching expertise (Austin, 2003; Reybold, 2003; Tsui, 2001; Weidman et al., 2001); (b) norms and traditions of learning and teaching that have existed within the academy since the Middle Ages (Cottrell & Jones, 2003; Palmer, 1998); (c) cultural norms of individual institutions (Palmer, 1998); (d) lack of leadership and commitment to real change through faculty development within institutions (Lazerson et al., 2000; Sunal, Hodges & Sunal, 2001); (e) contextual variables for individual professors such as career and life phases (Caffarella &

Zinn, 1999; Eleser & Chauvin, 1998) and (f) the struggle to lift up teaching as a part of scholarship equal in status to research, especially in promotion and tenure considerations (Alstete, 2000; Cottrell & Jones, 2003; Healey, 2003; Koch et al., 2002; Robertson, 1999; Stark, 2000; Travis, 1995). At the crux of all these issues, however, appears to be a fundamental debate over learning philosophies and how they are manifested in higher education and especially a move away from liberalism and behaviorism as dominant educational philosophies and toward humanism and constructivism as a viable educational foundation for higher education. In this light, the issue becomes less about reform and helping professors to teach more effectively and accountably (at best a remedial approach), and more about investigating learning philosophies and assumptions in order to ensure that what faculty believe and espouse philosophically about learning is truly manifested in their practice and within the culture of the institution in which they practice.

Within this context, Barr and Tagg (1995) and Tagg (2003), for example, argue that relevance in higher education can be achieved with a shift from an *Instruction Paradigm* to a *Learning Paradigm*. This shift has also been described as a move toward active learning and away from content coverage, or a move toward student-centered and away from teacher-centered. It is important to note that this shift does not advocate abandoning instruction as a method of teaching, but does advocate that instruction not be the sole and primary method of teaching and learning. At the core of this shift are learning philosophies that answer the following questions differently: (a) what is the purpose of education; (b) what knowledge is important and relevant and who decides; and (c) who benefits from education? The answers to these questions influence structure

and process and, therefore, such a paradigm shift has significant and broad implications for teaching and learning and, in turn, the role and preparation of the faculty. It is implied that the Learning Paradigm is needed to effect reform within higher education in response to the changing nature of the world.

Broad overview of the paradigms. The Instruction Paradigm highlights the primary mission and purpose of a university as providing instruction and teaching, and the Learning Paradigm highlights the mission and purpose of a university as also producing learning. This shift, then, seeks to move higher education to expand learning-centered and learner-centered environments that require, on the part of the institutions and faculty, a new and redefined focus on learning beyond higher education's traditional focus on teaching and instruction.

From a theoretical perspective, the Instruction Paradigm frames learning atomistically in the philosophical traditions of liberalism and behaviorism while the Learning Paradigm frames learning holistically and more grounded in humanist philosophy. According to Barr and Tagg (1995) and Tagg (2003), framing learning atomistically within the Instruction Paradigm implies knowledge is transmitted from the teacher who is the subject-matter expert to passive students who bank the knowledge for future use. All power and authority rests with the teacher who, by virtue of her or his expertise, is best qualified to teach the subject; and learning is cumulative for which a degree is awarded when a certain amount of instruction, determined by faculty experts, is received. The purpose, then, of education is to receive knowledge that seems to benefit those who teach and the disciplines they represent in perpetuating their key ideas, beliefs, and norms.

Framing learning more holistically within a Learning Paradigm, on the other hand, recognizes the learner as the chief agent in the learning process. Learners are active discoverers and constructors of their own knowledge within frameworks that they create (Barr & Tagg, 1995, p. 9), and these frameworks interact with one another in a non-linear way that provides deeper meaning and understanding of the elements and the whole. The purpose of education, then, is to teach learners to learn (that is, to gain higher order and critical thinking skills), as well as to grow as self-directed and lifelong learners. While assisted by faculty experts, learners in this paradigm are much more likely to decide what knowledge is important and relevant to their own growth.

In turn, faculty are perceived in the Instruction Paradigm as disciplinary experts imparting knowledge, whereas the Learning Paradigm positions faculty as one of a team of university experts working together to design and deliver opportunities for significant learning that coach and inspire the self-directed learner toward continuous discovery and learning. The Learning Paradigm provides a definition of learner-centered environments wherein faculty provides the tools required for learning and the guidance and coaching required for each individual learner to progress. These very different and underlying teaching conceptions (or paradigms) are also manifested in very different teaching practices and approaches that, in effect, move the locus of control for learning and what is learned from the teacher, in the Instruction Paradigm, to the learner, in the Learning Paradigm.

Impact on faculty preparation and development. Ruth-Sahd (2003) makes the point that "…one's 'style of teaching' is dependent on the epistemological stances of the educators" (p. 131). Said differently, most faculty members were taught in the traditions

of liberalism and behaviorism and, in turn, are comfortable teaching in those traditions and essentially unprepared to teach in any other way. Therefore, the urged shift from the Instruction Paradigm toward the Learning Paradigm could have a significant impact on how professional preparation and development is framed within higher education. Barr and Tagg (1995) speak to how this paradigm shift changes the role of faculty within higher education. Professors would no longer be perceived as discipline-specific experts who work in isolation and deliver their knowledge via lecture to a passive body of students. Instead, professors in the Learning Paradigm become "inter-actors" who design learning environments in collaboration with others (including non-academics) and who study approaches and methods most likely to result in learning and student success.

Discussion and Summary

There is a perceived misalignment between teaching and learning traditions in higher education and the emerging realities and learning needs of our society. The changing nature of society and its members (and the layer of complexity this adds to all facets of life, including education) requires that new approaches to teaching and learning be explored within the unique context of higher education in America.

Yet, it is important to note that no simple, philosophical answer exists to what manifestation of higher education best serves society now and into the future, and what form of faculty preparation and development best serves faculty members and learners. Arguments are often equally strong both for and against the various approaches to teaching and learning. Instead, the answer seems to lie with the faculty directly responsible for teaching and learning. A clear and substantial tension exists in higher education between academic traditions (structure, organization, rewards, access, and

teaching and learning) and external pressures. This tension for change from a teacher-centered approach toward a learner-centered approach is concentrated in what it means to learn and teach within higher education and how this change is manifested in advancement into the professorate, as well as faculty development.

My research, therefore, positioned faculty as adult learners and was designed to engage faculty in a meaningful and integrated approach to professional development that provided an opportunity for participants to reflect on and examine their practice with the idea that this could result in new understandings about their roles and practices (especially related to teaching and learning). To further frame this research, I now describe the theoretical and conceptual lenses applied to this the study.

Theoretical and Conceptual Frameworks

This section provides a review of the literature on constructivism and transformative learning theory because both were used as lenses for my research. Transformative learning theory is based in the philosophy of education known as constructivism and is considered an adult learning theory. Transformative learning theory was appropriate as a theoretical lens for this research because it centers on making meaning out of disequilibrium that causes us to examine, consider, and potentially change how we define self and others, as well as our practice. Because conceptions and beliefs among faculty members in higher education are acquired and/or reinforced during socialization and professionalization into the professorate and a discipline, it follows that any evolution of understanding or change in perspective to these (that may be assisted by faculty development) must seek to lift up for examination the underlying assumptions upon which beliefs and conceptions of teaching and learning are founded. In the next

section of this review I have also included a discussion of the concept of reflective learning since my research positioned the development of such a practice as key to the exploration of what it means to teach and new approaches to teaching and learning.

Constructivism

Constructivism is a philosophy of learning that is based on the belief that the learner, as an active and autonomous agent, is responsible for his or her own learning through reflection on experiences that help construct and make meaning, as well as understand the world in which we live (Elias & Merriam, 2005). Constructivism is in response to liberalism and behaviorism (as manifestations of positivist philosophy) that are long-standing, learning philosophies within the United States at all levels of education. Constructivism is the foundation for what Barr and Tagg (1995) term a "Learning Paradigm," whereas liberalism and behaviorism are the foundation for an "Instruction Paradigm." The Instruction Paradigm highlights the mission and purpose of a university as providing instruction and teaching, whereas the Learning Paradigm specifies the mission and purpose of a university as producing learning. For example, "…the Instruction Paradigm rests on conceptions of teaching that are increasingly recognized as ineffective" such as the passive lecture-discussion format, whereas "the Learning Paradigm ends the lecture's privileged position, honoring in its place whatever approaches serve best to prompt learning of a particular knowledge by particular students" (Barr & Tagg, 1995, p. 1). This shift, then, seeks to move higher education to create learning-centered and learner-centered environments that require, on the part of the institutions and faculty, a new and redefined focus on learning instead of higher education's traditional focus on teaching.

From a theoretical perspective, the Instruction Paradigm frames learning atomistically while the Learning Paradigm frames learning holistically. According to Barr and Tagg (1995), framing learning atomistically within the Instruction Paradigm implies that knowledge is transmitted from the teacher who is the subject-matter expert to passive students who bank the knowledge for future use; that all power and authority rests with the teacher who, by virtue of her or his expertise, is best qualified to teach the subject; and that learning is cumulative for which a degree is awarded when a certain amount of instruction, determined by faculty experts, is received. Thus the purpose of education is to receive knowledge that seems to benefit those who teach and the disciplines they represent in perpetuating their key ideas, beliefs, and norms.

Framing learning holistically within a Learning Paradigm, on the other hand, recognizes the learner as the chief agent in the learning process. Learners are active discoverers and constructors of their own knowledge within frameworks that they create (Barr & Tagg, 1995, p. 9), and these frameworks interact with one another in a non-linear way that provides deeper meaning and understanding of the elements and the whole. The purpose of education, then, is to teach learners to learn (for example, to gain higher order and critical thinking skills), as well as to grow as self-directed and lifelong learners. While assisted by faculty experts, learners in this paradigm are much more likely to decide what knowledge is important and relevant to their own growth.

In turn, faculty are perceived in the Instruction Paradigm as disciplinary experts imparting knowledge, whereas the Learning Paradigm positions faculty as one of a team of university experts working together to design and deliver opportunities for significant learning that coach and inspire the self-directed learner toward continuous discovery and

learning. The Learning Paradigm provides a definition of learner-centered environments wherein faculty provides the tools required for learning and the guidance and coaching required for each individual learner to progress. These very different and underlying teaching conceptions are also manifested in very different teaching practices and approaches that, in effect, move the locus of control for learning and what is learned from the teacher, in the Instruction Paradigm, to the learner, in the Learning Paradigm.

Therefore, constructivist learning theory is particularly useful as a lens for this research because it states that learning occurs through an active and individual construction of knowledge and meaning making on the part of the learner (in this case the faculty participant) with the instructor and co-learner (in this case the researcher) in the role of a facilitator of learning (Stage, Muller, Kinzie & Simmons, 1998). This theoretical perspective is consistent with the design and purpose of this research.

Transformative Learning Theory

Mezirow (1991) defines transformation theory as a constructivist theory of adult learning that specifically addresses those involved in helping adults learn (p. 33). This means that transformation theory actively involves adults in making meaning of their experiences in order to learn. Therefore, if faculty development is grounded in adult learning theory, then transformative learning theory provides an appropriate theoretical basis for a teaching and learning lens for faculty development aimed at moving teaching concepts and practice beyond the traditions of liberalism and behaviorism. This is especially true because transformative learning theory has as its focus the concept of growth through change, which is at the heart of the needed evolutionary changes in teaching and learning in higher education.

Transformative learning is rooted in humanism and social critical theory, and is heavily influenced by the writings and theorizing of Habermas who “maintains that social systems reproduce themselves through production, and socialization, social labor and systems rules” (cited in Cranton, 1996, p. 143). Habermas sees language as a possible medium by which individuals can share experiences and perceptions within a particular social system and can, thereby, function to change the system. This perspective supports the role of critical reflection and dialogue that is central to transformative learning theory.

By definition, “transformative learning theory is uniquely adult, abstract, idealized, and grounded in the nature of human communication. It seeks to explain how adult’s expectations, framed within cultural assumptions and presuppositions, directly influence the meaning individuals derive from their experience” (Taylor, 2000, p.2). Mezirow (1997) defines transformative learning as a meaning-making activity that can consist of a change in one of our beliefs or attitudes, or in our entire perspective. At the center of the learning process are the life experiences of the learner and critical reflection. Said differently, all adults have significant life experiences from which we construct our meanings within the world and how best to negotiate its perceived realities. We come to our own mental construction of experiences in a variety of ways that, over time, become entrenched and reinforced (for example, how best to teach as a faculty member) and, therefore, must be re-examined.

Various perspectives on transformative learning theory have evolved over time. Mezirow (1978) was at first interested in personal transformation that had the potential to lead to cultural and social transformation. On the other hand, Paulo Freire’s concept of transformational learning is inherently emancipatory from a social change and social

justice perspective, and is not personal in its grounding. Common to both theoretical approaches is the emphasis on the importance of inner meaning and mental constructs that define learning for adults. They also have in common the idea that change is brought about through critical reflection that results in a new way of thinking and/or behaving, as well as agreement that this process is perpetual (Merriam & Caffarella, 1999, pp. 325, 326). Their distinction lies in Mezirow's belief that transformative learning happens at the level of the individual who may or may not choose to use this learning toward social justice, while Freire advocates that social action is inherent in this learning process. Interestingly, over the past two decades, however, Cranton (1994) observes that while Mezirow started with personal transformation as a focus of transformative learning theory, he has moved to a critical theory of self-directed learning that brings his and Freire's strands of the theory closer together.

In Mezirow's (1978, 1991, 1997, 1998, 2000) perspective on transformative learning theory, learning is viewed as a social process with the learner being the locus of control over learning and the educator playing the role of facilitator and/or composer (King, 2005). Mezirow (1991) recognizes that all adult education is not transformative in nature, but advocates that this should be the cardinal and emancipatory goal of adult education. Central to transformative learning is the ability to effect a perspective transformation, which means that as a result of the learning process (especially critical reflection and discourse), an individual or group thinks and/or acts differently. This, in turn requires an ability to identify and critically examine assumptions Mezirow (1991) calls meaning perspectives which he defines as "…a habitual set of expectations that constitutes an orienting frame of reference that we use in projecting our symbolic models

and that serves as a (usually tacit) belief system for interpreting and evaluating the meaning of experience" (p. 47). Meaning perspectives are contributed to by three factors (i.e., epistemic perspectives, psychological perspective, and sociolinguistic perspectives). These perspectives are, for example, concretely manifested in knowledge beliefs, value judgments, and feelings and assumptions.

Cranton (1996) identifies eight possible conditions that must exist in some form to drive a perspective transformation: (a) the old ways of doing and thinking do not work; (b) a disorienting dilemma exists; (c) the origins of beliefs are critically examined; (d) different perspectives gained from others through discourse; (e) the educator is ready for a change; (f) freedom from existing and/or perceived restraints can be achieved; (g) support is available for this transformation process; and (h) alternative ways of being are possible (p. 114). Once a condition exists to drive a perspective transformation occurs, then the process of this transformation can begin. Mezirow (1991) describes the phases of perspective transformation as: (a) a disorienting dilemma; (b) self-examination with feelings of guilt or shame; (c) a critical assessment of epistemic, sociocultural, or psychological assumptions; (d) recognition that one's discontent and the process of transformation are shared and that others have negotiated a similar change; (e) exploration of options for new roles, relationships, and actions; (f) planning of a course of action; (g) acquisition of knowledge and skills for implementing one's plans; (h) provisional trying of new roles; (i) building of competence and self-confidence in new roles and relationships; and (j) a reintegration into one's life on the basis of conditions dictated by one's new perspective (pp. 168, 169).

Because education is viewed as a social process, key to perspectives transformation and transformative learning are critical reflection and dialogue. Brookfield (1995) points to the idea of a reflective practice as having its roots in the Enlightenment. Specifically, that we can stand outside ourselves, free ourselves of distorted ways of reasoning and acting, and come to a clearer understanding of what we do and who we are (p. 214). He identifies critical reflection as the lifting up of assumptions for examination which are "taken-for-granted beliefs" about the world and our place in it, and that are so obvious to us that we don't even have to name them explicitly (p. 2). He identifies these assumptions as being paradigmatic, prescriptive, and causal in source, and to which learners need apply four critical lenses (i.e., our students, our colleagues, theoretical literature, and our own story/autobiography). He makes the point again that not all reflection is critical, and that to be truly critical, reflection must involve reflection on power and hegemonic aspects of our assumptions. On the other hand, Cranton (1996) offers a congruent, yet different, idea of critical reflection as,, "to be transformative, reflection has to involve and lead to some change in perspective," (p. 79) and that "…if the process of reflection leads to an awareness of an invalid, undeveloped or distorted meaning scheme or perspective; if that scheme or perspective is then revised; and if the educator acts on the revised belief, the development has been transformative" (p. 113). Mezirow (1991) distinguishes between content reflection (problem content or description), process reflection (strategies to solve the problem), and premise reflection (relevance of the problem). Cranton (1994) quotes Dewey as saying that reflection is "…active, persistent and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the further conclusions

to which it tends" (p. 9). The process of becoming a critically reflective practitioner is predominantly viewed as gradual and as being linear, but not step wise (Taylor, 2000). This means that this is a process which is defined by each individual learner and that cannot be forced into a specific time frame, like a semester.

Because simple reflection in isolation can often confirm our perspectives and meanings, instead of challenging them, critical discourse and dialogue with others is needed, for without such dialogue it is far easier to follow the paths of mind and action with which we are familiar or to follow in the established paths of those who have come before us (Brookfield, 1995; Brookfield & Preskill, 1999; Schon, 1987; Schon, 1991; Schon, 1995). Cranton (1996) summarizes this point well with, "…as with any profession, to stay the same and to follow in the footsteps of those who precede us is easier than to critically question our colleagues and consequently our own practice" (p. 148).

Creating an environment for perspective transformation, because it requires naming and analyzing the very assumptions on which we define ourselves in the world, is a complex and risky proposition for both the learner and the teacher, and conjures up a wide variety of ethical questions around who decides what is taught and how. Through a critical literature review of 23 empirical studies on transformative learning, Taylor (2000) identifies three primary essential practices for fostering transformational learning (that can also be applicable to faculty development): (a) provide a safe, open, and trusting environment for learning; (b) use instructional practices that support a learner-centered approach; (c) utilize and incorporate activities that encourage perspective exploration and critical reflection (p. 9). Specific to educators, Cranton (1996) offers that articulating

assumptions, determining sources and consequences of assumptions, critical questioning, and imagining alternatives as ways of creating an environment for perspective transformation. Helping to create conditions that foster transformative learning remains a challenge as is evidenced by Brookfield and Preskill (1999) dedicating an entire text to potential ways of fostering discussion as a means of teaching and because of the barriers and risks inherent in transformative learning theory.

While numerous perspectives on transformative learning theory exist, they appear to build and expand upon one another instead of creating a decisive division of theoretical camps. Dirkx (in Dirkx, Mezirow & Cranton, 2006) summarizes this well with:

> I consider our perspectives similar with respect to our mutual concern for transforming frames of reference that have either lost their meaning or usefulness to us or have in some way become dysfunctional. We are [both] interested in fostering enhanced awareness and consciousness of one's being in the world. You [addressing Mezirow] advocate a critically reflective approach to surfacing, analyzing, and potentially transforming epistemic belief structures. I suggest an imaginal approach to connecting and developing a conscious relationship with emotionally charged aspects of experience that remain unconscious and unavailable to everyday awareness. I also agree that we need both perspectives to deepen our understanding of this deep form of change and to fully incorporate these ways of learning into a transformative education. (p.15)

Dirkx (1997, 2003) makes the point that teachers must tend to their own transformative learning before involving students. Engaging faculty as learners in their own potentially transformative learning experience through engagement, reflection, and peer discussion

on their practice was a central purpose of my research. Therefore, and for the purposes of this research, transformative learning (within the constructivist learning philosophy) at the level of the individual but within a social context is the theoretical lens that was applied.

Discussion and Summary: Transformative Learning Theory for Faculty Development

Key barriers to these theoretical concepts as viable means of moving faculty development forward (and beyond being focused on discipline-specific expertise and/or the development of specific teaching techniques and skills) is the premise that they rest on the critical examination and critical self examination of assumptions defining who we are and what we do in the world, especially as educators. The resistance and risk to this type of self-imposed or externally imposed (especially through adult education) identity crisis is not easy to move forward. With these challenges, it remained important to examine how teachers learn to teach as the shift from teacher- and content-centered teaching toward learning- and learner-centered teaching continues, and if, indeed, "we teach to change the world" (Brookfield, 1995, p. 1) in a manner that is relevant. Since this shift requires fundamental and corresponding shifts in educational theory as manifested in teaching conceptions and practice, it follows that non-traditional, theoretical frameworks are required as learning and teaching lenses for professional development in higher education. Transformative learning theory with its constructivist roots and its emphasis on perspectives transformation through critical reflection and discourse, provides such a framework. For example, King and Lawler (2000) and Cranton (1996) speak to this need for the establishment of theoretical frameworks or development models to guide professional development for faculty as adult learners.

They acknowledge that actual model development has been minimal to date, and that theoretical frameworks need to be identified that can support real change in teaching conceptions and practice that move beyond discipline expertise and skill and technique development into the faculty interests that are practical (to communicate for understanding) and emancipatory (to transcend, grow and develop). Transformative learning theory offered this perspective for faculty development and for education action research as part of my research on teaching and learning in higher education.

In summary, my action research positioned untenured faculty as adult learners engaged in experimentation within their teaching practice in order to create an environment and opportunity for critical reflection on teaching and learning (including reflection on traditional educational philosophies and foundations). The intent was to stimulate the construction of new meanings and understandings through perspective transformation that could be manifested in teaching practice and toward a learning-centered approach. Transformation, for the purposes of my research, was defined as a fundamental shift in perspective, arrived at as part of social process of learning. Therefore, a framework consisting of constructivism and transformative learning theory as a teaching and learning lens for faculty development was appropriate to my study.

The Reflective Practice

Central to my research was the idea of developing a reflective practice that is rooted in the constructivist concept of reflective learning. Reflective learning (and practice) has been addressed in the previous section in relationship to transformative learning theory and is defined and explored further in this section as it relates to teaching and learning, professional development for faculty, and my research.

The quote “an unexamined life is not worth living” is attributed to Socrates. This perspective appears also to be more and more relevant to teaching practice at all levels of education. The need for reflection and the development of a reflective practice in teaching so that it is relevant and inclusive (and rewarding) in the context of broader society and its needs, recurs in most scholarly and conceptual works on this topic (Austin, 2003; Chism, Lees & Evenbeck 2002;Cottrell & Jones, 2003; Lawler, 2003; Koch, et al., 2002; Kreber & Cranton, 2000; Stark, 2000; Weidman, et al., 2001). For example, Sunal, Hodges, and Sunal (2001) offer that:

> Change in faculty members will not occur unless they experience dissatisfaction with their existing conceptions of [science] teaching. Creating cognitive conflict with faculty members’ conceptions of teaching is an important goal of successful professional development (Summary, ¶2).

Sunal et al. (2001) express a commonality among many theorists and researchers in adult education who view the development of a reflective practice through critical reflection and critical self reflection on our underlying assumptions about teaching and learning as the starting point for real learning and change in our educational philosophy and teaching practice (Brookfield, 1987; Brookfield, 1995; Cranton, 1994; Cranton, 1996; Cranton, 2002; Cranton & King, 2003; King, 2005; Larrivee, 2000; Marsick, 1990; Mezirow, 1978; Mezirow, 1998; Mezirow & Associates, 2000; Schon, 1987; Schon 1991; Schon 1995; Sokol & Cranton, 1998). It is this very broad philosophical and theoretical approach of positioning educators as adult learners that has begun to emerge as the essence of faculty development and was a key element in my own research. Specifically, to move beyond disciplinary expertise and remediation for unsatisfactory student

evaluations or teaching techniques to incorporating a focus on learning and teaching practice as an inseparable part of scholarship and professional development. Cranton (1996) summarizes this shift with:

> When educator development is viewed as critically reflective learning, it casts a different light on how we describe the process. It is no longer a matter of improving techniques but rather a way of understanding why we do what we do and changing our practice if it has been based on invalid or constraining habits (p. 93).

What Defines a Reflective Teaching Practice?

What it means, however, to develop and maintain a reflective practice is defined differently by different scholars and researchers. For example, Healey (2003), Felton (2000), and Shulman (1994a) link the concept of a reflective practice to the scholarship of teaching. In particular, Healey (2003) offers that leading theorists see the scholarship of teaching involving three essential components:

> Engagement with the scholarly contributions of others on teaching and learning; reflection on one's own teaching practice and the learning of students within the context of a particular discipline; and communication and dissemination of aspects of practice and theoretical ideas about teaching and learning in general and teaching and learning within the discipline (p. 3).

As a complementary perspective, Felton (2000) offers that the scholarship of teaching, which seeks to lift up teaching as a legitimate form of scholarship next to research and service, was an invitation from Boyer (as cited in Felton, 2000) to "take a rigorous look at what they are doing, and investigate and reflect on their teaching as a research subject

itself" (p. 84). Boud (2001) defines reflective practice simply as "those intellectual and affective activities in which individuals engage to explore their experiences in order to lead to new understandings and appreciations" (p.2). On the other hand, Brookfield (1995) is very definite about making the distinction between reflection and critical reflection. He distinguishes between describing ways we like to teach as being reflective versus a critically reflective practice. He makes the point that all reflection is not critical in nature. A critically reflective practice recognizes its purpose as twofold: (a) to understand power issues at the foundation of educational processes and interactions; (b) to question assumptions and practices portrayed as making our teaching lives easier, but which do not serve us well personally or professionally in the long term (Brookfield, 1995, p. 8). Both Brookfield (1995) and Schon (1987) say that the development of a reflective practice must recognize and question the philosophical roots (such as positivism and technical rationality) and power issues related to educational processes and decisions, and that such a practice exists to address the complex issues involved in the teaching and learning process that are not easily addressed by teaching techniques. Finally, Brookfield (1987) does not view the end-result of critical reflection as being the abdication of passionate belief, but rather portrays that passion as being more informed.

It is important to recognize the distinction between reflection and critical reflection as an ongoing component of the lifelong process of development of one's teaching practice. It is equally important to identify several recurring themes in the literature on reflective learning found across a variety of researchers and theorists such as Boud (2001), Brookfield (1995), Ferry (1995), Ferry and Ross-Gordon (1998) Mezirow (1998), Palmer (1998), and Schon (1987). These themes are: (a) we grow up taking in

overt and covert messages from our particular environment that help shape what we think and do, how we define ourselves, and how we order the universe; (b) something must occur that makes us question these assumptions; (c) to not reflect means to ignore the questions raised and do as we have always done; (d) to reflect means to question and examine what we have always assumed to be true and perhaps come to a new understanding or meaning; (e) reflection without checks or balances (such as discussion) does not necessarily move a learner to new levels of understanding or meaning and can, instead, solidify one's thinking; (f) the concept of reflective learning seems threaded throughout adult learning theories as well as being timeless in that humans somehow seem to innately possess the ability to learn and evolve to new levels of understanding through reflection; and (g) reflective learning (especially critically reflective learning) can be risky because making implicit beliefs explicit and truly questioning and examining those beliefs and assumptions can be a highly emotional process of self-discovery that is usually irreversible. Seizing the opportunity, for example, to become a reflective practitioner implies, according to Schon (1991), rethinking the power balance as a professional because one is abdicating the role of expert and the privileges it affords. More specifically, being critically reflective in one's practice implies giving up unquestioned authority, the freedom to practice without challenge to one's competence, the comfort of relative invulnerability, and the gratifications of deference.

Recent Research

Research within the last ten years illuminates reflective learning (and especially critical reflection as an element of reflective learning) as being an inextricable component of self development and transformative learning. For example, in his recent review of 40

research studies that use transformative learning as a lens for research and analysis, Taylor (2007) found that the majority of research was "less about identifying transformative experiences in different setting, and more about fostering transformative learning and the complex nature of critical reflection, relationships, the nature of perspective transformation and the role of context (p. 173)." So, this appears to be a shift from proving that evidence of transformative learning exists and where, and toward research on the elements of transformative learning, their relationship with one another, and the context within which the research takes place. He also found that the majority of studies were situated in formal educational settings such as classrooms and workshops and that much of the research centered on providing insights into the relationship between essential elements of transformative learning, such as critical reflection, and the learning experience or process itself. Taylor (2007) claims that the research he reviewed demonstrates the centrality of critical reflection as a part of transformative learning. Individual research studies also highlight the essentiality of critical reflection in the development of oneself as an individual and as a professional.

Dinkleman (2000), for example, used action research as a means of studying evidence of, and development of, critical reflection with three secondary, pre-service, social studies teachers as a part of their formal teacher education, field requirement which he supervised. He looked for evidence in their teaching (through observation), sessions with him (through field notes), and assignments (such as journaling) of critical reflection which he defines as a "deliberation about the moral and ethical dimensions of their education," as well as critically reflective teaching which he says is, "instructional practice informed by critical reflection" (p. 198). While he found evidence of critical

reflection in his participants, he found far less on how this translates into practice. In similar research within teacher education, Harrington, Quinn-Leering, and Hodson (1996) conducted a study with 21 student teachers using case-based (or dilemma-based cases) as a means of assessing and measuring levels of critical reflection in the student teachers. They did this through an analysis of each student's writings to address a particular case study that identified in each student teacher a propensity to be teacher focused, child focused, or inclusive. They defined the elements of critical reflection that they looked for as "recognizing and acknowledging the validity in other perspectives; …considering the moral and ethical consequences of choices; …and identifying and clarifying limitations in one's assumptions when making decisions" (p. 26).

Outside of the research on teacher education, Yorks (2005) created a practitioner-based collaborative action inquiry (as a form of action research) in a government setting that fully engaged the educator (himself) as a co-inquirer. He concludes that active creation of, what he calls, a collaborative space through joint inquiry around a common question sets up conditions for reflective learning, new meaning making, and knowledge creation with participants. For example, he says, "taking action to effect changes in the outer world of one's practice often involves changes of similar magnitude in personal development and self-identity," especially as a result of reflective learning (p. 1225). The issue with Yorks' premise is that he assumes all participants must work on the same research question in order to create a collaborative space which is arguably not always necessary. Noteworthy examples of research that hold reflection as a central component of learning also exist within higher education as a means of faculty development.

Garvett (2004) conducted an action research study with 60 higher education faculty members through workshops designed to support them in the transformation of their teaching perspective and practice from the Instruction Paradigm to the Learning Paradigm. She determined that gaining new teaching perspectives through exercises orchestrated to stimulate reflection and critical reflection on that practice was much more easily achieved than putting new perspectives into practice given the realities of their day-to-day context. She concluded that for transformation of a teaching perspective to truly be put into practice, it is necessary that support to sustain the transformation exist. In the case of her study, this was support that was needed from the management of the institutions that participated in this study. As a second example in higher education research, Cranton and Carusetta (2004) designed a study with 22 educators over three years to help answer the question of what is meant by authentic teaching. Through their evidence, they link authenticity to reflective learning, and a critically reflective approach to practice as being a necessary dimension of authenticity. The other dimensions (of no less importance) to authenticity in teaching that they identify are self awareness, awareness of others, relationships with learners, and awareness of context. With regard to critical reflection, however, Cranton and Carusetta (2004) hypothesize that the type of questioning of premise (as it relates to self, others, relationships, and context) that is involved in critical reflection, and that seeks to identify how we might be different from the broader community of educators, is a good indicator that an educator is working to be authentic.

These recent studies illustrate through sound research that reflective learning, and especially a critically reflective approach to practice, is a key element of perspective transformation and transformative learning.

Discussion and Summary

My research engaged faculty in education action research as a process of professional development targeted at the development of a reflective practice. This, then, implied that the research be designed to also try and engage participants in making implicit assumptions and beliefs about teaching explicit, create a safe environment within which to question and explore those beliefs as well as generate alternative approaches, and to do so in such a way that I (as the researcher) could stimulate and support critical discussion among the participants. The essence of this research as it relates to the development of a critically reflective teaching practice is captured well by Palmer (1998):

> As I teach, I project the condition of my soul onto my students, my subject, and our way of being together. The entanglements I experience in the classroom are often no more or less than the convolutions of my inner life. Viewed from this angle, teaching holds a mirror to the soul. If I am willing to look in that mirror, and not run from what I see, I have a chance to gain self-knowledge – and knowing myself is as crucial to good teaching as knowing my students and my subject (p. 2).

Faculty Development

This section of the literature review defines and characterizes faculty development, identifies key trends, and explores faculty development as a means of professional development for faculty in higher education.

Definition of Faculty Development

The definition of faculty development is often institution specific, but usually incorporates elements of research, training, and collaboration designed to enhance the practice of faculty members. The website of the Professional and Organizational Development Network in Higher Education (POD) (www.podnetwork.org/development/definitions.htm) puts forward a viable and comprehensive definition of the field of faculty development that incorporates the three major areas of faculty development, instructional development, and organizational development. POD provides further definition of each of these three areas: faculty development includes focus on the faculty member as a teacher, a scholar and professional, and a person; instructional development is focused on design and technology issues related to the course, the curriculum, and student learning; organizational development focuses on the organizational structure of the institution and its sub components to help build a structure which will support faculty and students and within which teaching/learning will thrive. Again, my study focused on the faculty member as a teacher, a scholar and professional, and a person.

Faculty Development and Key Trends

Wider spread attention to faculty development emerged originally in response to the 1960s student movement's call for better teaching and relevant learning (Brubacher & Rudy, 1997) and the call in the 1980s for reform, especially around accountability for learning (Lazerson et al., 2000). Prior to the 1970's, for example, very few institutions of higher education had formalized faculty or instructional development programs for their faculty, whereas by the mid 1980's about 60% of American higher education institutions

had established this type of program (Eleser & Chauvin, 1998), and it appears that this rate of growth is continuing. The conceptual and research literature on faculty development also began to emerge in the 1970s which means that it remains a relatively new field for scholars and researchers.

From an evolutionary perspective, Sorcinelli, Austin, Eddy and Beach (2006) offer that faculty development has evolved over five ages or phases: (a) the Age of the Scholar that focused on developing expertise in one's specialty or discipline; (b) the Age of the Teacher that focused on improvement in teaching; (c) the Age of the Developer that centered on supporting the careers of professors and supporting professors over the span of their careers; (d) the Age of the Learner that emphasized, beginning in the 1990s, aspects of teaching and learning, multiculturalism, and technology integration; and (e) the rising Age of the Network that emphasizes the same areas of interest as the previous age within the context of the key priorities (and forces of change) being the changing nature of the professorate, the changing nature of the student body, and the changing nature of teaching, learning, and scholarship. It is arguable, however, that not all institutions of higher education, faculty development initiatives, and faculty developers have evolved from one *age* or phase to the next. It is possible, and even probable, that faculty development at some institutions remains, for example, within what is defined as the Age of the Scholar.

Sorcinelli et al. (2006) go on to enumerate fairly universal goals of faculty development that are consistent across institutions. These are to create or sustain a culture of teaching excellence, respond to and support individual faculty members, advance new initiatives in teaching and learning, foster collegiality within and among

faculty and departments, act as an internal agent for institutional change, and provide support for faculty having difficulty. These goals are primarily accomplished through consultations with faculty, university-wide orientations, university-wide workshops, intensive programs such as teaching and learning institutes, grant and award programs, providing resources, and the development of instruments and materials, as well as publications. It is important to note that education action research programs are not among this list of standard faculty development activities.

It is noted that the majority of individuals engaged in, and responsible for, faculty development in higher education often hold more than one title or job responsibility, and are relatively new (defined as five years or less) to this responsibility. This reality begs the question of how prepared these individuals are for their role as faculty developers and as adult educators and how important that role is to an institution that is not willing to allow it a full-time focus. Sorcinelli et al. (2006) indirectly provide the answer to this question by highlighting the three major areas of future focus for faculty development (as a profession) being: (a) the creation of a stronger leadership role with policy influence for faculty developers; (b) to gain more respect and credibility with faculty and administrators on campus; and (c) to professionalize and legitimize the field of faculty development. These priorities would certainly indicate an ongoing need to legitimize the faculty development function and profession in higher education, as well as lift up its importance and value.

It is interesting to note that across the institutions surveyed by Sorcinelli et al. (2006), the top three challenges identified as foundational for faculty development are balancing the multiple roles within the professorate, identifying how faculty roles are

changing, and the integration of technology. A far smaller percentage identified learner-centered teaching and assessing for student-centered learning as a priority. According to the data presented by these authors, concern about preparing the future professorate is even lower on the continuum of strategic priorities for faculty development than fostering learner and learning-centered environments for teaching and learning. It is further offered that the field of faculty development should, in the future, focus on technology integration, pedagogies of engagement, faculty roles, interdisciplinary committees, and diversity. So, based on these priorities and future objectives, it appears that holistic (or meaningful on multiple levels) and integrated approaches to teaching and learning in higher education do not yet receive the highest priority in faculty development or preparation.

Yet, a response to the emerging realities in society that have led to the call for reform of teaching and learning in higher education has been, on the part of four-year institutions of higher learning in this country, to create a great deal of activity centered on faculty development. Faculty development has, in fact, been held up for decades by university leadership and researchers alike as a key approach to ensuring that teaching and learning become student-centered and learning-centered for a more diverse student population, and that students and graduates of these institutions gain the higher learning and thinking skills deemed necessary within the knowledge economy (Caffarella & Zinn, 1999; Cottrell & Jones, 2003; Eleser & Chauvin, 1998; Reybold, 2003; Robertson, 1999; Stark, 2000). Ultimately, these prime aspects of reform in higher education, partially achievable through faculty development, should work to ensure the continued relevance of higher education in this country. As summarized by Gamage and Mininberg (2003),

“higher education is critical to the social and economic futures of all nations, and more specifically in the case of developed nations (p. 183),” and “there is no debate that faculty development is a significant key to the continued success of higher education” (Camblin & Steger, 2000, p. 1). While there has been a great deal of research, writing, and activity related to higher education reform through faculty development, there does not appear to have been much substantive response to date to the imperatives and emerging realities, outlined earlier by Levine (2001), in terms of widespread change in the culture, including teaching and learning, within higher education (Lazerson et al., 2000; Levine, 2001; Sunal et al., 2001).

The literature on the scholarship of teaching is a recent move toward placing a stronger value on teaching in the call for reform in higher education. (Cottrell & Jones, 2003; Koch et al., 2002; Kreber & Cranton, 2000; Shulman, 1994a, 1994b). This literature focuses on the need for recognition of teaching as a part of scholarship that includes the idea that teaching be a significant consideration within the reward structure of higher education. The scholarship of teaching also pushes faculty, through faculty development initiatives, to reflect on, inform, and experiment with their teaching practice within a supportive environment. The intended outcomes of this reflection and experimentation are changes in educational philosophies, program planning, and teaching strategies, especially teaching that promotes higher and critical thinking skills among students. Very little is has been researched or studied, however, about how we can foster this type of reflective practice.

Some of the literature reviewed for this study highlights suggestions of how to begin to develop momentum behind the initiative of faculty development as a means to

more responsive and effective teaching reform. These suggestions and examples have an underlying emphasis on creating faculty development initiatives that are careful not to offend, challenge, or threaten existing ways of thinking about teaching (Bergquist & Phillips, 1975). Some methods offered as possibilities in this vein are discretionary funding for conferences and brown bag sessions on topics agreed on by the faculty (Cottrell & Jones, 2003; Eleser & Chauvin 1998; Shaw et al., 2003). In other words, many faculty development initiatives begin without understanding or questioning existing teaching philosophies, practices, or the underlying norms of teaching in higher education. They are also very generic and not tailored to individual faculty in the role of an adult learner. A possible reason for this is that "…teaching practices and faculty roles are embedded in the university's culture, and that educators are redefining themselves as they try to fulfill their own professional mission and that of the organization." (Brancato, 2003, ¶ 3). These seemingly surface attempts at faculty development, therefore, imply a very strong tradition and culture of teaching within higher education (as explored earlier in this literature review); one that is not easily influenced or changed by external factors and imperatives. As described by Palmer (1998), it speaks to an insulated and isolated culture of teaching that has developed its lack of transparency as a means of survival. This lack of transparency, for example, is manifested by an unwillingness to team teach, share teaching materials, or have other faculty observe teaching in the classroom. In this tradition, teaching is a highly individualized and private practice. This means of survival is not easily undone, and faculty who have been socialized within the traditional norms of higher education do not necessarily even have the perspectives and means by which to

redefine themselves as teachers, professionals and scholars in light of current and future realities.

The strong existing culture and history can explain why another portion of the literature views faculty development efforts, for the most part, as unsuccessful, being token gestures within institutions, or having been marginalized (Caffarella & Zinn, 1999; Lazerson et al., 2000; Reybold, 2003; Robertson, 1999; Stark, 2000; Sunal et al., 2001; Tsui, 2001). This traditional lack of transparency in teaching also fits logically with the literature that provides historical perspective on faculty development. Within this literature, early efforts in faculty development are characterized as being focused on the continued development of disciplinary expertise and refining the existing teaching skills of individual faculty members. Both approaches appear to support, rather than challenge, existing teaching philosophies, paradigms, and approaches.

In contrast, the current leanings in faculty development are shifting more toward issues of vitality and renewal by expanding personal awareness, strengthening relationships among colleagues, supporting institutional missions, and dealing with survival issues (Camblin & Steger, 2000; Chopp et al., 2001; Eleser & Chauvin, 1998). The literature on current trends in faculty development reflects a shift from lack of preparedness to teach and teaching in isolation to the development of teaching communities. Teaching communities, in turn, imply a shift from the traditional, one-way method of teaching -- wherein the teacher is the sole expert -- to a participatory model of teaching and learning -- wherein the learner and teacher exchange roles throughout their interaction (Caffarella & Zinn, 1999; Cottrell & Jones, 2003; Eleser & Chauvin, 1998; Reybold, 2003; Robertson, 1999; Tsui, 2001; Shaw, et al., 2002; Sherer et al., 2003;

Stark, 2000; Travis, 1995;). The espoused desired outcome of this shift is the development of higher-order thinking skills in learners which -- it is recognized -- cannot be fostered through the traditional, passive role of the learner in higher education (Stark, 2000; Tsui, 2001). The desire for higher-order thinking skills as the educational outcome of teaching and learning in higher education (Brancato, 2003) is seen as vital to ensure students' abilities – and the organizations and nations of which they are a part – to compete and survive in the knowledge economy. Two major trends in faculty development (a move from teaching to learning and the creation of faculty learning and teaching communities for the improvement of teaching and learning outcomes), then, coexist with the third major trend to develop teaching as a recognized and valued scholarly activity (Boyer 1990; Cottrell & Jones, 2003; Koch et al., 2002; Lazerson et al., 2000; Shulman, 1994a, 1994b). Examples of these new trends in faculty development can be found in the work coming from the Professional Organizational and Development Network in Higher Education (http://www.podnetwork.org) and the Visible Knowledge Project (http://crossroads.georgetown.edu/vkp), as well as the Mellon Foundation's Liberal Arts College Program (http://www.mellon.org/AnnualReports/1997/essay.Content.htm). These programs focus on professional development for faculty that has (in some cases) evolved into an examination and readjustment based on new understandings of teaching conceptions and practices, particularly as it applies to the incorporation of technology into teaching practice (N. Greaves, personal communication, July 13, 2005; C. Staelin, personal communication, September 9, 2005).

Why Faculty Do or Do Not Embrace Faculty Development

Faculty development, then, is seen as key to real reform within teaching and learning in higher education. Yet, faculty development has not, to date, been successful in evoking systemic change within the academy, especially in teaching within the academy, because of strong traditional norms. The move from teaching to learning, especially through the scholarship of teaching, is currently seen as the best hope for real faculty development and institutional reform in higher education in response to the demands of the knowledge economy and shifting demographics in this country. The move from teaching to learning shifts the focus onto learning outcomes for students, especially to developing higher and critical thinking skills, accountability, and consideration of individual differences between and among learners. But what other considerations are key as to why faculty embrace or resist these movements? What dynamics are at work that perpetuate a perceived lack of sincere response and reform within higher education in response to new and emerging realities?

In response to this question, Austin (2002), Healey (2003), Reybold (2003), Stark (2000) and Weidman, et al. (2001) again all focus on the socialization process as the key means of professionalization to the professorate, and as a key predictor of whether or not faculty will embrace or resist faculty and professional development focused on teaching and learning. As noted in a previous section of this review, it is logical that through the observation of their own professors, especially at the graduate level, aspiring faculty members develop similar behaviors and norms as professionals. These behavioral norms include, but are not limited to, their approach(es) to teaching, relating to other faculty, relating to their discipline, relating to the university, deciding what is important and not,

relating to students, teaching and research, and determining what is rewarded and not rewarded. It appears that within this socialization process, much attention is paid to mastery of a discipline and developing research skills within that discipline, but far less effort is spent on developing mastery of teaching within a discipline (Austin, 2002: Eleser & Chauvin, 1998; Healey, 2003; Reybold, 2003; Stark, 2000; Travis,1995). Eleser and Chauvin (1998), for example, found, in their survey of faculty, that tenured, full professors rated maintaining in-depth and current knowledge within their discipline as being of the highest importance, and improving their skills as a teacher of the lowest importance within their top five goals for professional development. Interestingly, in the same survey, tenured, but not full, professors marked improving their skills as a teacher as being of the highest importance and maintaining in-depth and current knowledge within their discipline as number two in their top five goals for professional development.

This observation points to another set of contextual variables for individual faculty members in assessing their propensity to embrace or resist professional and faculty development for teaching. Caffarrella and Zinn (1999) categorize these multiple variables of positionality and context into the four major domains of people and interpersonal relationships, institutional structures, personal considerations and commitments, and intellectual and psychosocial characteristics. Essentially, Caffarrella and Zinn (1999) are saying that these are different for each faculty member and each institution and must be identified and analyzed on an individual basis. Said differently, whether a faculty member will embrace or resist faculty development depends on the individual and their particular situation. In general, however, the more positive a faculty member's relationships, more supportive their university's structure, more manageable

their personal commitments, more supportive their social network, the higher their confidence in their own ability, and the higher their interest in change, the more likely they are to embrace professional and faculty development. Of high interest in this particular research and model is that it is one of the few attempts at categorizing motivational factors affecting participation in professional development for faculty that is comprehensive and includes personal contextual considerations.

The lack of emphasis, overall, on the importance and practice of teaching provides an explanation and backdrop to Tsui's (2001) research which highlights yet another institutional and personal variable to consider. She concludes that professors' motivational levels in terms of teaching and professional development depend largely on their level of confidence in their own teaching abilities, as well as their level of confidence in the abilities of their students to learn and think critically. The higher the instructional efficacy and belief in student learning efficacy, the higher the faculty's motivation to create energized learning environments, such as through participatory teaching practices, and vice versa.

Similarly, Robertson (1999) offers three overarching views that professors have of their role as teacher which influences their level of openness to change and development: egocentricism, aliocentrism, and systemocentrism. In the first two views, faculty members are the experts dispensing knowledge with little regard for students' abilities. It is not until a faculty person has transitioned into the last phase that emphasizes relationships that the learner takes on a more equal status as a learner with the faculty member. Robertson contends that there is not a natural progression from one phase to the next. He points out that these transitions are conscious movements on the

part of the faculty and that the actual, natural tendency is to remain in the phase of egocentrism which speaks to teacher centeredness and content mastery as the focus.

The socialization cycle to the professorate, and the less than enthusiastic attitudes it perpetuates toward professional development centered on teaching practice, is also directly reflective of, and simultaneously supportive of, the current reward and promotion structure. Alstete (2000), Bess (1998), and Wolverton (1998) outline the issues in promotion and tenure procedures and how these key reward structures work to maintain conformity instead of creativity and experimentation. The emphasis within this reward structure also falls heavily on the side of research and publishing as forms of scholarship whereas teaching has only recently begun to make a case for itself as the third component of scholarship for the professorate. Alstete (2000) highlights the desire to preserve this reward structure as a key reason that a lot of discussion, but little work and progress, has taken place in redefining the structure. While most authors do not advocate for the elimination of the tenure system, many do support the redefinition of this sought-after status in higher education. For example, post tenure review that includes assessments of teaching competencies and effectiveness is a new concept being discussed within higher education as a means of accountability even after reaching senior status at a university.

The issue of tenure poses another contextual consideration for one's stance toward professional and faculty development. More specifically, Alstete (2000) offers that early- and late-career faculty may be less open to change and professional development centered on program planning and teaching than mid-career faculty. The argument here is that early-career faculty members are too preoccupied with survival and tenure based on publishing and research to be concerned with professional development

focused on teaching, and late-career faculty are busy preparing to retire. So, it follows that mid-career faculty should be the most open to faculty and professional development initiatives. Nevertheless, it is the early-career faculty who struggles most with their teaching role for which they are not prepared; a struggle that is often lonely and painful (Boice, 1992). Therefore, it is new faculty who must, early on in their careers, find ways of engaging in significant and holistic professional development.

In essence, faculty are socialized within their disciplines and institutions to selectively respond to external motivators -- rewards, privileges, relationships and social status -- and internal motivators -- teaching philosophy, teaching competency, and positionality -- in their response to faculty development. This is complicated by a teaching culture based in the educational and teaching traditions of liberalism and behaviorism wherein the norm is the professor as the expert dispenser of knowledge. As a result, there appear to be some faculty motivated to excel in teaching because they are early adapters with an intrinsic drive and desire to do so, while there are some faculty who will not now or in the future be open to change through faculty development initiatives given their individual set of circumstances and beliefs. This implies that the majority of faculty in higher education could, at this juncture, go either way (Alstete, 2000; Padgett & Conceicao-Runlee, 2000) regarding changes in teaching philosophies and practices. The next logical question, then, might be how best to move the fence-sitting majority of the faculty in higher education toward a reassessment and evaluation of their own teaching philosophies and practices (through self and critical reflection) that could, in turn, create learning and teaching environments that foster learning outcomes

needed to support society today and into the future? My research explored one response to this question.

The Scholarship of Teaching as a Response to Resistance of Faculty Development

To initially address resistance and the need for new ways of thinking about teaching, scholars such as Ernest Boyer and laid foundational pieces for faculty development throughout the country. Boyer (1990) theorized that scholarship among faculty in higher education should be expanded beyond research and should include teaching. This was consistent with, and an expansion of, the scholarship of teaching movement in teacher education that many in Education closely identify with Shulman (1994a, 1994b). From these beginnings, a movement has formed to establish teaching, and ongoing professional development, as a form of scholarship of equal value and importance to research and publishing.

This movement has made slow and limited progress, but appears to find agreement on several central themes. First, the scholarship of teaching is a viable and proactive approach available for faculty to redefine themselves as teachers, professionals and scholars within the academy and in response to external pressures (Alstete, 2000; Brancato, 2003). Second, there is gathering agreement that faculty development initiatives need to address underlying educational philosophies by allowing faculty to name, examine, reflect on, and experiment with their teaching philosophy and practice in order to effect real and positive change (Alstete, 2000; Brancato, 2003; Quinlan & Akerlind, 2000). Third, the critical reflection needed to examine underlying teaching philosophies and practices is not well served by superficial faculty development activities. Generic faculty development activities, such as providing funding for

professional development that does not expose faculty to different and alternative points of view or practice, are not learner-specific, are performed in isolation, and/or do not inform practice, but rather often work to support current practice and philosophies. Instead, this movement toward teaching as a scholarly activity advocates substantive faculty development initiatives that utilize and model participatory learning approaches, such as critical reflection, action research, action learning, peer mentoring and networks, team teaching and program planning, and cognitive apprenticeships, that are contextually valid and appropriate (Cottrell & Jones, 2003; Koch et al., 2002; Kreber & Cranton, 2000) . Quinlan and Akerlind (2000) make the case that faculty development initiatives rooted in departments and disciplines are more applicable than generic faculty development initiatives. In short, "scholarly teaching requires a systematic process of inquiry into one's own teaching practices and students' learning" (Koch et al., 2002, p. 84). How to engage faculty members in inquiry into teaching and learning within their specific discipline (and outside Education), however, has primarily been limited to members of higher education outside the United States while faculty development operations in this country remain (for the most part) broadly centered on an update model of education and teaching effectiveness models.

Discussion and Summary

This review of the literature on faculty development and, specifically, why faculty embrace or resist faculty development provides several key insights and reveals a significant gap in the research. One insight is that higher education has neither defined, nor taken real ownership of, the imperative for educational reform (including changes in teaching philosophies and approaches) that responds to current trends in the economy and

society. While the threat to the future of higher education is articulated, it is not necessarily taken seriously by the higher education community that views their proven ability to survive over thousands of years as good evidence that they will continue to survive into the future. As a result, real changes at the institutional and faculty level regarding the value placed on the practice of teaching through faculty development appear to have been more nominal than substantial in order to appease external stakeholders.

Second, the movement toward the scholarship of teaching as a viable venue for the change perceived as necessary within teaching in higher education works to position the faculty member (or aspiring faculty member) as an adult learner (Lawler, 2003). Kreber and Cranton (2000), along with others (Cottrell & Jones, 2003; Koch et al. 2002), for example, see critical and self-reflection – as defined within transformative learning theory – as the starting point for changes in teaching philosophies and practices within higher education. There is a need to lift up teaching as a legitimate form of scholarship that takes the time for this type of reflection and learning and that positions the faculty member as an adult learner. This points to an opportunity to ground faculty development as a movement in higher education within learning philosophies and theories that focus on faculty members as adult learners and that help define the underlying assumptions and purposes of faculty development. It is this very broad philosophical approach that has begun to emerge as the essence of faculty development. Prior to this study, however, evidence of participatory research on teaching and learning positioned as an approach to professional development for newer faculty from disciplines outside of Education and as

a means of fostering a reflective practice within higher education in this country was not apparent.

In summary, faculty development is a relatively new field still seeking legitimacy. It has been positioned by many universities as a means to reform in teaching and learning, but without evidence of substantial institutional commitment or preparation of faculty developers as adult educators. As a result, meaningful and integrated approaches to professional development for faculty that address conceptions, beliefs, and practice (and in response to emerging realities and shifting learning paradigms) do not yet exist on a widespread basis. My research was designed to address this gap, consider the positionality of participants as untenured faculty within their specific discipline, and to be consistent with the movement to lift up teaching as scholarship. Finally, my research supported the trends within faculty development toward teaching and learning and the development of a teaching and learning community by positioning participants as adult learners.

Teaching Conceptions and Beliefs

This section reviews the conceptual and empirical literature on teaching conceptions and beliefs as a primary area of research in the evolution of faculty development. The literature on teaching conceptions and beliefs (both at the secondary and post-secondary level) was pivotal to this study because it provided foundational background and contextual themes on the work that has been done in this area, and identified gaps in the existing research to which this action research study sought a response. A primary interest in studying teaching conceptions and beliefs in higher education stems from the premise that it is these conceptions and beliefs that determine

individual (professors) and collective (departmental and discipline) attitudes toward teaching and teaching behavior.

Definition of Key Terms

Prior to identifying major themes within the scholarly literature on teaching conceptions and beliefs and their relationship to practice, it is useful to try and offer working definitions and some understanding of several key terms in this literature. A definition of self concept is offered by Shavelson, Hubner and Stanton (cited in Roche & Marsh, 2000) as "…a person's self-perceptions that are formed through experience with, and interpretations of, their environment," while a belief can be characterized as how one understands oneself within the context of one's specific environment (p. 442). Graber (1998) offers that "beliefs are a basic form of assumption representing what is true and what is false to the believer," and that these are developed through experiences and have a strong affective component (p. 141). Kane, Sandretto, and Heath (2002) point out areas of consensus on teacher beliefs that indicate their importance to the discussion -- namely that beliefs are created over time, robust and resistant to change, filters for new knowledge, and are usually invisible or implicit (and therefore difficult to articulate). An additional perspective is offered by Roehrig and Kruse (2005) who define teaching beliefs as "personal constructs connected to instructional practices in the classroom" (p. 413). Further, Pajares (1992) offers an in-depth review of the wide array of terms and definitions for the concept of beliefs and works to distinguish between knowledge and beliefs. According to Pajares (1992), for example:

> Knowledge systems are open to evaluation and critical examination; beliefs are not…and yet for all their idiosyncrasies…beliefs are far more influential than

> knowledge in determining how individuals organize and define tasks and problems and are strong predictors of behavior (p. 311).

He concludes that theorists generally agree that beliefs are formed early, tend to self perpetuate, withstand external influences, and are created through a process of enculturation and socialization, especially through schooling. Beliefs are entrenched at a deep, affective, and illogical level of self that make them enduring and highly resistant to change, and the more central a belief is to our concept of self (especially in terms of providing personal meaning and defining relevancy), the more difficult it is to define and express and the more resistant it is to change. These characterizations of beliefs are consistent with what Mezirow (2000) describes as meaning schemes that must be put into question by a disorienting dilemma that fosters critical reflection and critical self reflection toward a perspective transformation. On the other hand, Pajares (1992), citing Tabachnick and Zeichner, makes the distinction between teaching beliefs and teaching perspectives which are socially evolved and reflective interpretations of experience utilized as a basis for action with the implication that these perspectives are more open to potential change than beliefs. It is only through cognitive dissonance (and recognition that an anomaly exists) and reflection that new information or ideas are, borrowing from Piaget, accommodated through a reorganization and replacement of existing beliefs instead of assimilated into existing belief structures. Pajares (1992) states that there is a significant gap in the research focused on the teaching beliefs of entering teachers and their relationship to teacher practice, teacher knowledge, and student outcomes. He offers that "…unexplored entering beliefs may be responsible for the perpetuation of antiquated ineffectual teaching practices" (p. 328).

Finally, Pratt (1992) defines a conception as "…specific meanings attached to phenomena which then mediate our response to situations involving those phenomena" (p.204). He poses that teaching beliefs and conceptions are anchored in cultural, social, historical and personal realms of meaning, and that "to teach" means different things depending on one's beliefs, values and intentions. These cognitive and emotional frameworks, then, define how we see ourselves and the world, how we determine what is important, and how we make sense and meaning out of new information. These characterizations of self concept, beliefs, and conceptions provide a foundation for the review of the research and themes emerging from the literature on teaching conceptions and beliefs.

The Research on Teacher Beliefs and Practices

Fang (1996) provides a historical perspective on research on teaching as moving from a focus on what teachers do in the classroom (timing and sequencing, lesson plans, classroom management) and how this directly correlates to student learning toward a keener interest in teachers' thinking. This also indicates a shift away from the professional development assumption that more knowledge about the correlation between teaching practices and learning outcomes will enhance instruction. A primary reason for this shift is the realization (in the face of failed widespread reform in both secondary and higher education) that remedial and surface approaches to enhancing teaching effectiveness had not considered underlying conceptions and beliefs held by teachers and professors, and that these are at the root of determining their thinking about knowledge, teaching, and teaching practice. As put forward by Fang (1996),

> Teachers' theories and beliefs represent the rich store of general knowledge of objects, people, events and their characteristic relationship that teachers have that affects their planning and their interactive thoughts and decisions, as well as their classroom behaviour (p. 49).

So, how those engaged in teaching (no matter what the experience or discipline) think about knowledge acquisition and educational roles can affect teaching behavior and learning. Within this context, Fang (1996), adds three dimensions of teachers' general knowledge that are also important considerations (subject-matter content knowledge, pedagogical knowledge, and curricular knowledge). Fang's dimensions of teachers' general knowledge appear to parallel, and be an outgrowth of, Shulman's (1994b) three knowledge areas within each educator which he identifies as content knowledge, pedagogical knowledge, and curricular knowledge. Finally, it is interesting to note that there is a growing body of findings that support a lack of consistency between beliefs (teaching intent) and practice in teaching (student learning experiences and outcomes) (Fang, 1996; Hativa, Barak & Simhi, 2001; Murray & McDonald, 1997; Schon, 1991). These authors conclude that the reason for this disconnect is interference from classroom realities and classroom practice on the ability to reflect on practice and better manifest implicit and espoused theories of teaching and learning.

The research on teaching conceptions and beliefs in both secondary and higher education overlaps significantly. In particular, the prominent models move along a continuum from transmission of information (a teacher-centered and content-centered approach) to conceptual change and social or personal change (a student-centered and learning-centered approach). This shifting view of what it means to teach (and depending

on what is being taught), are often traced back to differing epistemological levels or paradigms. To examine this research further, specific models and theories on teaching conceptions are reviewed in the next section.

Models and Theories on Teaching Conceptions

As I discussed earlier, Barr and Tagg (1995) and Tagg (2003) frame epistemological differences as a shift from an Instruction Paradigm toward a Learning Paradigm. This shift to a learner-centered approach to teaching and learning, according to Weimer (2002) will require: (a) a shift in the balance of power in the classroom toward shared power between teacher and students; (b) de-emphasizing the importance and function of content coverage as equating learning; (c) a shift away from the traditional role of the teacher as only being an expert in his or her discipline and toward a more constructivist approach to teaching and learning; (d) placing the responsibility for learning with the learners; and (e) moving from auditive evaluation purposes and processes toward feedback that is provided as part of the learning process. She further sees these shifts as critical to the development of lifelong learning skills and repositioning college as a means and not an end. She recognizes, however, that difficulty in making these changes as stemming from many variables, especially with the proposition that teachers give up control and move away from the belief that content coverage is supremely important.

On the other hand, Beaty, Dall'Alba and Marton (1989) provide us with conceptions of student learning, instead of teaching, and apply this to teachers as students. These conceptions (based on Kember and Gow's original five conceptions of student learning) range from learning as a quantitative increase in knowledge, to learning

as memorization, learning as the acquisition of facts and procedures that can be retained and used in practice, learning as abstraction of meaning, learning as an interpretive process aimed at understanding reality, to changing as a person. Three conceptions of teaching are offered by Menges and Rando (1989). They are teaching as content, teaching as process, and teaching as motivation, and they propose that teachers and professors *default* to their believed conception of teaching in real time and practice within the classroom when there is little time to reflect on how best to respond to a situation. Pratt introduced his five conceptions of teaching in 1992 to include delivering content, modeling ways of being, cultivating intellect, facilitating personal agency, and seeking a better society. Additionally, Samuelowicz and Bain (1992) offer levels of teaching as: (a) Level 5 is to impart knowledge; (b) Level 4 is transmission of knowledge; (c) Level 3 is facilitating understanding; (d) Level 2 is changing student's conceptions; (e) Level 1 is supporting student learning. While Kember and Gow (1994) build on Säljo's original conceptions of student learning proposed in 1979 by distinguishing between learning facilitation (to include problem solving, interactive teaching, facilitative teaching, pastoral interests, and motivating students) and knowledge transmission (to include training for specific jobs, use of media, imparting information, and knowledge of subject). Robertson (1999), again, describes three conceptions of teaching as egocentrism (teacher-centeredness), aliocentrism (learner-centeredness), and systemocentrism (teacher/learner-centeredness). Entwistle, Skinner, Entwistle and Orr (2000) provide a comprehensive model of teaching conceptions that speaks to a movement from teaching that is teacher and content driven toward teaching that is student-centered and learning oriented and that addresses teaching behaviors/approaches,

views of knowledge, and epistemological influences. Building on their previous work and research, Martin, Prosser, Trigwell, Ramsden, and Benjamin (2000) propose a model wherein three primary conceptions of teaching are driven by the intent of the teacher (intent to transmit information, intent of conceptual development, and intent of conceptual change). Gordon and Debus (2002) portray the difference in conceptions of teaching as deep approaches to learning and surface approaches to learning. Surface approaches are "…seen as being motivated by the learner's desire to meet minimum requirements with minimum effort," and deep approaches are "…characterized by an intention to understand the material being studied" and active integration of new information with the old (p. 484). They go on to link deep approaches to learning (and teaching) to enhancement of teaching efficacy which, the researchers position as being directly related to teaching effectiveness. After a review of a total of 50 studies (predominantly from outside the United States) focused on teaching concepts and beliefs among academics, Kane, Sandretto and Heath (2002) conclude that future research must be more rigorous and trustworthy and seek to directly link beliefs and conceptions to practice for the ongoing development of university professors. Finally, Bickmore, Smagorinsky, and O'Donnell-Allen (2005) speak to conceptions of teaching as transmission, constructivist, liberatory, and post-liberatory depending on one's philosophical beliefs.

Table One: Summary Table of Teaching Conception Models

Year	Authors	Model
1989	Beaty, Dall'Alba & Marton	Learning as quantitative increase in knowledge; memorization; acquisition of facts and procedures; abstraction of meaning; interpretive process; changing as a person (added to Kember and Gow model)
1989	Menges & Rando	Teaching as context; process, motivation
1992	Pratt	Teaching as delivering content; modeling ways of being; cultivating intellect; facilitating personal agency; seeking a better society
1992	Samuelowicz & Bain	Teaching as Levels 1-5, i.e., supporting student learning; changing students' conceptions; facilitating understanding, transmission, imparting knowledge
1994	Kember & Gow	Learning facilitation as problem solving; interactive teaching; facilitative teaching; pastoral interest; motivator of students//Knowledge facilitation as knowledge transmission: training for specific jobs, use of media, imparting information, knowledge of subject
1995	Barr & Tagg	Instructional Paradigm; Learning Paradigm
1999	Robertson	Teaching perspectives as egocentrism (teacher-centeredness); aliocentrism (learner-centeredness); systemocentrism (teacher/learner-centeredness)
2000	Entwistle, Skinner, Entwistle & Orr	Teaching and learning as teacher focused/content focused; student focused/learning oriented
2000	Martin, Prosser, Trigwell, Ramsden & Benjamin	Teaching as intent to transmit information; intent of conceptual development; intent of conceptual change
2002	Gordon & Debus	Deep approaches to learning; surface approaches to learning
2005	Bickmore, Smagorinsky & O'Donnell-Allen	Teaching as transmission, constructivist, liberatory, post-liberatory

In summary, the research on teaching conceptions and beliefs, both for teachers and professors, shows a shift in research from teaching techniques to a focus on teachers' thinking and its influence on practice. The various models presented appear to move along a philosophical continuum from dualism to relativism and from liberalism/behaviorism to humanism. Accordingly, conceptions move from simple, transmission of information to social and personal change. What is most often not

considered by faculty members, in learning to teach, are their implicit beliefs and conceptions of teaching and learning and, in turn, the potential difference between what they espouse to be their learning objectives and the actual outcomes of their teaching and learning practice. What is key, perhaps, is to acknowledge that teaching conceptions appear to reflect an individual's beliefs about teaching and learning, both in general and within a discipline, and the epistemological foundation for those beliefs. Critical examination of these beliefs, however, is not evident within this literature which leaves this link relatively unexplored. Finally, it is important to note again, according to Gordon and Debus (2002), that deeper approaches to teaching and learning can be linked to enhanced teaching efficacy, especially for inexperienced teachers as a means of how to best navigate learning to teach on the job. Much more however has been written and researched about teacher (K-12) education than about preparation to teach in the professorate. Therefore, it is useful to pull out some primary themes from the teacher education literature that can be applicable to teaching and learning within higher education.

Key Themes in the Teacher Education and Classroom Teaching Literature

Again, much more has been researched and written about preparation to teach in K-12 than preparation to teach in higher education. In fact, most of what has been written about teaching in higher education focuses on the lack of preparation to teach (Boice, 1992; Palmer, 1998). Therefore, it is useful to examine the themes in the teacher (K-12) education literature that may be transferable to teaching in higher education. Let us therefore examine the four, primary themes identified in the review of this literature.

Theme 1: preservice beliefs follow into service. The cycle of preserving teaching traditions by teaching as one was taught begins early on in our careers as students. Lortie (1975), for example, defines this as an "apprenticeship-of-observation" for student teachers because they have, by the time they enter teacher education, already spent years and years assessing the work of teachers which will strongly determine their receptivity to pedagogical instruction (p. 67). Lortie (1975), Meister and Melnick (2003), Nolan and Meister (2000), Fullan (2001), and Hargreaves (1994) make the case that these preconceived beliefs and conceptions of teaching are fairly invisible and resilient (in the absence of viable and appropriate alternatives), and offer that these preconceptions may be a primary cause for failed reform, especially when reform does not consider the context of those charged with implementing reform, and to include their beliefs about teaching and learning. Kane et al. (2002) summarize the research on primary, secondary, and preservice teachers as having come to consensus on the following issues: (a) student teachers enter education programs with preconceived notions of teaching and learning based on their experiences as students; (b) the beliefs are resilient and difficult to change; (c) these beliefs filter out new information and knowledge that does not work within their existing paradigm; and (d) beliefs are tacit and implicit, making them difficult to articulate (p. 180).

Theme 2: teacher education and practice are disconnected. The literature repeatedly highlights disconnects between teacher education in universities and practice and service as a teacher within the K-12 system. Graber (1996; 1998), for example, makes the case that teacher education today remains focused on developing an ideology of teaching and not on addressing teaching beliefs or working to influence teaching

behaviors. Graber (1998) goes on to point out that this disconnect almost assures that new teachers (and their students) will suffer a shock that will send them, by default, back to their preconceived belief structure about teaching and learning when faced with the realities of the classroom and their lack of a professional knowledge base that is made up of content knowledge, pedagogical knowledge and craft knowledge. It is because of this disconnect between ideology and practice within teacher education that Bickmore, et al. (2005) portray teacher education in the United States as *structurally fragmented*. This means that there is little consensus about teaching conceptions, cohorts are virtually non-existent which leaves it up to the individual student to finds themes in their education, and there is no synthesis of learning through collaboration, practice, or discussion. This creates a disconnect between intent and practice which, in turn, supports schools that are steeped in transmission oriented, teacher and text centered traditions that silo and isolate teachers and their teaching. Teacher education, then, has done little to position, as central, the beliefs about teaching and learning held by their students or to influence the development of leaner-centered teaching conceptions.

Theme 3: the changing nature of teaching. Lortie (1975) traced the sociological development of teaching and demonstrated how this profession and the education for which it is responsible has, in a broad sense, been commodified through bureaucratic structures, the feminization of the profession, teachers as workers for hire, standardized curriculum, and top-down policies.

Hargreaves (1994) goes on to argue that teaching exists within a modernist perspective and structure while teaching as work truly exists within a postmodern and postindustrial age and needs to change accordingly. Nolan and Meister (2000) highlight

how the *intensification* of teaching and its demands serve to limit time and perpetuate a constant sense of overload which results in dissatisfaction and isolation within the profession, as well as uncertainty about attempting changes in teaching and learning which can be risky. Ben-Peretz (2002) in her narrative study of retired teachers also points to the need for time in order to make tacit knowledge explicit, reflect on new perspectives, and learn within the teaching profession. Change is especially risky in a top-down, bureaucratic environment that, as Nolan and Meister (2000) suggest, often lacks administrative leadership support for school-wide professional development to equip teachers with the means to change and change itself. When teacher education, the teaching profession, and the structural organization of K-12 education (and teaching within it) do not support a fit between teaching and learning in a postmodern age, then it is of little surprise that mandated reform continues to be more and more invasive and divisive in a frustrated attempt to force change without empowering the individuals who can best be responsible to create a fit between education and society's needs, namely teachers. Policy that assumes that teachers are the problem instead of the solution also supports constant and inappropriate scrutiny and maligning of the profession that can drive away the best and most dedicated candidates.

Theme 4: teacher empowerment and collaboration as key. The consensus within the literature appears to be that the reversal of the first three themes addressed in this section will go far in creating a fit between education, teaching, and society. This might be accomplished by placing teaching beliefs at the center of teacher education and professional development, and by reorganizing to create a learner-centered and truly collaborative environment that empowers teachers to research, design, and practice

teaching and learning (Warren Little, 1999). It is further argued (Kincheloe, 2003 ; Ross, 1995; Wheatley, 2005) that teaching efficacy is enhanced through empowerment and a supportive environment centered on a commitment to learners and learning outcomes. Wheatley (2005) broadly defines teaching efficacy as referring "to teachers' beliefs in their ability to influence valued student outcome" (p. 748). He makes the important distinction that research on teacher efficacy needs to shift from an emphasis on skills and performance toward a focus on learning and teaching. Said differently, teaching efficacy research can shift from looking at outcomes based on current practice toward outcomes with curricula and methods with which they do not yet have much skill. This is important because it helps support practice with new methods and because teaching efficacy has been linked to student efficacy (Tsui, 2001). As stated by Fullan (2001), "the anxieties of uncertainty and the joys of mastery are central to the subjective meaning of educational change; and to success or failure thereof – facts that have not been recognized or appreciated in most attempts at reform" (p. 32).

A striking difference between the teacher education and faculty development literature is that, unlike K-12 teachers, university professors are reputed to exercise extensive autonomy in their teaching and learning. Nevertheless, criticisms of higher education run parallel with the teaching profession and top-down, mandated reform attempts inch ever closer to institutions of higher education which, educationally speaking, can also be characterized as structurally fragmented. It is proposed that these parallels exist because preparation for the professorate, like teacher education, does not hold central teaching beliefs and practice as a part of that preparation, and higher education, like the K-12 system, has not reorganized to function within a postmodern age.

To further examine the topic of teaching beliefs and conceptions, I now look at the themes emerging from the literature reviewed earlier.

Themes in the Literature on Teaching Conceptions and Beliefs

Three primary themes emerge in the literature reviewed that addresses teaching beliefs and conceptions (not necessarily specific to K-12 teacher education), especially as a means of addressing and closing the gap between beliefs and practice: (a) a desire to understand how these conceptions and beliefs are formed and what they look like (formation and definition); (b) exploration of how they relate (or do not relate) to teaching practice and what it means to teach effectively; (c) how to make implicit beliefs and conceptions explicit in order to reflect on them (and generate alternatives) with a direct impact on practice.

How teaching conceptions and beliefs are formed and defined. While, over the past seventy years or so, a philosophical and theoretical debate about teaching and learning paradigms has persisted in higher education, several traditions and universally recognized truths about teaching in higher education and teacher education appear to remain entrenched. These traditions, which vary somewhat by discipline, still often form the foundation of teaching beliefs and conceptions within higher education. For example, Meyers and Jones (1993), borrowing from Malcolm Knowles, state these as being that: (a) teachers should lecture and students should listen; (b) learning is a dispassionate, impersonal activity; (c) knowledge should be stored away for future use; and (d) students have little to contribute to the learning process. To these could be added that course and program planning and delivery are at the sole discretion of each professor as the subject matter expert (Stark, 2000), and that teaching is performed in isolation from peers and

colleagues (Bess, 1998; Palmer, 1993, 1998; Reybold, 2003; Weidman et al., 2001; Young & Shaw, 1999). These traditional "truths" about post-secondary teaching are perpetuated (as noted earlier) through the socialization process into the professorate and into specific disciplines through both preparatory education (undergraduate and graduate), as well as acculturation in practice (Austin, 2003; Reybold, 2003; Weidman et al., 2001).

Consensus appears to exist, therefore, about the need for change in how individuals are socialized into the professorate and their disciplines if real change is to be effected in moving higher education toward teaching and learning paradigms in alignment with the demands and realities of our society. Specifically, that teaching beliefs and conceptions be examined and potentially redirected as a part of preservice education as well as on-going professional development.

How they relate to practice and teaching effectively. Much of the research reviewed addresses making (at least in theory) implicit beliefs explicit, and to determine how they are manifested in a variety of teaching conceptions and practices. These teaching conceptions essentially range on a continuum from teaching as transmission to teaching as learning facilitation, and from teacher-centeredness to student-centeredness or learning-centeredness (Kane et al., 2002; Martin et al., 2000; Robertson, 1999). The underlying premise is that teaching conceptions should predict teaching behaviors and practice. Kane et al. (2002), as well as Hativa et al., (2001), conclude that this premise does not hold up, and make use of Argyris and Schon's (1974) framework of theories of action to explain this disconnect. In this theoretical framework, espoused theories of action (or teaching) are what we believe to be our goals and intentions in teaching; while

theories-in-use are those conceptions and beliefs actually reflected in practice that provide a window into our implicit beliefs about the purpose of education, what to teach, how to teach, and one's relationship with students. Said differently, most university faculty articulate that they work to facilitate learning in their classes and lectures, but teaching practice (based on observation and student feedback) is most often still reflective of teaching as a one-way transmission of information (Murray & MacDonald, 1997).

In today's environment of growing assessment and accountability within higher education, the quest for teaching effectiveness has become primary, yet the concept of what it means to teach effectively (and how this is measured) remains elusive (Young & Shaw, 1999). To move toward a consensus about what teaching effectiveness means, various researchers have profiled "outstanding" and "highly effective" university teachers as gauged by profiling characteristics of effective teaching, self-assessment of teachers, student assessments and ratings of professors, and observation of practice. With research founded in social learning theory, Tsui (2001, 2002) adds a new dimension to the idea of identifying and fostering teaching effectiveness, a concept she believes is rooted in teachers' belief in the ability of students to learn and their own instructional efficacy. She views effective teaching as the ability to foster higher-order, critical thinking skills in appropriately challenging ways so that students learn to learn and build their own self-efficacy in learning. Tsui (2001, 2002), as well as Roche and Marsh (2000) and Ross (1995), argue that faculty who have low instructional efficacy tend to assign blame for ineffective teaching on external reasons, especially on the inability or unpreparedness of students. In addition to these types of studies, conceptual pieces advocating active

learning, the learning paradigm, the scholarship of teaching, learning communities, and other modern ideas that define teaching effectiveness differently from the tradition within higher education are numerous (Barr & Tagg, 1995; Meyers & Jones, 1993; Palmer, 1998). In spite of this research, and resulting ideas, models and theories, however, exactly what it means to teach effectively remains elusive. Perhaps a focus on what learning outcomes are evident in teachers and students alike, as a result of a learning experience, can provide better insight into teaching that meets its goals (at multiple levels) for both teachers and learners.

Kane et al. (2002) conclude that a sufficient range of teaching conceptions exist and should not be expanded at this time, and that the disconnect between faculty's espoused theories of teaching and their practice provides a professional development opportunity that must occur at the conceptual level. It is also important to remember that a professor may need to integrate multiple conceptions of teaching (including what it means to teach effectively) and teaching practices depending on the context of the intended learning, especially the type of knowledge being fostered.

Finally, Kane et al. (2002) highlight the need for consideration of teaching beliefs, conceptions, and knowledge as important in the design of professional development for faculty. As we know, beliefs about teaching and learning are resistant to change. Fullan (2001) poses the dilemma of which to address first, beliefs or practice, in order to effect educational change. The dilemma is characterized by whether professional development for faculty should work to first make their teaching beliefs explicit in order to subject them to critical reflection and generate alternatives or first to effect change in practice which, if successful, will foster heightened efficacy and further reflection. While there

does not seem to be a right or wrong answer to this dilemma, perhaps a viable answer is that both must be addressed simultaneously by professional development and research because they are mutually supportive of one another and need not be siloed. This research was designed to allow for reflection on practice as an opportunity to examine beliefs while also positioning education action research as a means of immediate engagement in making changes to practice in order to create a path toward examining teaching conceptions.

How beliefs and conceptions can change. The research involving primary and secondary teachers that concludes that beliefs and conceptions are resilient, but can change (Kane et al., 2002) is supplemented by Ho (2000) who postulates that to effect real change in teaching beliefs and conceptions, theories of conceptual change must be employed. This means especially to lift up existing beliefs and conceptions and to determine their alignment (or misalignment) with desired teaching practice and learning outcomes. Her argument is consistent with a growing body of literature that positions faculty as adult learners who can develop a reflective practice to ensure continuous personal and professional development and ongoing relevance as academic professionals who hold central the role of teaching (Cranton, 1996; King, 2005; Lawler, 2003). The literature on faculty development, reflective practice, and transformative learning also seeks to make learning a part of the teaching process for both teachers and students, and to move learning about teaching from a remedial emphasis on strategies and techniques only to a more internal and personal process of discovery, exploration, and growth.

The essence, therefore, of the themes discovered in the literature on teaching conceptions and beliefs (as it applies to teaching and learning in higher education) is that

faculty members are the key to educational change. Thus, this approach of meeting individual faculty where they are in their development of a practice and providing the opportunity for reflection on their practice both individually and as a group was the focus of this study.

Discussion and Summary: Gaps in the Literature

Kane et al. (2002) make the point that they did not include research studies that dealt with student learning from their review of literature on higher education teaching beliefs and conceptions. It soon becomes apparent that most of the works on teaching and learning in higher education fall short of connecting teaching to learning (for professors and/or students) or of defining learning in meaningful ways. For example, the idea that moving espoused theories of teaching in higher education closer to theories-in-use as a part of one's teaching practice does not necessarily equate with an evolution of self, practice, motivation, or authenticity. Rating where one stands in demonstrating characteristics deemed hallmarks of outstanding teaching, and how one falls short of incorporating these into one's practice, allows one to know his or her shortcomings and strive for improvement, but does it help achieve substantial insight and growth as an academic professional? I would argue that it does not and that instead, studies (such as this one) on teaching and learning should focus on how teachers learn to teach in ways that are congruent with their preferences, strengths, and context; that result in an evolution of their own learning and practice, as well as learning (and what this means, exactly) for the students; and how they do this in ways that support their overall development as academic professionals. Therefore, the effect of new learning on self - concept and teaching beliefs and conceptions, as well as how changes are manifested in

practice, may provide a better measure of evolutions of one's theory and practice as an academic professional.

With the exception of Weimer (2002), a second gap in the literature on teaching beliefs and conceptions is a lack of criticality, especially in terms of the relationship between the teacher and the learner. Barr and Tagg (1995), on the other hand, do acknowledge that a shift from the Instructional Paradigm to the Learning Paradigm in undergraduate education also implies a change in the power and authority dynamic embodied in the relationship of the professor to the learner, as well as in the professor/institution relationship. To give up autonomy and authority means rethinking the power dynamic in the planning and delivery of learning within higher education. Being socialized into a profession that has promised autonomy and authority (especially in the teaching role) as one of its hallmarks, means that eliminating this privilege might prove very difficult.

In summary, teaching conceptions and beliefs are heavily influenced by socialization into the professorate and one's discipline (as well as other contextual considerations); they are primarily implicit and predicted to determine teaching practice. This premise, given current external pressures for change and accountability within higher education, has led to a significant number of studies centered on making explicit the implicit beliefs around teaching that drive teaching practice, and using this information to define and create teaching effectiveness. Studies such as those conducted by Hativa et al. (2001) and Murray and MacDonald (1997) found that espoused theories of teaching did not always connect with observed teaching practice. Therefore, to effect change in teaching beliefs and conceptions, and/or to move espoused theories of teaching

into practice, requires approaches rooted in adult learning that are aimed at conceptual change and perspectives transformation, regardless of one's academic discipline. Research on engaging faculty in the development of a reflective or critically reflective practice, then, was largely missing from both the faculty development literature and the literature on teaching conceptions and beliefs, but was addressed by my action research (as one example).

Continuing Professional Education, Faculty Development, and Adult Learning Theory

This section of the literature review explores the connection between Continuing Professional Education (CPE), faculty development and adult learning theory to identify the evolution of concepts for professional development and gaps in practice and application which my research was positioned to address and study. Because CPE is an emerging field and practice, it is useful to have a working definition of CPE for the purposes of this study. Queeney (2000) provides such a definition:

> CPE refers to the education of professional practitioners, regardless of their practice setting, that follows their preparatory curriculum and extends their learning…throughout their careers. Ideally, this education enables practitioners to keep abreast of new knowledge, maintain and enhance their competence, progress from beginning to mature practitioners, advance their careers through promotion and other job changes, and even move into different fields. The term *professional* is used broadly in this context, to describe the wide range of occupational areas that are based, to some extent, in a discrete body of information and specific competencies (p.375).

This definition encompasses many of the elements that make up the evolution of CPE to date including the broad definition of a professional, the concept of lifelong learning that is specific to adults, and the multiple levels of education and knowledge upon which it must touch, depending on the context. For the purposes of my study, CPE, continuing education, and professional development are used interchangeably. Finally, it is recognized that CPE and continuing education are firmly rooted in, and heavily influenced by, adult education learning philosophies and practices

A striking central theme in the literature reviewed on the professions, CPE, and faculty development has to do with what I indentify as "connectedness" and "disconnect." Connectedness refers to the interwoven, interdependent, and symbiotic relationship between these three areas of theory, practice, and research. Because of influences primarily external to the professions and higher education, changes and transitions in theory, practice, and research in the professions impact continuing professional education which, in turn, impacts faculty development, especially when it is framed as adult and continuing professional education. Disconnect refers to the evolution of goals and theories for new directions in the professions, CPE, and faculty development and the lack of broad evidence (with some noteworthy exceptions such as the Visible Knowledge Project) that these goals and theories are being incorporated into actual practice. With respect to the lack of change evident within the professions, Curry, Wergin and Associates (1993) state that "they [the professions within North America over the past 30 years] have announced a change itinerary in a particular direction, but all of their structures, processes, and support mechanisms continue to be oriented in the opposite direction" (p. 316). A similar portrait has been sketched earlier in this literature review

for the academic profession within this country (failed attempts at reform). The central theme of connectedness between professional development, CPE, and faculty development, and disconnect between new directions and theories and actual practice provides a framework for the primary working themes discovered in the literature.

First, the changing nature of the professions again speaks to the external changes and influences within society that are forcing both traditional and emerging professionals to grapple with the definition of what constitutes a profession, how success is defined within a profession, and what is needed to support success as it is defined. Second, because the professions are in transition, and CPE is currently positioned as a facilitator of success for professionals, CPE continues to struggle with and evolve its philosophical approach and purpose, as well as how this translates into practice. This is evidenced by the evolution from a simple update model of CPE and program planning to the current integrated, holistic, and interprofessional models of CPE and program planning that are being advocated (Cervero, 2001; Cervero, Azzaretto & Associates, 1990; Knox, 2000; Smutz & Queeney, 1990). Third, faculty development, when positioned as an outgrowth of CPE and adult education, clearly relies on the trends and best practices within CPE to inform its own evolution as a field and as it struggles with how best to support education professionals within higher education. Finally, cutting across these major areas of thought and practice are discussions and viewpoints on how best to position and define CPE and faculty development as a catalyst and support for changes called for in the professions and among professionals including university faculty (Mott, 2000).

The Changing Nature of the Professions

Schein (1972) speaks to the difficulty of defining a profession or professionalism because it is an "attempt to give precision to a social or occupational role that varies as a function of the setting within which it is preformed, that is itself evolving, and that is perceived differently by different segments of society" (p. 8). Schein (1972, pp. 8-9) describes ten criterion that frame (or help define) a profession and a professional as having: (a) a full-time occupation, (b) a strong motivation or calling, (c) a specialized body of knowledge and skills acquired during a prolonged period of education and training, (d) decision making ability on behalf of clients by applying general principles, theories, or propositions to a particular case, (e) a service orientation to use expertise on behalf of clients, (f) objectivity to provide professional services based on client need only, (g) autonomy of judgment of his/her own performance versus client-based judgment of performance, (h) a professional association which defines criteria of admission, educational standards, licensing or other formal entry examinations, career lines within the profession, and area of jurisdiction, (i) knowledge that is assumed to be very specific and great power and status within that narrow area of expertise, and (j) a commitment to not advertising or seeking out clients (which speaks to the expectation of ethical behavior in the interest of public welfare). There is significant consensus on the achievement of "autonomy" as being the key factor in defining a professional, especially being an unquestionable expert who is only subjected to the review of his/her colleagues and for whom membership is defined only by peers and colleagues.

How does this definition of a profession apply to higher education faculty? Houle (1980) positions faculty as "facilitators" that support and advance the professions and its

members, but who are not professionals in their own right. On the other hand, Schein (1972) identifies faculty as a part of the academic profession, and points out that this identification is ambiguous because being a faculty member involves numerous roles. More specifically, while all criteria for a profession outlined above does pertain to faculty and the academic profession, in the role of "…teacher, the professor has a mission (teaching), but he has neither professional training as a teacher nor a well-defined client" (Schein, 1972, p. 12). This lack of preparation for teaching is contrasted with preparedness as scholar/researcher and discipline-specific, subject-matter expert. For the purposes of my study, the concept of the professions and professionals was applied broadly to include faculty in higher education while acknowledging Schein's point about teaching being a central role for which academic professionals are not formally prepared, and with the suggestion that this can change within the context of their professional development.

Evolution and the Changing Nature of Continuing Professional Education (CPE) in Support of the Professions

Young (1998) points out that it was once assumed that a professional could prepare for service through 3-5 years of formal, pre-service education within a professional school, and that this preparation would sufficiently meet the formal education requirements in one's lifetime to become a proficient and expert practitioner. It was further believed that any education a professional required upon graduation from formal training would be acquired through his or her own reading, participation in conferences, and dialogue with colleagues. In fact, it was not until the late 1960s that any real thought was given to the need for continuing education for the professions. Queeney

(2000), for example, states it was not until recently that any systematic thought was given to what happens, in terms of education, over approximately 40 years of practice after graduation from a professional school. Cervero (2001) indicates that the 1980s mark the emergence of continuing professional education as a distinct area of practice and study, and Young (1998) points to a recent and universal recognition of the need for continuing education in the light of rapid social and technological change that has complicated the professions and the society they serve. As is true for faculty development, the idea of continuing professional education as a practice and area of research and inquiry is still relatively new, and its emergence has been realized and supported by social changes, technological advancements, a crisis of confidence in the professions, and growth of research-based knowledge that clearly makes the notion of lifelong learning essential. Cervero (2001), for example, states that, "by way of analogy, at the end of the 20th century, continuing education was in the same state of development as pre-service education was at the beginning of that century" (p. 18).

Evolution of CPE. In order to gain a better perspective on CPE as a field, a brief evolutionary history is provided. In the 1970s, Malcolm Knowles introduced the concept of andragogy in his book entitled, *The Modern Practice of Adult Education: Pedagogy versus Andragogy*. This concept is rooted in the philosophy of humanism and first suggests that adults may learn differently than children and hence require unique approaches to learning. From these beginnings, multiple models of CPE and program planning have evolved that are reflective of CPE's progress. Houle (1980) introduced the concept of lifelong learning, systematic planning of CPE, and the idea that the primary responsibility for learning should rest with the individual. Nadler (1982) built on the

emerging systematic planning models for CPE by highlighting the role of evaluation and feedback as an ongoing activity within planning and design. CPE was positioned as providing practical information and training designed to update and enhance professional competencies. Cervero, Azzaretto and Associates (1990) view the update model and competence model in CPE as the more traditional system of continuing education, a primary goal of which is to update practitioners. They portray these updates as classically being transmitted didactically through a pluralistic group of providers who did not work together, and that this form of continuing education is almost entirely unconnected to previous levels of education achieved by individual practitioners.

Nowlen (1988; 1990) moves CPE beyond the update and competence models into the performance model that introduces the concept of understanding the learner in relationship to their context and away from the assumption that performance is an individual endeavor. Cervero and Wilson (1994) add a dimension of criticality to the process of continuing education and program planning for adults with the need to consider and negotiate power issues as a part of continuing education. Theorists such as Schon (1987; 1991) and Brookfield (1987) highlight the need for CPE models and concepts that incorporate critical reflection as a part of the learning process. Today, researchers and theorists such as Fink (2003) and Caffarella (2002) have introduced the concept of integrated models of program design within CPE that encompass and weave together contextual considerations, learner differences, a focus on learning instead of teaching, educative feedback and assessment, learning goals, ongoing feedback and involvement of the learner, and learning strategies with the intent of producing significant learning experiences. Fink (2003) defines a significant learning experience as being one

in which students are engaged in their own learning, with which a high level of energy will be associated, and a process from which important outcomes will result that enhance our individual life, enable us to contribute to the many communities of which we are a part, and prepare us for our professional roles (pp. 6-7).

The evolution of CPE models show progress in understanding how professionals who are adults learn and a shift from the notion of education as an intervention to an understanding of learning from the learner's perspective. This progress appears consistent with the paradigm shift suggested by Barr and Tagg (1995) from an Instruction Paradigm to a Learning Paradigm, as discussed in the beginning of this chapter.

Current trends in CPE. Now that an understanding of the historical and philosophical evolution of CPE has been provided, let us explore the current trends in this field. Baskett and Marsick (1992) articulate seven key shifts in understanding that have occurred and that are manifested in CPE program planning models: (a) studies of learning patterns show that self-directed and self-planned learning is more often used by learners than formal CPE; (b) most adult learning theories and CPE models have focused on individual instead of collective learning, and collective learning may be more aligned with the realities of today's workplace; (c) practical knowledge is as important, if not more important, a consideration in learning as formal knowledge acquired through CPE; (d) multiple kinds of knowledge exist and knowledge embedded in practice may be far richer than formal knowledge; (e) the traditional, mechanistic model assumes that knowledge comes from somewhere external to an individual and can be stored for future use versus the modern assumption that knowledge is created and constructed by people in interaction with their environment and requires critical reflection; (f) formal resources for

learning are only a part of the learning process with everyday work issues requiring learning that often occurs unconsciously; and (g) the cycle of learning has moved from assuming that formal education will lead to an immediate transfer to practice toward the creation of a long-term and individual cycle of learning that can take years to effect change.

Baskett, Marsick, and Cervero (1992) summarize that these shifts in CPE (and adult education) add to the traditional dimensions of learning (focused on the individual, rational, cognitive, routine, formal and scientific) other dimensions that incorporate the collective issues of learning and change (focused on the intuitive, emotional, non-routine, informal, and constructed). CPE appears, therefore, (at least conceptually) to be moving toward a holistic and integrated approach to learning that synthesizes theory and practice, learners as individual people and professionals and as part of a collective, and metacognitive models that support self-directed and self-planned lifelong learning and perspective transformation (Baskett & Marsick, 1992; Baskett, Marsick & Cervero, 1992; Caffarella, 2002; Cervero et al., 1990; Cranton, 1996; Daley, 2001; Daley, 2000; Daley, 1999; Daley & Mott, 2000; Fink, 2003; Gregory, 1994; Queeney, 2000; Smutz & Queeney, 1990; Young, 1998). As is true in Mezirow's (1991) conceptualization of transformative learning theory, Livneh and Livneh (1999) highlight the need to critically examine existing assumptions underlying and influencing theory and practices across professions as an act of "unlearning" in order to create change instead of working to incorporate tweaks of improvement into existing paradigms.

These shifts and trends have emerged as an initial and/or renewed emphasis on several key aspects of adult and continuing professional education and in faculty

development as an outgrowth of CPE. These include the need for interprofessional collaboration and education, educative assessment and comprehensive needs assessment, a continuum of professional education, and discussion around the appropriate role and purpose of CPE.

Interprofessional collaboration and education. A key aspect of CPE moving into the future is a renewed emphasis on interprofessional collaboration and education. In interprofessional collaboration there is a need for multilateral responses to the complex and social issues of modern society (Cunningham and McLaughlin,1990; Harsh, Fewell & Casto, 2000; Queeney, 2000; Queeney & Casto,1990), Therefore, interprofessional collaboration is defined as "a situation in which all the participating professionals come together as full and equal partners in an effort to address a human problem comprehensively" (Cunningham,& McLaughlin, 1990, p. 117). It is proposed that CPE can bring together professionals from multiple disciplines in order to focus on a specific issue (such as teaching and learning), and that professionals learn through interprofessional interaction on many levels including information exchange, perspective exchange, perspective interaction, and perspective transformation (which is an ultimate goal of interprofessional education and practice). CPE's role in this approach to learning and practice is to facilitate these discussions and to provide the participants with means of creating interprofessional interaction. The idea is to work with professionals from various disciplines to develop ways of interacting and collaborating that result in learning and that can continue in a self-directed manner throughout one's professional life. When the concept of interprofessional CPE is applied to faculty, for example, and especially to the role of teaching, then it can potentially provide a framework to accommodate and

address strong socialization into a specific discipline, and allow for interaction designed for learning within discipline specialties or between the disciplines and focused on teaching roles.

Educative assessment and comprehensive needs assessment. A second key element in CPE moving forward is an emphasis on educative (instead of auditive) assessment as well as comprehensive needs assessments as the foundation for CPE development. Although they take slightly different approaches, Queeney (1995) and Fink (2003) both make the strong case that comprehensive needs assessments are critical to comprehensive program planning and design targeted at the creation of integrated and significant learning experiences in continuing education.

They also point out that the assessment of learning and competence is not synonymous with a needs assessment. As part of the emergence of integrated planning and design within CPE, as well as other areas of education, Fink (2003) speaks to the need for educative versus auditive assessment. Traditionally, auditive assessment has been the norm within much of CPE and higher education and primarily includes backward-looking assessments (final exams, certification exams, final demonstration projects, and final papers) designed to result in a grade. Auditive assessment tools and practices, however, provide little and limited opportunity for learning and improvement. Educative assessment, on the other hand and according to Fink (2003), is forward-looking and designed to result in learning so that the assessment process becomes a learning strategy that can include self-assessment by the learner, clear criteria and standards against which success is measured, and “FIDeLity” feedback (which stands for frequent, immediate, and discriminating feedback delivered lovingly). It is, for example,

possible that framing assessment that is a part of professional development for faculty as educative (or formative) instead of auditive (or summative) may be less threatening and serve to reduce some of the natural hesitancy that faculty experience about participating in programs. This may be especially true for programs or initiatives designed to look at conceptions, roles, and practices of teaching.

Continuum of professional education. A third area of emphasis in the future of CPE is the need for ongoing professional education that begins early and is on-going. The development of a continuum of professional education begins in pre-service preparation and moves throughout one's professional life. By seeing professional education as an on-going process that supports the success and effectiveness of professionals from the status of pre-professional through novice to expert can help lay the groundwork in pre-service education for the concept of lifelong learning, and help connect pre-professional education to continuing professional education by allowing one to build on the other to the maximum benefit of the professionals, the organizations with which they are employed, and the people they serve. Knox (2000) emphasizes that the creation of such a lifelong continuum of education makes a stronger case for continuing professional education as an integral part of professional education and allows research on professional development to span an individual's entire professional life. If this concept were applied to the academic path to the professorate (across disciplines) and one's teaching practice as a member of the faculty, then tremendous gains could potentially result for faculty, their students, and the institutions. Key among these benefits would be continuous education for faculty members related to the central teaching role in their professional practice, beginning as a pre-professional and continuing throughout their

career, that would support movement from novice to expert teacher and learning facilitator.

Role and purpose of CPE. A final emphasis within CPE, looking into the future, is to continue to struggle with what should be the appropriate role and purpose of CPE in relation to the professions including teaching at all levels. For example, according to Cervero (2001), North American society is still grappling with the development of systems of continuing education. He speaks to five trends that have had a tremendous influence on CPE: (a) CPE provided by the workplace exceeds that provided by all other providers; (b) there are increased numbers of programs being offered via distance learning technologies and a wide variety of providers; (c) the corporatization of continuing education; (d) the increasing use of CPE to regulate the professions; and (e) the increasing collaboration between providers of CE (Cevero, 2001, p. 16). With these influences, Cervero (2001) highlights three issues being negotiated regarding the future role and purpose of CPE: (a) the struggle between its appropriate role as being that of an update vehicle or a means of improving professional practice; (b) the tension between the learning agenda and the political and economic agenda (as part of the Instruction Paradigm) for CE; (c) the struggle between protecting CPE provider turf and working toward a collaborative approach (p. 16).

The debate between traditional models of CPE and emerging models of CPE reflects the struggle within the professions between maintaining a traditional and elite position of status and power, and moving toward a redefinition of what it means to be a professional given the changing needs of society and clients. How do these struggles and

ongoing transitions within the professions and CPE relate to, and inform, faculty and faculty development?

Changing Nature of Faculty Development as CPE

The review of the literature on faculty development since the 1980s does not, until recently, make strong connections between itself and CPE (and adult learning). In fact, even recent literature that positions faculty as adult learners and that applies adult learning theory to professional development does not strongly tie faculty development to CPE (Cranton, 1996; Lawler, 1991; King, 2004; King, 2005; King & Lawler, 2000). This may be because faculty members identify primarily with a discipline instead of the professorate as a profession, and because many academic professionals do not perceive of themselves as educators (Cranton, 1996). Reinforcing this disconnect between CPE and faculty development may result from faculty development initiatives that were not necessarily planned and executed by individuals well versed in continuing professional education's existing and emerging models and practices. King and Lawler (2000) make the case that faculty development needs to "…move away from a deficit model of development toward one of professional development and growth" especially if it is to have ongoing relevance and greater participation than has been the norm in higher education to date (p. 6).

The parallels between the evolution of faculty development concepts and approaches and CPE, however, are unmistakable. As has been true for CPE, the thinking about faculty development has evolved from a simple update model to a competency model to a performance model and, today, much is being written about faculty development as ongoing, self-directed, and lifelong professional development that

incorporates critical reflection, construction of new concepts and approaches to individual and collective roles, and perspective transformation. Recently, then, the influence of CPE (and adult learning concepts that provide its foundations) on faculty development has become more evident as these efforts have begun to shift. This shift is moving the concept of professional development for faculty away from what has been perceived as remedial efforts to simply update subject matter experts in their specific discipline or for the acquisition of a teaching skill or technique in order to achieve better results in the classrooms. Instead, professional development is (at least conceptually) moving to include a focus on the need for faculty members, as adult learners and academic professionals, to be provided with a continuum of education about their roles as teachers, scholars, and researchers that will ensure their success and well-being in the profession which, in turn, may result in sound learning abilities and outcomes for their students.

The pressure for change in higher education parallels what has been occurring in the professions over the past 25 years. If professors are considered, as they were for my study, a part of an academic profession that includes the central role of teaching and learning, then CPE trends can be applied to pre-service education and faculty professional development. These trends would include the development of integrated and holistic professional development models rooted in sound adult learning theory, interprofessional continuing professional education and collaboration, educative assessment, and a lifelong continuum of education designed to move the academic professional from novice to expert in all roles, especially and including teaching. The point, however, cannot be ignored that both in CPE and faculty development, there is

disconnect between theory and practice. Trends in CPE that are paralleled in faculty development have continued to evolve while actual practice appears to have remained fairly traditional and participation (unless mandatory and/or discipline specific) has remained fairly low except, perhaps, within some progressive, small liberal arts schools. Beyond defining faculty development as CPE, how can faculty development best be positioned within higher education in order to build more substantial momentum behind these efforts?

Faculty Development and Motivation

Early, as well as many current, initiatives in faculty development have focused primarily on providing money or release time to faculty to encourage development of learning outcomes, collaboration, enhancement of teaching through technology, and experimentation with alternative teaching techniques (Chopp et al., 2001; Eleser & Chauvin, 1998). For example, the Andrew W. Mellon Foundation granted approximately $35 million to small, liberal arts colleges between 1993 and 1998 (Emerson & Duffy, 1997). Providing money and release time, however, without informing existing practices through exposure to alternative philosophies, learning theories, and critical reflection may result in some changes to curriculum and teaching, but may not effect any change in previously held teaching practices and deep-rooted learning philosophies. In fact, there is a danger of supporting non-reflective and discretionary approaches to faculty development that could serve to reinforce existing teaching and learning conceptions and models even if these are misaligned with the emerging needs of society. Lazerson et al. (2000) point out that the reality on campuses was a rejection of these externally imposed accountability measures as being simplistic and unlinked to the institution's business of

research and teaching. An argument on campuses goes on to point to student motivation and a lack of preparation prior to attending the university as the root of the problem in learning, and not the education and teaching philosophies of the faculty. Therefore, there has been little perceived need for real change on the part of both institutions and faculty members as reflected by the often marginal attempts at change through faculty development as discussed in the Faculty Development section of this literature review. The exception to this rule may be the incorporation of technology into the teaching practice that has spurred, in some instances, a rethinking of teaching and learning within the academy. Nevertheless, some experts believe that little has really changed in teaching and learning in higher education in the past twenty years (Lazerson et al., 2000). As captured by Lazerson et al. (2000), "individual professors may teach somewhat differently than they did two decades ago and discussions about how to assess learning are more common than in the past, but there is little evidence that the changes add up to a systemic reconsideration of how and why students learn or of how institutions, rather than simply individual professors, can revise their approaches to teaching" (p. 12). How can the theory and practice within faculty development be moved and positioned to be more meaningful within higher education?

Csikszentmihalyi (1997) states that "higher education succeeds or fails in terms of motivation, not cognitive transfer of knowledge…especially around the motivation to learn" (p. 72). If this is true for students of professors, then would it not also be true for professors as adult learners? If the answer is in the affirmative, then this implies that successful faculty development related to teaching, research, and/or service must have the ability to motivate faculty to

learn and to continue their learning throughout their careers. This new focus moves faculty development within higher education out of the realm of remediation and into a focus on educating and developing academic professionals. This recommendation to reposition faculty development as professional development and CPE is not meant to belittle the very real and strong barriers to motivated teaching, and learning about teaching, in higher education (such as the traditional socialization process into the professorate, academic cultural and philosophical realities and traditions, and misaligned reward structures). These are barriers with which all faculty and faculty developers will continue to struggle.

Discussion and Summary

King and Lawler (2000) and Cranton (1996), again, speak to a need for the establishment of theoretical frameworks or development models to guide professional development for faculty as adult learners. Based on the literature reviewed for this study, it seems clear that defining faculty members as belonging to an academic profession to which CPE models apply (and that are rooted in adult learning theory) begins to address this need. This is useful because, when viewed as a profession, the professorate and faculty developers can be more directly informed by the crises and transitions in the professions at large, as well as the trends and evolution of CPE models designed to support professional development, growth, and success. Positioning faculty development as CPE in its evolving context, therefore, points to the need for more holistic, meaningful, and integrated approaches to continuing education for faculty that address all the roles of the professorate (i.e., teacher, researcher, and service provider). These faculty

development initiatives should include significant learning experiences; be interprofessional in nature, and span across a career – from pre-service education through retirement. These approaches are necessary for a group of professionals for whom the central teaching role has long and often been neglected (especially in terms of preparation and reward for this role). It is necessary because only with such a holistic and integrated approach to continuous education for academic professionals will real change be effected in higher education and, especially, in how teachers learn about teaching.

While ending on such a hopeful note is particularly tempting, it is important to return to the central theme of this section that identifies the existing connections between the professions, CPE, and faculty development as the areas of education, research, and practice, as well as the disconnect between evolving theory and practice and progressive research. The reality is that the professions, CPE, and faculty development are still in flux after over 30 years of change being demanded by existing and emerging societal influences, and that only limited progress toward transitioning these areas of research, education and practice to more relevant and responsive means of addressing social realities and problems has been manifested. Especially in CPE (rooted in adult learning) and faculty development (as a form of CPE), the literature reveals an explosion of thought and research over the past 30 years which has moved the potential, and appropriate, role of continuing education from a simple need for professionals to be updated to a complex need for lifelong professional development. In spite of this explosion of thought, however, there remains a very significant gap between theory and practice in faculty development. The actual practice or manifestation of lifelong professional development for faculty, for example, is not yet broadly evident, nor is

significant progress toward the Learning Paradigm, especially as it applies to the concept of faculty as academic professionals that have as a central role that of facilitators of learning. How might the persisting disconnect between theory and practice be addressed? One approach is this action research study which was designed to engage faculty in a meaningful exploration of their own teaching and learning within their discipline.

In summary, and as suggested by this review, there is a need for an integrated paradigm for education, research, and practice within the connected fields of the professions, CPE, and faculty development. This means moving beyond the theoretical silos imposed by positivist traditions, to a stronger environment of collaboration. As is true for the professions, the significant social issues in higher education and its role in preparing professionals (especially academic professionals) over the course of a lifetime are too complex for one field of knowledge to address. Second, there is a need for research that shows a clear relationship (whatever shape that relationship may take) between theory and practice in CPE and in faculty development as a form of CPE. This is important because without this connection, intrinsic motivation to engage in lifelong, professional development in higher education will be difficult to initiate and sustain.

Daley (2001) states that, “further research is suggested on the relationships between constructivist learning, transformational learning, and professional practice” (p. 52) in order to determine how different professionals make meaning and learn to learn within the context of their professions. In short, more research is required that connects CPE theory and design models with actual practice. My action research was conducted to begin to address this need and gap. Specifically, my research focused on untenured

faculty in a comprehensive, teaching university and included faculty from a variety of disciplines (outside of Education), as well as modeled (and studied) what was designed to be a significant, integrated, and holistic learning and professional development experience focused on teaching and learning to determine impact on teaching beliefs, conceptions, and practice.

Synthesis of the Literature Reviewed and Gaps Identified

The purpose of my action research study was to try and engage faculty, as adult learners, in a meaningful and integrated approach to professional development that could result in newly evolved understandings about their roles and practices (especially related to teaching and learning). In particular, my action research sought to position untenured faculty as adult learners engaged in reflection on teaching and learning (and toward the development of a critically reflective teaching practice) with the intent of evoking and constructing new meaning and understanding through perspective transformation that could be manifested in teaching practice and toward a learning-centered approach. Transformation was defined for the purposes of this study as a fundamental change, arrived at as part of the social process of learning, especially at the level of the individual faculty member and within his or her discipline. The design of this research was intended to create an environment to foster this change. Therefore, constructivism and transformative learning theory as a teaching and learning lens for faculty development was appropriate to my study.

The need for this research was supported by the major themes and gaps identified within the literature reviewed on higher education and what it means to be a faculty member, external influences for change in higher education, the field of faculty

development, teaching conceptions and beliefs, and faculty development as continuing professional education rooted in adult learning theory. First, there is, again, no simple answer to what type of higher education best serves society now and into the future, and what form of faculty preparation and development best serves learners and scholars alike. Instead, the answer seems to lie with the faculty directly responsible for teaching and learning in higher education. A clear and substantial tension exists in higher education between academic traditions (structure, organization, rewards, access, and teaching and learning) and emerging realities manifested through external drivers. This tension and pressure for change from a teacher-centered approach toward a learner-centered approach is concentrated in what it means to learn and teach within higher education and how this change is manifested in advancement into the professorate, as well as faculty development.

Second, faculty development is a relatively new field still seeking legitimacy. It has been positioned by many universities as a means to reform in teaching and learning, but without evidence of substantial institutional commitment or preparation of faculty developers as adult educators. As a result, holistic and integrated approaches to teaching and learning within disciplines (and in response to emerging realities and shifting learning paradigms) do not yet exist on a widespread basis.

Third, teaching conceptions and beliefs are heavily influenced by socialization into the professorate and one's discipline (as well as other contextual considerations); they are primarily implicit and predicted to determine teaching practice. This premise, given current external pressure for change and accountability within higher education, has led to a significant number of studies centered on making explicit the implicit beliefs

around teaching that drive teaching practice, and using this information to define and create teaching effectiveness. Therefore, to effect change in teaching beliefs and conceptions, and/or to move espoused theories of teaching into practice, requires approaches rooted in adult learning that are aimed at deep learning and conceptual change and perspectives transformation, regardless of one's academic discipline. Fourth, there is a need for an integrated paradigm for education, research, and practice within the connected fields of CPE, and faculty development. This means moving beyond the theoretical silos imposed by positivist traditions, to a stronger environment of collaboration. As is true for the professions, the significant social issues around higher education and its role in preparing professionals (especially academic professionals) over the course of a lifetime are too complex for one field of knowledge to address. There is a need for research that shows a clear relationship between theory and practice in CPE and in faculty development as a form of CPE. This is important because without this connection, intrinsic motivation to engage in lifelong, professional development in higher education will be difficult to initiate and sustain.

As mentioned in the previous section of this chapter, Daley (2001) states that, "further research is suggested on the relationships between constructivist learning, transformational learning, and professional practice" (p. 52) in order to determine how different professionals make meaning and learn to learn within the context of their professions. In short, more research is required that connects CPE theory and design models with actual practice. My action research was designed to address this need by engaging untenured faculty members in education action research as a way of focusing their thinking (and reflection) on their teaching practice and by providing an opportunity

for peer discussions also focused on their teaching approaches and practice. This research considered the positionality of participants as untenured faculty within their specific discipline, and was consistent with the movement to lift up teaching as scholarship. This research sought to actualize (in investigation and practice) the trends within faculty development toward teaching and learning and the development of community around teaching and learning by positioning participants as adult learners within the study. Finally, my research sought to address a gap in the faculty development literature on how to engage faculty in the development of a reflective or critically reflective teaching practice within the context of the academy. Chapter 3 provides details about my research paradigm, research method, research design, participant selection, and approaches to data collections and analysis.

CHAPTER 3: METHODOLOGY

This chapter restates the purpose of my research, restates the key research questions to be addressed, lays out the research paradigm for this study, identifies the research methodology and design, describes my criteria for participant selection, and outlines my approaches to data collection and analysis.

Purpose of the Research

The broad purpose of my research was to engage untenured faculty, positioned as adult learners, in a meaningful and integrated approach (considering both personal and professional elements) to professional development that could result in new and critically-evolved understandings about their roles and practices (especially related to teaching and learning) in the professorate and in their discipline. My specific design was to engage participating faculty in the potential development of a critically reflective teaching practice through their own education action research on teaching and learning in their discipline. This research was designed to foster an examination of, and discourse on, underlying assumptions and beliefs about higher education, teaching, and learning. The research paradigm, methods, and design described in this chapter are consistent with this purpose.

The questions guiding this research were:

- How can we foster critical reflection on faculty teaching beliefs?
- How do we engage faculty in their own action research in their classrooms?
- How do faculty members see their role differently after questioning their beliefs related to teaching and learning?
- How does change in teaching conceptions and beliefs manifest in practice?

Research Paradigm and Methodology

My research design called for faculty participation in a possible examination of underlying assumptions and beliefs about teaching and learning, discussion on teaching and learning, exploration of alternatives, and experimentation. These process elements strive to move beyond acquiring technical and practical knowledge, and toward the acquisition of emancipatory knowledge (leading to personal development and empowerment) by faculty. Therefore, a most appropriate research design for this study was action research. Action research is characterized by the researcher as participant and as facilitator for problem-solving; immediate applicability of findings to practice; and a research design that emerges as a part of the research process (Merriam & Simpson, 2000). Thus, my action research sought to engage faculty participants in a collaborative and meaningful process of discovery focused on teaching and learning in higher education (and specific to their discipline and practice). The intent was to stimulate an examination of assumptions, beliefs and values that had been uncritically assimilated as a part of socialization into the professorate and a specific discipline, and develop new perspectives about teaching and learning in their discipline through experimentation with new approaches. This is important because the disenfranchisement of the teaching role that is manifested by a lack of preparation to teach as a part of socialization into the professorate and/or a discipline supports the positivist foundation of most disciplines and traditional power relations between discipline experts (faculty) and non-experts (learners). Therefore, my research positioned faculty as adult learners and sought to problematize teaching and learning within a discipline in order to stimulate deconstruction of assumptions and beliefs upon which teaching and learning are founded

and potentially construct alternative approaches to teaching and learning based on new understanding and transformed perspectives that can be more democratic in nature. My research also sought to contribute to understanding the professional development process that is a part of this engagement. Zeichner (2001), for example, observes that there have "…been relatively few cases where the professional development process associated with educational action research has been systematically studied" (p. 278). This appears to be especially valid within higher education in the United States and in academic disciplines outside of teacher education.

Given that the norms of the positivist, Instruction Paradigm persist within the preparation of individuals for the professorate and, in turn, teaching and learning in higher education, a primary issue in the design of this study became how to engage faculty to recognize and potentially look beyond these traditions as a part of their self-directed professional development. I, therefore, explored how to potentially engage faculty as adult and self-directed learners in order to begin to evolve a critically reflective practice that informs their often neglected, but highly visible (to students), role of teaching. Once engaged, it was equally important to think about how the construction of new and deeper understandings, as well as any transformation in perspectives and practice, could be understood within the professional development process for each participant. I, therefore, proposed that an answer to both issues might be to engage in (as researcher), and engage faculty in (as participants), qualitative research (i.e., education action research) that was participatory and directly relevant to the professional development of participant's teaching practices. The next section of this chapter further explains why this research was best situated within the qualitative research paradigm.

Qualitative Research

Merriam and Simpson (2000) state that, “the key philosophical assumption upon which all types of qualitative research are based, is the view that reality is constructed by individuals in interaction with the social worlds” (p. 97). This is consistent with the theoretical perspectives and lenses of constructivism and transformative learning theory used in this study because qualitative research (like constructivism) assumes the learner to be an active agent and constructor of meaning, assumes the learner to be a relational being, and (like transformative learning theory) implies that the realities constructed often are hidden and unexplored. In turn, these assumptions imply a naturalist paradigm within which, according to Lincoln and Guba (1985): (a) realities are multiple, constructed and holistic; (b) knower and known are inseparable and interactive; (c) only time- and context-bound working hypotheses are possible (meaning that hypotheses must be considered within their own context and time); (d) inquiry is value-bound; and (e) entities are in a state of mutual simultaneous shaping that is impossible to distinguish from effects (p. 37). These characteristics of the naturalist paradigm are consistent with my study since the individual realities of teaching conceptions, beliefs, and practice among participants are also multiple, constructed and holistic, inseparable from each participant, bound to their specific context and time, a reflection of values, and non-linear in their shaping and reshaping. It is important to this study to also note that the naturalist paradigm is in direct contrast to the positivist tradition in research and education.

Further justification of the fit for this study within the qualitative paradigm is provided by Krauss (2005) who says that it is the epistemology (or philosophical perspective) of the researcher, as well as what is being researched that in combination

define appropriate research paradigms. Because my perspective is based in humanism and constructivism, further consistency for this paradigm is provided. Krauss (2005) summarizes well the justification for a qualitative paradigm for this research by stating that:

> Qualitative research is based on a relativistic, constructivist ontology that posits that there is no objective reality. Rather, there are multiple realities constructed by human beings who experience a phenomenon of interest. People impose order on the world perceived in an effort to construct meaning; meaning lies in cognition not in elements external to us; information impinging on our cognitive systems is screened; translated, altered, perhaps rejected by the knowledge that already exists in that system; the resulting knowledge is idiosyncratic and is purposefully constructed (p. 760) … Qualitative research has the unique goal of facilitating the meaning-making process (p. 763).

This meaning making and learning process in qualitative research is framed as an intensive, hands-on and intuitive search for new knowledge on the part of both the researcher and participant(s) that can "…evolve and generate new levels and forms of meaning, which can in turn transform perspectives and actions" (Krauss, 2005, pp. 273, 274). Again, this is consistent with the purpose and theoretical lenses for this study in that I sought to foster engagement and reflection on teaching and learning through education action research that could lead to perspective transformation and new meaning or understanding among my participants.

Finally, some of the common elements characteristic of qualitative research such as the researcher being a key instrument of data collection; data being collected in the

form of words or images; the research outcome(s) being viewed as process versus product; and the research being focused on participants' perspectives (Creswell 1998; Merriam & Simpson, 2000; Patton, 2002) were consistent with my purpose and design. Specifically, my action research design incorporated (by definition) me as a key instrument of data collection, it specified that data was collected in words and images, and that attention to the process that evolved as a part of this study would be of the highest importance. My research design also ensured that the perspectives of participants was honored and incorporated as a part of the collaborative process that was built into the study design. Further, within qualitative research, there are distinct methodological traditions. From these methodological traditions, I chose action research because it positions the researcher as participant and the participants as researchers with critical reflection and perspective transformation as key elements. Now that my research has been explained within the qualitative research paradigm, it is important to provide more information and insight into action research and how this supported the purpose of my study.

Action Research

Action research is characterized by the researcher as participant and as facilitator for problem-solving; immediate applicability of findings to practice; and a research design that emerges as a part of the research process (Merriam & Simpson, 2000). According to Merriam and Simpson (2000), citing Lewin, the principle of action research is that in order to gain insight into a process, the researcher must create a change and then observe the effects and new dynamics of the change.

In describing the origins of action research, Kemmis and McTaggart (2000) attribute its beginning to the work of Kurt Lewin who, as a social psychologist, identifies four generations of action research. The first generation applied action research to community action programs in the United States in the 1940s. A second generation of action research (from the United Kingdom) is seen as a process applied to organizational development; a third generation (seated primarily in Australia and Europe) gives more emphasis to critical and emancipatory (social justice) aspects of this research; and a fourth generation has emerged between critical emancipatory action research and participatory action research within the context of social movements in the developing world (Kemmis & McTaggart, 2000, p. 560).

In addition to the four generations of action research, several forms of this research also exist. They include participatory action research (associated with social transformation in the Third World); critical action research (to bring together broad social analysis); classroom action research (use of qualitative interpretive modes aimed at improved practices for teachers); action learning (to address management problems within organizations); action science (the study of practice in organizational settings as a source of improvement); soft systems approaches (highlighting the human “systems” analogy for systems engineering); and industrial action research (focused on reflection and the need for broader organizational and social change) (Kemmis & McTaggart, 2000, pp. 560-562).

From this eclectic past, Kemmis and McTaggart (2000) point to the emergence of an accepted model for action research that features “a spiral of self-reflective cycles” of planning a change, acting and observing the consequences of the change, reflecting on

the processes and replanning, and so on (p. 563). This is a "fluid, open, and responsive" process with less rigor around adherence to the process and more focus on outcomes, especially that "…they [participants] have a strong and authentic sense of development and evolution in their practices, their understandings, of their practices, and the situations in which they practice" (p. 563). Among all the variations of action research, the common elements are analysis, getting facts, identifying the problem to be addressed, planning and taking action on the problem, then repeating the cycle as new concepts and understanding emerge. The limitations of action research include a lack of external and internal controls and that results can only be generalized on a limited basis because the research is so specific to the participants and their context. Because my study sought to engage faculty in research on teaching and learning as a part of their own practice and within their discipline, as well as study the process they went through individually and as a group, the elements of action research were a strong fit with my purpose. In particular, the change I planned for this group of participants was to engage them in research (and possible critical reflection) on their own teaching practice, in research on teaching and learning specific to their discipline, and in dialogue with peers from other disciplines about their conceptions, beliefs, practice, research, and experience throughout the study. In turn, a primary method of engagement was for each participant (and the group) to go through the action research cycles as they engaged in their own education action research studies.

It is important to note that while my research did not specifically intend to achieve emancipatory or participatory outcomes from a global perspective, I did hope that we would begin to address issues of relevance and realignment for higher education in the United States. Especially through grassroots and critical, self examination of teaching

beliefs, conceptions, and practices by faculty members practicing in academic disciplines outside of Education as a part of their own self-empowerment process. Simultaneously, my research sought to begin to work with faculty members to address the problem of fragmentation within the primary roles of the professorate by engaging them in education action research as a means of holistic professional development of their teaching practice and their own learning. Therefore, it was most useful to situate my research as education action research for professional development.

Action Research within Education

Noffke and Stevenson (1995) make the claim that action research has been a part of educational work for over 50 years, and that the emphasis in the United States has been on professional development among K-12 teachers. Five traditions of educational action research are outlined by Zeichner (2001): (a) in the 1940s and 1950s, the action research tradition in the US (and originating with Lewin) targeted curriculum change in K-12 and a reduction of the gap between research knowledge and practice in classrooms; (b) in the 1960s, the *teacher-as-researcher* movement in Britain originated with John Elliott in response to broad-based dissatisfaction among students at the secondary level and focused on the development of teaching as a reflective practice; (c) in the 1970s, participatory action research in Australia centered from Stephen Kemmis at Deakin University that "articulated a methodology for educational action research in the form of an action research spiral…that was linked with an intent to promote greater equity and social justice in schools and society" (p. 275); (d) in the 1980s, the North American teacher researcher movement, that emerged from greater acceptance of reflective practice, qualitative study, and use of action research within teacher education programs;

and (e) in the 1990s, the emerging tradition of self-study research, especially practiced by teacher educators, as a form of action research at the university level. These education action research traditions, however, do not yet appear to have extended significantly into higher education in the United States that is not related to teacher education, and specifically to engaging faculty members from academic disciplines other than Education in education action research as a means of self-directed development of a critically reflective (teaching) practice.

On the other hand, these traditions provide a basis and framework that could translate beyond organizational development, elementary and secondary education, and teacher education and into other academic disciplines and higher education faculty members. This is especially true given that research activity is recognized as a scholarly activity, the results of participants' research could be publishable in discipline-specific journals, and research and publication are recognized within the existing promotion and tenure process. Therefore, positioning education action research (especially within my study) as a means of engagement in holistic, discipline-specific professional development of untenured faculty members from academic disciplines outside of Education became a viable method for my research. Again, in particular, my study sought to engage faculty in critical reflection (and the development of a reflective practice) as a means of professional development. This intent took the existing work in education action research, as well as the emerging trend to apply action research to teacher educators, and extended it into disciplines beyond Education. It also was designed to study the process of professional development for each participant and the group.

Participants and Research Design

As highlighted in the previous section, there has been a growing tradition of action research within organizations, K-12 education, and among teacher educators within higher education. There has, however, been limited evidence of this approach being used within higher education in the United States, within disciplines outside of teacher education, and focused on professional development for university faculty. Again, my research sought to address this gap by engaging faculty (as adult learners) in education action research related to the teaching and learning practice within their discipline.

Participants

A purposeful sample of seven untenured faculty members from one public, teaching institution of higher education in the eastern United States participated in my research on a voluntary basis for ten months spanning two academic years and one summer. Of the original seven, five participants completed the study with one participant leaving the study due to the receipt of a very large research project and the other leaving due to complications with a pregnancy. I used criterion sampling to assure quality. Patton (2002) defines a purposeful sample as, "…information-rich cases strategically and purposefully [selected]…," and criterion sampling as, "…picking all cases that meet some criterion…" (p. 243). Specific criteria for participation in my research included faculty members who: (a) were untenured and without significant, formal teaching experience prior to joining the university; (b) had no formal preparation for teaching in higher education; (c) have subject-matter expertise outside of Education (such as the arts and social, life, and hard sciences); and (d) are in a full-time, tenure-track faculty position

within an institution of higher education that defines itself as both *public* and as a *teaching institution* (and not focused on research). These participants had also been nominated to be approached for this study by a small, senior group of faculty at the university. This criterion was established because it allowed me to focus on faculty with relatively low levels of experience in their teaching practice who are situated in a full-time occupation, and within an institution that explicitly places the role of teaching at the center of faculty responsibilities. It is the assumption of many faculty and staff within public, teaching institutions that newer and untenured faculty members arrive with excellent teaching skills by virtue of their disciplinary expertise even though they have no formal preparation for a teaching practice. I expected participants to explore and talk about this assumption.

I followed the best practices toward participant selection as outlined by Creswell (1998). Specifically, I shared the central purpose of the research with participants prior to their making a commitment to the project. Participation was voluntary and participants had the right to voluntarily withdraw at any time. I assured participants of confidentiality and fully explored known risks associated with participation in the study (such as critical, self-awareness and criticism from peers and students). To assure that participant selection and risks associated with participation were strategically explored and properly framed, I collaborated with a small group of senior faculty associated either directly or indirectly with a center for faculty development on the selected campus.

In the original group of seven participants, there were four females and three males representing the arts, social sciences, and life sciences. In the group of five faculty members that were able to stay with this study to completion, two were female and three

were male; they represented the disciplines of Art, Chemistry, Biology, and Economics. All participants were Euro-American with the exception of one, self-identified ethnic minority of Hispanic and Native American descent. All participants were untenured, but in tenure-track positions, and in years two through five of teaching in their discipline in higher education. All of the participants, in spite of their busy teaching, research, and service requirements as new faculty members were excited to join this study. Two of the participants had to prepare their submissions for tenure during this study which, as I understand it, is a grueling and exhausting process. Nevertheless, they saw the study through which indicates a level of commitment to their teaching that is extraordinary.

Research Design

My action research study was designed to engage participants in individual education action research studies of their own design and specific to the development of their teaching practice in which I collaborated as co-researcher. The details of the action research studies are profiled in Chapters 4 and 5 and were based on the interests and needs of the participating faculty members. Therefore, as is inherent with action research, no specific research design was originally proposed because the design emerged as a part of the research process. There are, however, frameworks and levels of participation, which informed the research design early on. Kemmis and McTaggart (2000) offer the “action research spiral” that takes the collaborative researchers through phases of planning, acting and observing, reflecting, revising the plan, acting and observing, and so on through multiple iterations of the spiral until the knowledge and meaning sought has been achieved (which theoretically could be a never-ending process).

Within my study, the level of participation among individual participants and the group was designed to be high. For example, during planning, I worked (through individual interviews) with participants (as self-directed learners) to contextualize their teaching practice and their motivation for professional development, as well as to begin to focus participants to think about their practice. As a group we also discussed how to define the researchable question(s) for their education action research and the design of the research projects. During what can loosely be tied to the phase of acting and observing, the group met to discuss their research, share ideas and perspectives, and provide to one another peer support, as well as challenges. As a part of this process, reflection on their teaching practice (and possibly beliefs) was fostered through discussion both during and after the span of their education action research projects as a part of this study. An opportunity to reflect on their experience and think about next steps was provided during our last group discussion and final interviews.

The public, teaching institution of higher education I chose for this research has a strong commitment to faculty development that includes traditional approaches to professional development (such as scholarship socials, in-service professional development days, visiting speakers, technology seminars, and brown bags), but also moves well beyond these traditional approaches. For example, faculty in this institution have initiated learning communities, pedagogy seminars, and have participated in national projects such as the Visible Knowledge Project that works to explore new paradigms for, and the role of technology in, teaching and learning in higher education. Having engaged in my research within such an institution may contribute to the institutional momentum for holistic and integrated professional development for faculty,

especially among untenured faculty. Therefore, I collaborated with select, senior faculty within this institution who are involved in progressive faculty initiatives for the nomination of potential participants and the evolution of the design of this study in order to help assure quality, validity, and trustworthiness of this research.

My overall design concept, then, was to systematically apply elements (such as planning, acting and observing, reflecting, revising the plan, acting and observing, and so on through the spiral of reflective cycles) of action research as a means of professional development for participating faculty within theoretical frameworks rooted in adult learning theory, and to study that process of development. The design called for me, as the researcher, to work collaboratively with participants engaged in their own education action research that was directly related to teaching and learning within their discipline and their personal teaching practice. In this way a broad, action research inquiry served as an umbrella to individual, education action research projects defined by participants. Participant's education action research projects were of their own design, and focused on some aspect of teaching and learning within their discipline and practice.

Over the course of ten months, three working and discussion sessions were scheduled to identify education action research issues, researchable questions, and research design, to plan education action research, discuss the collection of data, and share and reflect on research outcomes and next steps. These working sessions were loosely correlated with the phases of an action research project (i.e., plan, act/observe, reflect, and revise the plan). These discussions also allowed participants to share reflections and insights related to their own teaching assumptions and beliefs, teaching practice, and potential changes, as well as to discuss strategies for experimentation with

new approaches. I provided resources (for example, in the form of articles, websites, texts, and studies) as requested. With this approach and design, I hoped to provide new faculty members with an opportunity to focus (and reflect) on their teaching role, to develop their teaching practice, to engage in research, and (potentially) to publish about teaching and learning within their discipline. In the next section, more detail is provided on how data was collected through interviews and working sessions and discussions, as well as my own journaling and field notes.

Data Collection

Patton (2002) states that, "in action research [by way of contrast] design and data collection tend to be more informal, the people in the situation are often directly involved in gathering the information and then studying themselves, and the results are used internally to attack specific problems within a program, organization, or community" (p. 221). He goes on to offer that the standard for judging the quality of an action research study are how the participants feel about the process and the feasibility of solutions generated. There were, however, additional elements used to insure the quality of the data collection and analysis for my research.

Creswell (1998), for example, identifies several characteristics of a sound qualitative study that I followed: (a) rigorous data collection; (b) the study is framed with the assumptions and characteristics of qualitative research (such as evolving design, presentation of multiple realities, researcher as instrument, and so on); (c) the study stays within a single tradition (i.e., relativistic and constructivist ontology), (d) the study has a single focus (i.e., what we want to understand or effect); and (e) the researcher exercises persuasive writing for deep description (pp. 20, 21). I collected data through videotaped

discussions with participants and digitally recorded interviews, as well as field notes that included my reflections and observations. It was through the thematic analysis of verbatim transcriptions of videotaped discussions and recorded interviews that a comprehensive view of the process experienced by participants in this research was studied. The study of individual and group professional development experiences as it relates to teaching beliefs, conceptions and practice was complemented by my own thoughts, reflections, and experiences captured as a part of journaling and field notes. To ensure substantial participation, and prolonged engagement, in the designed process, my collaborative research project spanned ten months covering two academic semesters and one summer in between. Because I conducted my research at one institution, we were generously able to make use of an interview and meeting room within an existing, social science laboratory, so video recording equipment was available.

Interviews

Patton (2002) identifies the informal conversational interview, the general interview guide approach, and the standardized open-ended interview as three approaches to collecting qualitative data. Participants took part in two, in-depth, face-to-face, interviews during the course of the research. Initial interviews required approximately one hour to complete; final interviews approximately 30-45 minutes. I employed semi-structured interviews assisted by interview guides (See Appendix A) that provided me with a "…framework within which the interviewer would develop questions, sequence those questions, and make decisions about which information to pursue in greater depth" (Patton, 2002, p. 344). This approach to interviewing helped me stay focused while also allowing for flexibility as the conversations unfolded. Patton points to the implied

restriction of such interviews in that the planned-for topics are normally the limits beyond which the conversation does not stray, which was not the case in interviews with participants for this study. This was, however, recognized and I mapped the interview questions back to my primary research questions for this study which also served to provide some structure within the more informal process of action research.

Prior to interviewing each participant, they received a consent form (approved by two institutional review boards for research) that clearly outlined the purpose and framework of my study, the fact that participation was voluntary, and the potential risks and benefits of participation in the study. I interviewed each participant before they met as a group and before they engaged in educational action research in order to contextualize their teaching practice, their motivation to develop that practice, and begin to focus their thinking on what they might like to change or experiment with within that practice. At the end of these initial interviews, each participant was given a copy of Barr and Tagg's (1995) article on the shift from the Instruction Paradigm to the Learning Paradigm and encouraged to read it prior to our first group meeting as context for this study and our discussion. They also received a copy of Pratt and Collins' (2000) *The Teaching Perspectives Inventory* (See Appendix B), were encouraged to take this self-analysis inventory on teaching perspectives, and were invited to share the results with the group, if they so chose (none did). Transcripts of initial interviews were shared with all participants as a member check for data. Final, individual interviews with the participants who could complete the study took place prior to the third group discussion and provided participants with an opportunity to reflect on their experience as a part of

the study from an individual perspective and without the influence of the final group discussion which had a similar, but shared, purpose.

Discussions

The discussions described in the design section above facilitated the definition, design, data collection and analysis of education action research studies by participants. They also provided an opportunity for further discussion about what meaning participants may have derived from this process and how it may relate to their own teaching beliefs, conceptions, and practice over time. These working sessions were videotaped, digitally recorded, and transcribed verbatim.

Three group discussions took place – the first in the spring at the end of one academic year, the second in early fall at the beginning of the second academic year and the third at the very end of the fall semester in the second academic year. This left the summer between the two academic years for some participants to think through the purpose and design of their education action research, while other members chose to use their summer course(s) within which to experiment. The first group discussion spanned two hours while the other two were held to one hour. It was the group's decision to come back together after the first meeting and these times and dates were collaboratively planned to help maximize attendance. Member checks were provided in the form of a verbal summary of the previous discussion at the outset of the second and third discussions. Two individuals were unable to attend the second group discussion, and I met with them individually to talk about their research, further define it, and support one participant with, for example, articles and web sites to use as references for educative assessment. Again, these working sessions were loosely correlated with the phases of an

action research project (i.e., plan, act/observe, reflect, and revise the plan), and they allowed participants to share reflections and insights related to their own teaching assumptions and beliefs, teaching practice, and potential changes, as well as to discuss strategies for experimentation with new approaches.

Field Notes and Journaling

Because this action research directly involved me (the researcher) as a participant, maintaining notes on fieldwork and a research journal was critical to the integrity of my study, and I did this both through a written journal and digital recordings of my reflections. When one is active throughout the research process, as I was, it is important to capture understandings and insights that might otherwise be lost in activity.

In particular, I captured my own thoughts, insights, and reflections upon the conclusion of each interview and each working session as a part of my journaling process. In addition, I maintained notes taken during working sessions and in individual conversations with participants that document the process and type of support I provided during the study. Through this type of documentation, the transcripts derived from the interviews and working sessions are complemented by my own thoughts and insights, as well as a solid documenting of the process.

In summary, my research meets the standards of credibility for qualitative research. Discussions, interviews, field notes, and journaling were my primary means of data collection.

Data Analysis

According to Miles and Huberman (1994), data analysis within a qualitative study begins with data collection, and "...has to go beyond description summation and reach to

explanation," as well as conceptual importance (p. 243). Therefore, I framed the analysis of this data through the purpose of this study and its primary research questions and have fully and fairly represented the data and communicated what the data reveal in the next two chapters (Patton, 2002, p. 433). Miles and Huberman (1994, pp. 10-12) characterize three primary steps to data analysis: (a) data reduction (a process of selecting, focusing, simplifying, abstracting and transforming data in field notes and transcriptions); (b) data display (organized, compressed assembly of information that permits conclusion drawing and action, especially in the form of matrices, graphs, charts and networks); and (c) conclusion drawing/verification (testing meanings emerging from the data for their plausibility, sturdiness, and confirmability) which were followed in this study as well.

I have accomplished this through thick description of the data to which I applied pattern and content analysis. Patton (2002) states that, "…content analysis is used to refer to any qualitative data reduction and sense-making effort that takes a volume of qualitative material and attempts to identify core consistencies and meanings" (p. 453). I used emic and *in vivo* coding (which include key phrases, terms, categorizations, and practices specific to the participants) to begin organizing the data collected. I reviewed each video and audio/digital transcript a minimum of three times to ensure thoroughness and familiarity. Discussions, videotapes, and interviews were reviewed within 72 hours and transcribed within a time frame that allowed me to ensure their accuracy. I summarized preliminary data points in a data display in order to share these with my dissertation advisor to verify trustworthiness and transferability of my data analysis. I also checked this data display and analysis against my field notes to ensure accuracy.

Verification

Characteristics of high quality, qualitative research and data collection, according to Creswell (1998), substitute trustworthiness, credibility, transferability, dependability and confirmability for the standards of research in the quantitative and scientific tradition of validity, reliability, and objectivity. Creswell (1998) offers that prolonged engagement in the research, triangulation of data sources, methods, and investigators, and thick description provide such quality assurance. Toward this end, he offers eight verification procedures and proposes that at least two must be evident in the conduct of qualitative research in order to assure quality in research: (a) prolonged engagement; (b) triangulation; (c) peer review of debriefing; (d) negative case analysis; (e) clarifying researcher bias; (f) member checks; (g) rich, thick description; and (h) external audit (p. 201).

With these standards in mind, I triangulated the data as a quality assurance method for my study. According to Miles and Huberman (1994), "triangulation is supposed to support a finding by showing that independent measures of it agree with it or, at least, do not contradict it" (p. 266). I accomplished this through the use of multiple data types in the forms of verbatim transcripts of interviews and discussions, field notes, and journaling, with appropriate review by my dissertation advisor and the participants. For example, I shared transcripts of initial interviews with participants to verify their accuracy and authenticity. Second, the design of this research called for prolonged engagement with participants over a ten month period, and the analysis approach for the data collected required the use of rich, thick descriptions. Finally, I cleared this research through the appropriate Institutional Review Boards at both Penn State and the institution

of higher education where I chose to conduct my research. In summary, my analysis of the data collected for this research clearly follows standards put forth for qualitative research design (Creswell, 1998; Grady, 1998; Marshall & Rossman, 1995; Merriam & Simpson, 2000; Miles & Huberman, 1994; Patton, 2002).

Summary

My research is situated within the qualitative research paradigm and is informed by the two lenses of constructivism and transformative learning theory. The essence of my study was to engage seven, untenured, voluntary, non-Education (used to describe faculty from disciplines outside of Education in this study) faculty members employed by a public, teaching institution in education action research on teaching and learning within their discipline. My intent was to create an environment within which these faculty members could focus on their teaching practice and potentially problematize teaching and learning in the context of a discipline and as a part of their own practice; have the ability to reflect on their practice; and possibly develop new understandings and approaches to teaching and learning that move them philosophically and in practice closer to a learning and student-centered paradigm. My research also explored and studied the professional development process in which these participants were engaged through education action research, especially as an approach to holistic faculty development rooted in adult education theory. I collected data over the course of ten months in the form of interviews, group discussions, field notes, and journaling. Incorporated in my research design are the standards for data analysis of qualitative research such as immersion in the data, thick and rich descriptions, coding, data display, conclusion verification, and triangulation.

The primary limitations of my research were resources, especially time, and risks of participation. It is known within higher education that new faculty members have limited time because they are focused on establishing themselves as teachers, as well as within their discipline, department, and institution. Therefore, it was not possible to achieve the full potential of this study which could continue over time. Second, the risk of self-awareness and/or potential of peer criticism (or student criticism) for participating in this study or for experimenting with non-traditional approaches to teaching within a discipline proved to be of real concern to participants and was discussed. Finally, participation in qualitative research focused on exploring a constructivist approach to learning can result in significant changes to teacher to student relationships. In the traditional paradigm, the teacher is the ultimate authority and power figure within higher education; in a constructivist paradigm, the teacher abdicates this power position in favor of a more collaborative and democratic approach. These personal and professional risks could have proven to be overwhelming, so it was important that I explored these thoroughly with individual participants prior to their final agreement to be a part of my collaborative discovery, and to articulate that voluntary departure from the project was acceptable as we moved forward.

In closing, Carr and Kemmis (1986) state:

> A critical education science, however, has a view of educational reform that is participative and collaborative; it envisages a form of educational research which is conducted by those involved in education themselves. It takes a view of educational research as critical analysis directed at the transformation of educational practices, the educational understandings and educational values of

> those involved in the process, and the social and institutional structures which provide frameworks for their actions (p. 156).

Therefore, this research was not about research on or about education, but was about research in and for education.

Chapter 4 provides profiles of the original seven participants in this study using rich description to create and convey this important context. This is important because each of these individuals offers a unique point of view and perspective yet, as a group, they also had several commonalities as newer faculty members at a teaching institution that provide an important framework for the findings of this study, especially from the perspective of analyzing this study systematically as a professional development experience.

CHAPTER 4: PARTICIPANT PROFILES

This chapter introduces the seven original research participants in this study. Again, a purposeful sample of seven untenured faculty members from one public, teaching institution of higher education in the eastern United States participated in my research on a voluntary basis for ten months spanning two academic years and one summer. The purpose of my research, again, was to engage untenured faculty, positioned as adult learners, in a meaningful and integrated approach to professional development that could result in new and critically-evolved understandings about their roles and practices related to teaching and learning. Specifically, I engaged participating faculty from disciplines outside of Education in their own education action research focused on their teaching practice and discussions about their research as a means of professional development and, potentially, the development of a critically reflective teaching practice.

Of the original seven, five participants completed the study with two having to discontinue; one because of a pregnancy complication and the other because she received a very large grant that required her full and immediate attention. Each of these individuals offers a unique point of view and perspective yet, as a group, they also had several commonalities as newer faculty members at a teaching institution. The first, informal discussions with members of this group and subsequent first interviews, as well as a brief description about each of their education action research projects, therefore, provide an important context to the findings of this study, especially from the perspective of analyzing this study systematically as a professional development experience. More specifically, in each participant's profile in this chapter, the data is organized according to the interview guide used in the first interviews in order to present common data

collected for all participants. A snapshot of their education action research provides insight into the nature of their intended experimentation within their teaching practice, as well as connects to what they state that they would like to change in their teaching practice. This data in combination gives the reader a sense of the commonalities and differences between the participants. Participants chose their own pseudonyms in order to preserve their confidentiality and ensure their anonymity. Participant profiles are presented in the order that they were originally interviewed; the profiles of the two participants who did complete their first interviews, but who could not continue with the study to its conclusion, are provided as additional data and evidence in support of the data displayed in Chapter 5 and as part of the analysis provided in Chapter 6 that is specific to this group of research participants.

Profiles of Participants

In this section, I present as part of each participants profile information about their background and discipline, how they learned to teach, what they find most rewarding in their teaching practice, what they find most challenging in their practice, initial thoughts about what they might like to change or experiment with within their practice, and a quick overview of their education action research project. Again, this data is organized loosely along the lines of the first interview guide in order to display common data collected on all participants. A brief description of their education action research provides some insight into the nature of their experimentation within their teaching practice.

Linda

The profile information in this section is for Linda. This profile provides the reader with information about Linda's background and discipline, how she learned to teach, what she finds most rewarding about her teaching practice, and what she finds most challenging in her practice. Additionally, some thoughts are shared about what she wanted to focus on changing in her practice as a participant at the outset of this research and a brief description of her education action research project (which relates back to what she wants to change in her practice) is provided.

Background and learning to teach. Linda is a full-time, tenure-track Chemistry professor and was in her fourth year at this institution when this study began. It is her first teaching assignment, but Linda comes from what she describes as a family of educators who have had a significant influence on her teaching, how she thinks about teaching, and her constant pursuit of professional development especially focused on her teaching practice. Linda states that:

> Part of the goal for seeking out input is in some ways to validate a lot of what I'm doing instinctually and that's where family history plays a big part. For a long time, when I think about my extended family, on my mother's side, both my grandparents are teachers or were teachers; my mom and three of her five siblings all teach; and in the next generation there are at least six or eight of us, maybe, that all have teaching experience or are involved in teaching. And even just within my family, I have three sisters, between my mother, my three sisters and me, we have the entire educational spectrum covered from preschool, special ed, elementary school, middle school, high school and higher education… I think that

> the other way that my family history has affected me, though, is that I do feel that I do have reasonably good instincts. Not that everything always turns out great, but I think that I have a pretty good overall approach to these strategies or at least an openness to doing that kind of thing. I would definitely say that I see myself more as a teacher than a professor, in that sense of some of the workshops and things that I've been to they talk about "the professor;" the traditional view is that the professor opens up their mouth and professes all these important great things; their [the students'] knowledge is expanded just by that experience. And I don't really see myself in that category… I would say that as a teacher it's/there's more of a sense of communication in a classroom. My goal is to present opportunities for the students to learn whether that's sitting in a lecture where I explain and they have the opportunity to ask questions or if it's a matter of…I guess it's just more interactive. That sense of using feedback from students to gauge how effective the learning mechanism has been.

Linda did not receive any formal preparation to teach in her discipline. Prior to joining her current university, her only other teaching experience was as a teaching assistant in graduate school. She views this previous experience as not really involving: "…any official training. It was more about how to give laboratory instructions and safety and expectations in terms of what would be needed from us more than any kind of instruction on how to effectively teach." She describes her early teaching experience as, "pretty much a matter of kind of using instincts and then building your own strategies within the overall expectation of the course." Linda does, however, proactively seek out development opportunities for her teaching practice and attends faculty development

programs offered both by her campus and the state system within which her university operates. However, she credits informal learning opportunities as having the most significant impact on her teaching. In Linda's words:

> I always…think that I get a lot out of one on one conversations with other people who have been in the classroom where you can get a sense of common experience about what you are encountering…as opposed to maybe you read something that you don't necessarily know the context, and you can say 'well it seems like a good idea' but you don't really know if they're working with a completely different type of classroom and there may be parts that don't fit or translate well.

Linda is constantly looking to evolve and improve her teaching practice, but does this primarily in isolation, and she sees this as part of the science tradition within her field, "I don't know how different the experience is for other fields, but it is definitely something that I feel in the sciences; that the educational path to getting this job really had nothing to do with teaching," and "I do think that is something that we work in a vacuum and in terms of the world we have created in our classrooms is really all we have to go off of." Again, in terms of wanting to constantly improve her teaching practice, she makes the point that:

> It's not the kind of thing that you can change and run again next week; it's not; it's not like a science experiment where you try one thing, change a variable, and 15 minutes later or an hour later or day later, you can repeat the experiment by changing a controlled variable and observe the outcome. And with teaching you try something and generally my experience has been that I try something for a semester and at the end of the semester I have to gauge whether I think that was

> more successful or less successful…It feels like a very vague kind of assessment. And again going from semester to semester; just because it felt like it worked well this semester, doesn't mean next year's class…even when I think I'll do the same thing…it may not work. So, I don't know that I necessarily have a good grasp on how to effectively evaluate those things and to some extent whether some of these things even have answers.

As part of her pursuit of professional development, Linda works to be reflective and keeps a journal within which she writes, "a general self evaluation in terms of what was my sense of the semester; what do I feel went right and wrong?"

Teaching rewards. Linda is passionate about her discipline and sees her greatest reward in teaching in the relationships with students that she is able to establish within the context of her role. She views her rewards both in terms of her relationships with the students and in helping students make connections between what they are learning and either broader, societal issues or between concepts within her discipline. Linda describes her rewards with regard to student relationships as:

> I think that in general all around what I find most rewarding about teaching is one on one interactions or small group interactions that I have with students…So, for me, when students come in and talk about themselves and where they see themselves going, that's one of the things that I find most exciting. So in my part, my focus is very relational.

And in helping students gain a broader perspective within her field she describes her rewards as follows:

> So that's kind of the content aspect that I find rewarding. Being able to help them synthesize putting together ideas or information from several of the classes that they've taken over the course of the time that they are here….So, in terms of field, that's where I guess, personally, the most rewarding thing is to see them actually make those connections for themselves.

Teaching challenges. Linda's greatest challenge in her teaching practice is her struggle with how best to present a concept or materials so that students truly understand and can apply that concept or those materials to their practice and knowledge base. She describes it as:

> I have discovered certain concepts where my struggle is trying to understand what/how it is that students in general are seeing this concept that they are having such a hard time with and applying it…Right. I haven't been able to discover what the mental road block is between not getting it and getting it.

A second challenge is instilling basic good laboratory practices and Chemistry traditions within students which she succinctly expresses with, "Why I should have to walk around after juniors and seniors and put away their glassware at the end of lab, just baffles me." A third area of frustration appears to be a perception that more and more students are coming into college with an unrealistic picture of Chemistry and without the basics that must be mastered to succeed in the field. She stated:

> But I do feel sometimes there is too much emphasis at high school and lower on how we're going to make science so much more fun and interesting and get students excited about it and we send students to college thinking science is all about blowing things up and setting things on fire, when science is about doing

> dilutions and rearranging math equations…And it seems to me that at the college level, we are having to go back and teach basic things. My freshmen struggle with how to rearrange an algebraic equation to solve a problem.

Change to teaching practice. Linda was not sure during our first interview what specifically she would like to change about her teaching practice. She voiced a desire to see the growth and connections made by her students within the field and among fields in the longer term instead of just having a slice-in-time view that an individual course provides. Linda would also like to be more reflective in her practice. She offers that:

> What I would like is to identify some of these strategies. For instance, how do I try some of these things and how do I evaluate it in such a way that is effective instead of feeling like all I'm doing is at the end of the semester…To sit down and say what is the barrier here, what is the problem, how can I get around it, how can I meet my own standards and goals but make it workable?

Education action research project. Within this context, Linda also expressed a frustration with having to read large amounts of lab books and seeing mistakes that could have been avoided if what was in the instructions would have been carefully read, comprehended, and followed. It is to this challenge that she returned in developing her own education action research project. She frames the challenge in terms of making the students less dependent on her feedback and better able to provide their own feedback on their experimentation. As she puts it:

> I sort of feel like if they spend all the time writing all those words, I need to read them all. I need to make it worth their while. But on the flip side, I keep telling myself that there have to be better strategies for how to evaluate their work that

doesn't take so much of my time that they can get evaluation back more quickly instead of me feeling like I have to do it at "x" level.

Subsequent to our first interview, Linda was not able to make the second group meeting in this study, so she and I met separately to talk about her education action research project which allowed her to finalize its design in her mind. I supported this effort by providing her with some literature on educative assessment. Linda then created a group of volunteers to go through lab book assignments and highlight the things to which they pay attention in the instructions, as well as to provide an evaluation of the assignment based on criteria she provided. She was still conducting her research when data collection for this study concluded, but was surprised and pleased at her students' willingness to volunteer for and conduct this experiment focused on how to increase the self-evaluation component of lab book assignments.

Mike

The profile information in this section is for Mike. This profile provides the reader with information about Mike's background and discipline, how he learned to teach, what he finds most rewarding about his teaching practice, and what he finds most challenging in his practice. Additionally, some thoughts are shared about what he wanted to focus on changing in his practice as a participant at the outset of this research and a brief description of his education action research project (which connects to the change he seeks in his practice) is provided.

Background and learning to teach. Mike is a full-time, tenure-track professor of Economics whose specialty and research interests lie in experimental economics. Mike was in his second year at his current institution when this study began. His graduate

school experience was at a large research university in the Midwest where he taught and had full class room responsibilities for at least two academic years (including summers). After earning his doctorate, he came to his current university and is in his second year of teaching as a professor.

Mike talked about his positive experience in his first year of graduate school when he completed a course, “about how to teach undergraduate Economics and the course was pretty formal,” and taught by a well-known economist. With some further questioning, it became clear that this course was primarily about solid teaching and presentation techniques and classroom management guidelines, and not about pedagogy and teaching approaches on how to best teach Economics. Nevertheless, Mike saw this course as a positive experience and states that:

> I think it was necessary because a lot of students when they enter graduate school in different programs are just kind of thrown into the fire and it’s worse for the students taking the class. So, I think it was nice to have a formal setting where we could learn about these types of topics instead of just being pushed in and being told to do whatever.

He also points to his experience as a student as having a significant impact on his teaching. In his words:

> Part of it is the background that I had when I was a student and you kind of learn what works and what doesn’t. So, I try to apply how I would go about solving the problem and showing them that ok, this is how I think about it and would go about the analysis.

Mike credits his love and passion for teaching and his choice of a career in a teaching institution to his experience as both a graduate and undergraduate student and the professors that he encountered. In his words:

> I knew what I was getting into and I preferred this [teaching at a teaching institution]. I had exposure to both models...my undergraduate institution was very small. Twelve hundred students when I was there; the econ department was made up of two faculty. I loved it. It was the best four years of my life and I wanted very much to go back to that setting. I loved small classes. I loved liberal arts education; I loved the approachability my professors had. That I could go into their offices and pretty much talk about anything for an hour sometimes…I tried to bring my experience as a student there here...As a faculty person [in a large research university] I feel there is no emphasis on teaching at all; most faculty people there disdain teaching and all they care about is their research. I am not inclined to do research per se. I want to be at a teaching institution; I wanted to have the effect on students that my professors had on me as an undergraduate. That's why I got into this…I wanted to be at a teaching school where there is not a lot of pressure to publish articles in journals that nobody reads. So, I thought the best thing I could do is expose students to this way of thinking and be a positive influence on them as my professors were to me.

Teaching rewards. As is true for Linda, Mike finds his greatest reward within his teaching practice to be the development of relationships with students, as well as helping students make their own connections between economic concepts and how they are applied in society and day to day life. He makes that point when he says:

> I think getting to know some students is one of the more rewarding aspects. Especially the upper level courses once you get to know some majors and I've also had the opportunity to work with some independent projects and independent research with students which I thought was pretty rewarding in just kind of showing the process and having them get excited about some of the things they're doing is a pretty good aspect of the position.

So, it is about relationships with students, and, in his words:

> At the same time as well to teach them a different way of thinking about examining a problem. A lot of what I teach can really be broken down into applying a logical way of examining issues to some things that they may just not have known can be applied in that way.

To that end, Mike often uses concrete examples or mini experiments within his primary teaching mode of the lecture to help students make those connections between economic concepts and real life. He offers the following example of this practice within his teaching:

> An experiment that I learned in graduate school, I call the candy bar experiment where I bring someone up and give them a candy bar to eat and rate it from one to ten. And as long as it's positive I keep giving them another one. That shows a way to measure their preferences. We call this utility. They can go 10, 10, 10, but eventually it drops and goes to zero when they don't want any more. That again is applying thinking at the margin which is another fundamental concept in Economics where you compare the marginal benefit to an action to the marginal cost of that action. And those are just 2 things to show them that they are kind of

> doing some of this stuff automatically but not quite knowing it. So, those are some of the most fun lectures to me.

With his background in experimental economics, it follows that Mike would believe that the incorporation of concrete and real life examples of economic concepts and practices into his teaching provides valuable connections for the students. He sums this up with,

> …I think the more that you can apply the situation to reality, the better off they are going to be and I think that it helps the average student here who needs the concreteness. I think across the board (maybe not at the Ivy schools or at that level), but I think most students have a problem thinking abstractly and it's a lot easier to make the relationship from something concrete so that's what I try to do in class.

On the other hand, he believes that lecture is necessary to teach the basics within Economics. He says:

> But before you get to that stuff [more collaborative and experiential learning], you need to see the way to properly analyze the problem as opposed to some of the other disciplines where that may not be the case….with the hard sciences or with math, I think you need to have a little more structure first.

So, Mike thinks about how to balance providing the basics (especially at the introductory levels) with making Economics more applied and connected to society and real life, and how to do this well within his primary mode of teaching which is lecture. In fact, this segues into some of the least rewarding aspects of his teaching practice.

Teaching challenges. At the top of Mike's frustrations with his responsibilities is grading which he describes as time consuming and something that most often has to

happen on his own time because his work hours are filled with teaching and student interactions outside of the classroom. In further conversation, Mike voices a subset of frustrations related to grading, but more centered on how to engage students in assignments so that they are taken seriously and can be a true indicator of learning. In talking about assignments, for example, he said:

> This semester I changed a little bit…I grew frustrated with the homework because what I would see when I came into class was everyone scurrying around and copying from the few people that did it. Not everyone, but that's the sense of what I was seeing. So, homework becomes a less accurate gauge of what they learned.

For Mike, a second frustration with his teaching practice is students who are not engaged which he attributes, in part, to their busy schedules. He states:

> Oh yeah, the main thing that really bugs me more so this semester than in previous semesters, is an apathy and lack of respect for the course. Part of it is they are too busy here; they're trying to juggle too many things at once so something's got to give when you're working 20-30 hours per week and taking 15 credits. Often times it is the course [that gives]. So, and then beyond that sometimes its sleeping in class; ask for volunteers and no one volunteers anything, it is kind of like pulling teeth to get discussion or feedback. And that is the worst part.

Mike wants to inspire his students and have them be engaged as he remembers himself to have been as a student and within a discipline about which he is passionate. This desire

to inspire engagement and interest were further manifested in our conversation when Mike expressed his frustration and challenge this way:

> Maybe I'm building an expectation that is unrealistic for them. Maybe I'm romanticizing my experience as a student and I thought that/I generally think that I worked hard, so I think they generally need to work harder. And it feels like I'm doing more and they're doing less and I care more about how they do than they do. So that's why I get upset.

Change to teaching practice. Like Linda, colleagues are available within Mike's department to provide feedback, but teaching and working to improve teaching is an independent and individual activity not regularly addressed with peers. He is reviewed by peers as a part of his promotion and tenure process, and has received positive evaluations along the lines of, in his words, "you know, it was 'you're doing great and keep it up'," which is nice, but it is not directed at helping Mike develop his teaching practice. So when asked about what he would like to change in his teaching practice, Mike almost immediately talked about wanting to make his teaching more applied, interactive, and experiential. Specifically, he wanted to, as he states, "…try to come up with more concrete and better applications of the macro economic material that I teach." He went on to pose that:

> Maybe it's more experiments. I'm an experimental economist so it's something that I really took hold to and again it's applying economic theory in sort of a laboratory setting and it can be used as a great teaching tool. I would like to develop more of those as teaching tools to help students better understand the

U.S. economy. That's what I would like to do and I think that's where I'm lacking. I just need something to try to bridge the gap.

Education action research. Creating more experiment-based experiences for students and helping them make connections between economics concepts and the U.S. economy became the focus of Mike's education action research. Over the summer, he taught two introductory Economics courses. In one class, he lectured as he always had and in the other he set up a web-based simulation of a market. In this second course, he had the students do the simulation first and then backed their experience and discussion into, and as evidence of, economics concepts. He sought to measure a difference in learning by comparing examination scores between the two classes, but these results were inconclusive. He did not see a significant difference in the grades between the two courses. What he did experience, however, was a significantly higher level of interest and engagement on the part of students in the class that began with the simulation.

Chico

The profile information in this section is for Chico. This profile provides the reader with information about Chico's background and discipline, how he learned to teach, what he finds most rewarding about his teaching practice, and what he finds most challenging in his practice. Additionally, some thoughts about what he wanted to focus on changing in his practice as a participant at the outset of this research are provided and a brief description of his education action research project (which reflects what he wants to change in his practice) is outlined.

Background and learning to teach. Chico is a full-time, tenure-track professor in Biology whose research interests focus on plant taxonomy. His graduate school

experience was at a private, ivy-league institution and his post-doc work (as he states, "because in my field they don't hire professors straight out of PhDs…") was done at a botanical garden in Europe for three years. This is his first teaching position in higher education, and he was in his third year when this study began.

Chico did have teaching experience as a teaching assistant and also as a continuing education instructor at two different botanical gardens. He reflected on his experience with adult learners by offering that:

> Some of the older students are more opinionated and they object strongly to me teaching out of the book…So, then they came back to Biology and they were confronted with a basic Botany course which required learning life cycles, reproductive biology and they were both overwhelmed and slightly bored because it was not quite as applied as what they expected. So, it's easier teaching to undergraduates in my opinion…Because they are less opinionated when they are younger. Or less set in their ways about what they want to learn…It's easier to teach younger classes because they know that this is about a degree; they haven't gone on their way for 30 years and have more tolerance for a broader spectrum of subjects.

Beyond this experience with adult learners and as a teaching assistant in graduate school, Chico did not receive any formal preparation for teaching in his field which combines lecture and lab experiences for students. He states that:

> I learned to teach just from being a student…So I always approach my teaching in a way that I would have understood it when I was their age...I learned mostly through observation and what did and did not work for me. So, with that

> background, when I approach lecture preparation I think about how I would understand it best.

Teaching rewards. Chico sees his greatest rewards from teaching being the constant ability to learn, his relationships with his students, and students who are "into it" or motivated and interested in an area about which he is passionate and has made his life's work. Chico truly views himself as a learner and sees this as a key benefit to being a teaching faculty member in his field. Chico states:

> The thing I find rewarding is the opportunity to learn myself…I got a Ph.D. because I like science and I like learning. This not only pays the bills, but it is also an excuse to keep myself learning…I have to teach general courses here, I have to teach outside of my specialty area and I appreciate that because it pushes me to explore other aspects and I make connections all the time and it helps me in my research and there is no pressure to constantly pursue a research avenue that will make a lot of money or bring in a lot of money in terms of grants. Therefore, there is no pressure to stay as specialized as I was as a postdoc or as a Ph.D. student…So, I like the flexibility…

Chico is equally motivated by inspiring students' learning in Biology and by building those relationships with students that support their being inspired about his field. As he puts it, "I also want them to be inspired about Biology and when they are, that makes me feel good." In fact, inspiring interest, engagement, and supporting students' ability to think and make connections (for example, synthesizing concepts) within his classes and the topics he teaches was a primary focus and motivator for his education action research projects, and Chico ambitiously took on new approaches to his teaching in three separate

classes during the course of this study. When Chico talks about his lab and the university's herbarium and his interaction with his students in this lab setting, his already energetic manner is elevated. When asked about if he thinks that his interactions in the lab are a big part of his teaching practice, Chico replied with,

> Yeah. Yeah. And that is one of the biggest enjoyments. I'm really into research and Biology and I want to make a difference in the world and I also want to make stuff. I want to let other people learn...I like getting stuff done. So I see teaching not only as a way to teach information, but I also try to be very practical and connect it to something at all times that needs done and I make that a course project…And our hope is that the students will continue on and learn more…

Teaching challenges. Chico's biggest challenge to his teaching practice is, in his words, "Let me just say multitasking and having lots of things on my plate is really challenging …because obviously there is more than teaching going on here." So, like his colleagues Linda and Mike, Chico too feels challenged and overstretched by the requirements and responsibilities of his position that are not directly related to teaching as a newer faculty member. Chico goes on to share that:

> The second thing that's challenging (because that's the big one) is that it's distracting when you have students who aren't into it. Students who sigh when you mention a new subject; it's distracting when, you know, they roll their eyes and you can see it; it's distracting because students are very easy to read. If they don't enjoy something, it is very obvious. That's hard.

Finally, Chico identifies coming up with new approaches and project ideas in order to try and always, in his words, "keep it fresh" as his final, primary challenge in his practice.

Interestingly, during our first informal conversation about this study and his involvement in it, Chico originally expressed a desire to participate in order to overcome the challenge of making his lectures better organized and more inspiring. Through his engagement in his education action research, his interest and perspective on his teaching practice moved well beyond achieving better organized lectures.

Change to teaching practice. Chico's first response to my question about what might he like to change within his teaching practice was answered by him with, "well, I already have changed a few things about my teaching practice." After further conversation, it became clear that Chico is working to find a balance between inspiring interest on the part of his students by making his coursework and assignments more applied with his need to ensure that academic rigor is included as a part of his teaching and courses. So, while he expressed that he wants to be liked by his students, he has, at the same time, consciously become tougher as a teacher primarily because he wants them to represent themselves and the university well with potential employers. He states that:

> When I first came here, it was all new to me and if the students weren't getting something, I gave them the benefit of the doubt and assumed it was my failure as a teacher. Now I'm much more confident about what I'm actually teaching and if they don't get it, I know I've taught it and I grade much more rigorously now. Grades have gone down in my classes. And, that was a directed goal of mine. I want a degree from this institution to mean something, so I am thinking about quality here.

Chico combines this goal of being more rigorous in his classes with a need to inspire, interest, and engage students. In his words:

> I want to obviously make my courses more and more interesting so that students enroll because they want to and not because it's a requirement. If they have a choice among five classes, I want them to pick mine because the article they may write might get published. So, I'm always trying to make it practical and applied toward science, and not applied toward whatever. I'm always trying to make my lectures more interesting to show connections…I want them to be able to speak intelligently about what they are learning…I want them also to say, gosh now he's applying this basic stuff to a new contemporary issue and I'm expected to also understand the details of this issue to society. I'm expected to understand the economics and biology of biofuel, you know, and be able to connect it to whatever I've learned.

Education action research. Stemming from his desire to be more engaging, Chico's education action research experimented with new approaches in three different courses. His primary interest was in learning whether or not a more applied, project-driven, and experiential approach to these three courses produced higher levels of engagement and satisfaction among the students. In one class, Chico had students map out quadrants of trees on campus and feed the data into a web-based platform for display on a geo-mapping platform. In his second class, he had students work with officials in different countries around the world to identify the country-specific requirements for conducting botanical research and collecting and/or exporting specimens. The results of their efforts are to be fed into a database which will be accessible to biologists and botanist world wide through the internet. His third project was a service learning project focused on converting a wooded lot behind a local middle school from being off limits

(because of alleged drug and criminal activities) to a safe, clean outdoor environmental science laboratory for middle school students and the community. Specifically, Chico's students did the research, background work, and planning to develop strategic plans for presentation to, and selection by, members of a foundation board, the school, and the community at large.

Lee

The profile information in this section is for Lee. This profile provides the reader with information about Lee's background and discipline, how he learned to teach, what he finds most rewarding about his teaching practice, and what he finds most challenging in his practice. His thoughts about what he wanted to focus on changing in his practice as a participant at the outset of this research are shared and a brief description of his education action research project is provided.

Background and learning to teach. Lee is a full-time, tenure-track professor in Biology with a specialty in Botany who has not had formal preparation to teach in his field and who comes from a purely research background. He was in his second or third year when this study began. He did, however, have some experience at another institution of higher education where he taught prior to joining his current university. He was, however, focused on research and not teaching in graduate school. In Lee's words:

> I did not have any formal training [in teaching Biology]. All of my teaching would have been based on observation of how other people taught, what I liked from previous classes I had taken and then just experience doing it…So, I would say my teaching training would have just been doing it…I'll admit a lot of my

> teaching is feeling as far as it's a gut sense in terms of what seems to be clear; what seems to be comprehensible to the students.

Lee teaches within a discipline, like most sciences and arts, which combine lecture and lab with the most interaction between him and the students coming in as part of the labs or in more advanced, smaller classes. High levels of interaction appear to be key for Lee in terms of assessing learning and understanding what students are understanding and what they are not learning. He states that:

> I teach a lot of labs and I must say that that's where I probably get the most interaction with my students. It's probably the best time to see whether they understand something because I can walk around the classroom and I can ask…When I lecture, I'm explaining concepts; when I'm doing lab, I'm showing them how to do things and how to apply it.

Lee uses exams and assignments as auditive assessments and measures (which are designed to measure some aspect of learning like recall or problem solving and, unlike educative assessments, are not designed to be integral to the learning process). He sees advanced courses as being smaller and more advanced students as better able to interact with, and apply, concepts while lower level courses are, by necessity, dedicated to some rote memorization in order to provide students with a common, scientific language they can use later. These two elements reveal a fairly traditional approach to, and thinking about, teaching within the sciences. For example, that lecture is a primary means of preparing newer students to science for examinations and that examinations are reflective of what they have learned (to include rote memorization).

It follows, given Lee's research background and traditional teaching practice, that Lee would describe his first year teaching as "raw." In his words:

> It [his first year teaching in a teaching institution] was good. I mean I enjoyed it. I enjoyed it enough to continue doing it. It's just that I was not a very confident person; not very comfortable with it…didn't know what they'd [the students] be looking for; didn't know what to expect. Never liked talking in front of people. I don't like talking in front of people, but you learn that it's not such a bad thing the more you do it.

As was true for the other participants in this study, Lee finds his departmental colleagues available for specific questions about their own past practices or to talk through specific teaching challenges, but general conversations about teaching and learning are unlikely in his department. So, professional development of teaching practice is, again, a very individual and isolated endeavor. In his words, "I know there's a base [of teaching experience and expertise] out there, but I'm a fairly independent person. I'm going to figure it out on my own pretty much."

Teaching rewards. Lee sees student interest and engagement in a field about which he is clearly passionate as his greatest teaching reward. He states that:

> Students come into class…they're all going to learn something and that's good and that's what you want. But what's really exciting is when they get excited about it; when they get to the point where they really are interested in the topic…but the ones who come out appreciating more than they had before, that is the exciting part.

Lee sees inspiring engagement and interest in his students as a victory over a bias against science (and Botany) that he expresses to be pervasive within our society. His greatest teaching reward is evidence that he is overcoming that bias by sparking interest in his students for his field through his courses. This is especially true since he believes, as he states, that "every single person has the ability to understand it [science and Botany] if they are willing to put in the effort and not come in with a biased attitude." Lee chose a teaching institution because, as he says:

> I really do like to teach and I do believe that I'm decent at it and that I can get my concepts across to the students. I like to spread the news that plants aren't such a bad thing. I do get excited when I talk about my plants and the biology behind them. So, yeah, I like to talk about it, I like to expose students to that aspect.

He likes the flexibility inherent in a teaching institution that does not require him to focus on one particular and narrow aspect of research or teaching and allows him to be broader based in his approaches. As Lee puts it:

> So, it's very practical for me because I like to dabble in a lot of things that I probably don't have any business dabbling in, but it's enjoyable…I get to learn at the same time as the student as far as the research level of it which is different from the lecture level of it.

Teaching challenges. As was true for other study participants, Lee is challenged by a lack of time and overwhelming demands as an untenured faculty person. Unlike some other study participants, however, Lee believes that most of his activities do have to do with his teaching practice, especially in terms of teaching, updating his knowledge, developing new courses, and conducting research which he considers a part of his

teaching practice, especially research done in conjunction with undergraduate students. So, the committee work, departmental work, and service components do not appear as distracting to Lee who does not necessarily view these activities as priorities. Developing new courses and labs appears to be a more significant challenge, and higher priority, for Lee.

Change to teaching practice. Lee's responses in this portion of our initial interview were not definitive. He sees a constant opportunity for improvement when he states that, "…I'm open to anything new as long as it seems like it fits within the way the class needs to be taught," which, we agreed, only he can determine. He also makes the point that as a faculty member who is still relatively new to teaching, that things are constantly changing and being changed to come up with a better way of teaching and that this process is pretty informal and isolated.

Education action research. Lee took one of his summer courses and instead of taking students from a micro level perspective to a macro level perspective, he turned this around to engage students more at a macro level first before introducing micro level concepts. He describes this as turning his course "on its head," meaning that he would normally teach it by presenting introductory biological concepts at a micro level (such as photosynthesis) first and then, by the end of the course, rolling these up into a macro level (such as ecosystems). He did this to first try and capture the interest of the students and engage them in the topic before delving too far into the scientific details of different concepts. He also talked about how he incorporated a test preview session into the formal structure of the course and how this seemed to improve both interest and performance on exams on the part of students.

Freda

Freda's profile information is provided in this section. This profile provides the reader with information about Freda's background and discipline, how she learned to teach, what she finds most rewarding about her teaching practice, and what she finds most challenging in her practice. Limited thoughts are shared about what she wanted to focus on changing in her practice as a participant at the outset of this research, and a brief description of her education action research project is provided as it addressed what Freda wanted to change in practice.

Background and learning to teach. Freda is a full-time, tenure-track professor in Art with a specialty in graphic design. She was in her fourth year at her current institution when this study began. Like her colleagues from various disciplines who participated in this study, Freda did not have any formal preparation for teaching (other than a seminar in graduate school geared more toward lecture-based teaching) and has learned so far primarily through observation. She specifically went on to describe a particular experience as an undergraduate that impacted the way she now teaches. In her words:

> I guess observation would be when I had a good teacher. For example, I was in a seminar class in undergraduate school and I remember walking in that class and it was a small class, there were maybe eight or ten of us, and the professor started talking. And I looked around and I thought, "Oh my God," and I had not a clue what this person was talking about…but by the end of the semester it all came clear. It all connected…during the semester I also had "ahhas" as I went along which kept my interest…[the professor presented] a philosophical point of view that I hadn't been exposed to before…it was an art history course, but then as we

> went through, you started to look at connections things made…you know, looking at the holistic person and how did that affect the work of this artist…There were not boxes or timelines, we started to make all these connections and we were able to make our own connections. It was very different…

What was different is that this professor allowed Freda to understand context first and even impose her own context on what she was learning instead of stepping her through the historical timeline of Art that, according to Freda, is the norm for teaching these classes. The impact this has had on her teaching practice, especially for her more advanced classes, is to challenge students to be more self-directed and to not provide them with all the answers while, at the more introductory levels, working to find a balance between this and making certain they have the basic knowledge they need to be successful.

During the transition to a public teaching institution within a university that has a heavy emphasis on education and within a department that includes Art educators, Freda struggled with what she perceives to be rigidity and structure within the university and within the expectations of her students. She was more used to what she describes as a studio art environment where much of the student work was performed outside of the classroom, and wherein flexible scheduling and regular (and direct) feedback and critiques formed the primary education model. In other words, a more learning and learner-centered approach to teaching than previously described by most of the other participants in this research. When, however, she applied these norms to her first classes in her current, public teaching institution, she received what she describes as scathing evaluations from her students. So, with the input from her colleagues in her current

institution regarding their own past practices, she paid more attention to the creation of specific schedules and rubrics, or structure. In Freda's words:

> And they [the students] liked that sort of structure, but I was like dying with the structure. It was killing me. And I could see the same in my better students….And I don't want to say that I teach to my evaluations because that's unfair. But I try and figure out how I could take those categories and improve on them. Like in one category I was rated low for not giving enough feedback and in critiques you're getting feedback, you're always getting feedback. You're getting feedback and probably more feedback than a little two or three sentences that I might write in a paragraph, frankly. So that helped me understand that I needed to explain my method and continue to explain my method as I go along.

Some of this new perspective and structure Freda gained from attending a pedagogy seminar at her campus which offered different ways of engaging students from what she was used to and that seemed to work more effectively in her current university. Yet, professional development and the evolution of one's teaching practice appears to be done much in isolation within Freda's department as is true for the other participants. Again, Freda can reach out to her colleagues with specific issues or challenges, but not to share perspectives or to challenge each other's perspective and, as she puts it, "I don't know if I'd feel comfortable [having those kind of conversations with departmental peers]."

Freda has also had to work on changing student expectations within her classes to better fit within a learner-centered approach to teaching. She talked at length about how she is fairly direct in her feedback which apparently, early on and as a female professor, opened her up to student criticism which she has had to turn around over time. She

talked specifically about how student reactions to her direct style are different than those evoked by her even more direct, male counterparts.

> …but I've had students talk about male counterparts and how tough they are…but they joke about that. And they see it almost as a badge of honor to get through that critique with that male counterpart, but with me as a female…yeah. And I don't know if that's a gender issue or what. But I do know that personality wise I tend to be direct. And I think that the students are used to me know too and just say, "ah, that's Freda…"

Freda's discipline and studio approach to teaching already require an active learning environment that is project and experientially based in a teaching approach that combines lecture and practice. Freda describes her teaching approach as, "we [she and her students] have so much interaction and we're working together all the time that I think that's part of the persona [of who she is as a teacher]." She also offers that, "it's kind of interesting to look at it that way and then to think about how I teach my classes versus other faculty. I mean the difference between highly structured instead of having the student find their own way."

Teaching rewards. Freda takes her greatest reward in, and measures her effectiveness by students' learning. She expresses this as, "the growth you see in the student. The visual growth. And I can see the growth. I can also maybe see where we should have spent more time." So, her teaching approach is already less about measuring mastery of content and more about growth through the creative application of concepts and techniques and through the cumulative "visual growth" that students demonstrate as part of their learning.

Teaching challenges. Freda's primary challenge goes back to the structure required by her current institution and the expectation for structure from the majority of her students. Under this umbrella lies the preparation of materials and courses and especially the lack of institutional support to provide sufficient resources (especially time) to allow for good preparation of materials and courses.

Freda's second area of frustration is, as has been true for most of her other colleagues who participated in this study, the many responsibilities you carry as a new faculty member that have nothing to do with your teaching. As Freda put it:

> I find that I'm pulled away so much from teaching and you have to find that balance I guess. That's the hardest thing. To know when to say no and not feeling like, oh is that a committee I should have been on? Or how will they see me when I come up for my review?"

Her third challenge, especially as an ethnic-minority female, is the lack of diversity among the student population at her current institution. Most students come from a very homogenous perspective and she finds this challenging when she works to have them incorporate multiple perspectives into their thinking about a particular project (such as package design of the same product for different audiences) or campaigns focused on controversial social or political issues.

Teaching changes. In our initial conversations, Freda was unclear about what she might consider changing in her teaching practice, and this lack of clarity persisted throughout the study. Based on my observation, however, her focus became how to initiate and foster cross-disciplinary collaborations with other participants in the study. Said differently, Freda already practices within a learner-centered paradigm and is less

excited about experimentation within her own practice and more interested in finding ways of developing a next level for herself. Specifically, to create a more collaborative practice with colleagues from other disciplines.

Education action research. Freda intended to bring together students from an advanced class with students from a more introductory level course and have the more advanced student take on the role of creative or art director with the more junior student in a team environment. Due to a mismatch in ability (both creative and technical), between the two classes, this could only be accomplished in a modified version of the original plan. Nevertheless, this was Freda's first attempt to truly combine the two classes in a meaningful way. The nature of Freda's education action research when compared to some of the other participants was not particularly bold. This can be interpreted as a lack of interest or as her own education action research (given that she already practices from a learning-centered paradigm) being less important than the group process highlighted through discussions which provided a potential platform from which to take her practice to the next level of collaboration with colleagues outside of her discipline.

Profiles of Anastasia and Sydney

The profiles of Anastasia and Sydney are provided in this final section because, although they could not complete the research study, they did participate through the first interviews and, in Anastasia's case, through the first group discussion. The interview data collected provides additional evidence to support the data displayed in Chapter 5 and the analysis offered in Chapter 6. The fact that they did not actually experiment in their practice through education action research (as a formal part of this study) or complete the

group discussions does not deter from their profile information adding to the data displayed and analysis provided on the participants as a part of this research.

Anastasia. The profile information in this section is for Anastasia. This profile provides the reader with information about Anastasia's background and discipline, how she learned to teach, what she finds most rewarding about her teaching practice, and what she finds most challenging in her practice. Additionally, some thoughts are shared about what she wanted to focus on changing in his practice as a participant at the outset of this research and a brief description of his education action research project is provided. This latter information is limited because Anastasia could not continue with the study to completion because she received a large research grant award that demanded her full and immediate attention and in addition to a full teaching load.

Background and learning to teach. Anastasia is a full-time, tenure-track professor of Chemistry and was in her second year of teaching at her current institution when this study began. She also had one year of experience in graduate school at a research university teaching recitations and labs and helping her professors with grading which required that she go through a couple of weeks of training on how to set up labs and other procedures. Like her fellow study participants, Anastasia did not have any formal preparation to teach in her field. In her words, she learned to teach, "by experience, I guess; I learned by listening to my professors and what fits for me and then adapting from what they had to offer me." So, Anastasia, too, has evolved her teaching practice through observation and adapting what she has observed to her own style and course requirements. The courses she teaches require a mixture of lecture and lab and, at the introductory levels, she describes the course requirements as being very specific in

terms of which content must be covered and mastered by students. As such, our interview conversation about how she uses assessment and how she approaches teaching reveals a very structured and traditional approach to teaching.

Anastasia sees her interactions with students as a key component to her learning as a new faculty member.

> I mean the students are smart and if they find that they don't understand something, they'll ask you. Then from the interaction with the student you learn and you become better and better…For a new faculty it is also a learning experience.

From this learning process, Anastasia says that she has learned to be more organized in the delivery of her lectures and to make her examples more directly connected with the work world, as well as provide examples or demonstrations that illustrate these connections to include, in her words, "experiences from when I was a student…so, there is always some example from my personal experience that I bring so they can learn how it is out there."

She is passionate about her discipline, science and teaching. She states that:

> I just love it. I love my discipline and teaching in my discipline it's…of course you have the standard things that you are teaching, but there is always something new; something new. There's a lot of research going on so it doesn't stay still. So that's the reason I like science in general…so, this semester [for example] is the first time that we can use it [a new lab instrument], so I developed a lab that basically gives them the experience of using cutting edge instrumentation.

Teaching rewards. Anastasia states that, "when students do well after I teach them something, that's rewarding." Continued interest in her field on the part of students, whether it is a job or the pursuit of graduate school and further education is also highly rewarding. So, again, engaged and interested students who catch the passion for a professor's discipline is also expressed by Anastasia as being a highly rewarding part of her practice.

Teaching challenges. Anastasia describes people in her classes who "are just there and they're not driven…" as most challenging and least rewarding. She discusses how she takes the time to give these students individual attention to encourage them to be responsible for their own actions as a student, and wonders if she may be putting forward this extra effort because she is still new to her profession. She hopes that she will always maintain this level of interest in her students, though.

Change to teaching practice. Anastasia wants to incorporate more demonstrations into her classes, lift up more connections for the students, and show more applications between concepts and the world. She believes this will be important because, as she says, "it makes them more interested and also explains some of the things better when they actually see what is going on."

Anastasia has access to her colleagues in her department for specific questions or to discuss specific questions, but as is true of her peers in this study, she is left to develop her teaching practice in isolation. This is evidenced by her question almost at the end of our interview when I asked if there was anything else she would like to share or ask and she queried, "Are there other methods of assessment that people use in different departments? I was always wondering about that…?" This question was followed by a

second question to determine if there were other science faculty in the study, surely with the implication that she would be interested in hearing their ideas on the subject.

Education action research. Anastasia was planning to experiment with a changed approach to recitations that would be more interactive within a very structured course and tradition in Chemistry. She, unfortunately, could not see the study through to completion because she was awarded a large grant which required her full and immediate attention.

Sydney. Sydney's profile information is laid out in this section. This profile provides the reader with information about Sydney's background and discipline, how she learned to teach, what she finds most rewarding about her teaching practice, and what she finds most challenging in her practice. Only a few thoughts are shared about what she wanted to focus on changing in her practice as a participant at the outset of this research and even less information is given about the education action research project. This latter information is limited because Sydney could not continue with the study to completion because of an issue with her pregnancy.

Background and learning to teach. Sydney is a full-time, tenure-track professor in Social Work who has a background in athletic coaching which she draws on a lot in her teaching. Specifically, she stated that, "I adopted the same philosophy that I use as a coach which is to help everyone do their maximum, whatever that is." She attended a small, private, liberal arts school for graduate school where she did some student teaching. Upon graduating, she joined a top research university and was there four years; she has made the conscious choice to move to a public, teaching institution and this is her first year at her current university. It is interesting to hear Sydney compare and contrast her experiences at different types of institutions. She begins by describing the approach

to learning at the small, liberal arts college she attended for graduate school. In her words:

> So, if you want to rewrite it, rewrite it; if you didn't pass it the first time, try again. And that was so consistent with my thinking around coaching. Help everyone get as close to their best performances as they can…Later I was at the large research university which was much more codified and structured. In each syllabus you distributed you would have to have exactly how many points equal what letter grade. And that was foreign to me…[at her current institution] it's actually a pretty great mix. There's clearly a set of standards and criteria for outcomes and grades much more than at the research university and much more similar to the small, liberal arts university. There seems to be a real interest [here] in student learning…I found that at the institution where I did my graduate studies, but at the research university because it's an R1 institution although we talked about caring about student learning, most of our energy was really dedicated to research. That was a wonderful learning experience, but it didn't prioritize student learning at all…so, I was really looking for a place where I could do research, but could prioritize teaching.

Sydney, like her colleagues before her in this study, had no real preparation to teach other than development of her discipline expertise through graduate school. In spite of her lack of formal training, Sydney proclaims that, "…I love to teach," and , based on our conversations, it is clear that she seeks informal ways of developing herself professionally which include talking with peers and colleagues outside of her institution. Her greatest challenge in talking with colleagues within her discipline and department is

that they primarily offer suggestions of how they did things and then it is up to Sydney to decide whether to incorporate her colleagues' past practices (which are usually more about classroom management) and, if so, how best to do this and make them her own. Like many of her colleagues who participated in this study, and especially Linda, Sydney identifies a struggle of developing her teaching practice in isolation without clear ways of evaluating her attempts or even a pedagogical framework from which to view her practice. For example, in talking about one of her colleagues, Sydney expresses:

> It's interesting because I have a colleague in my department who is in a doctoral program and they are actually taking a real course on teaching and learning. And I'm thinking, how amazing, an actual course on teaching. I don't know how common that is, but I've never had that experience. I started teaching academically to pay for grad school.

Later in our conversation, we turned back to Sydney's lack of preparation to teach and she offered the following perspective:

> Again, I think that because I didn't really have any training and what I did was based more on survival. I've learned that there are parts of my personality that enable me to be an effective teacher and I just tend to amplify those. So, it's funny to call them strategies; maybe they are strategies, but I don't think I know enough about pedagogy to say. But what I get the most feedback on from students, what seems to work the most are things that create energy and showcase my energy…It almost feels inauthentic to call that a strategy…So, engaging students early on…When I think of pedagogy, I think of things like do you provide handouts or not, and for things that I use to be effective, it's different for me.

Not surprisingly, given her social science discipline, Sydney uses a variety of teaching methods and approaches including lecture, discussion, and small group work. She summarizes her teaching approach as, “I’m active; I make sure they are active.”

Teaching rewards. Sydney considers herself a sociologist first and a social worker second. Therefore, she sees a primary part of her teaching mission being to develop critical thinking, a more critical perspective, and a questioning of traditional views as part of what she wants to achieve while simultaneously understanding that part of her charge is also to teach students the various aspects of her discipline. To achieve this, Sydney develops relationships with students and classes that allow for this type of questioning. So, in her words, “seeing the students succeed and question more” is a key reward of her teaching practice, and, as she states, “I know this is their major and they need to be learning about Social Work, but truth be told I care much more about them asking ‘why?’ and thinking it through from multiple perspectives.”

To achieve this, she has, in part because of her high energy personality and in part because of her lack of any formal mechanisms for professional development of her teaching practice, created, in isolation, what she describes as “fairly idiosyncratic and personal” strategies and approaches to teaching that include being, as she expresses it, “provocative on purpose and irreverent on purpose and controversial on purpose.” She is careful to let the student know that she is not providing a value proposition, but is offering a different point of view only. So, she clearly works to change and/or set student expectations within her classroom and to do this, as she puts it, in “a balanced way; I never want a student to feel badly about the way they think…”

Teaching challenges. Based on our interview, Sydney thinks a great deal about her teaching practice. Intermittently throughout our conversation, Sydney appears to struggle most with naming concepts and approaches around what she does instinctually and intuitively within her teaching practice especially in terms of how to evaluate her practice for herself. She believes that she is an effective teacher because she knows her subject matter and gets an overall positive response from the students, but is less confident talking about why she believes she is an effective teacher. Because of this, there is a feeling of isolation and almost a fear of doing something wrong in her teaching practice. In her words:

> Have you heard of the imposter syndrome?...Where at some point, they go, you don't really belong here. I do well at teaching, you know at the research university I won teacher of the year. I do well at it, I love it, but I don't really know why I do well at it and so I kind of wait for it to fall apart …So there's something there where I'm going that I don't want to be good because I'm popular. Effective teaching, you know if you love what you do, they [students] tend to know that and respond positively to it, but I don't think that makes me an effective teacher necessarily. I think I just have questions about how do I know what I'm doing is really effective and what do I mean by that? How do I define a skill set, identify it, develop it, so that it feels like this authentic trade that I'm applying?

Teaching Changes. Sydney struggles to find an appropriate lens, concepts and vocabulary within which to talk about, and evaluate, her teaching practice that will better allow her to develop professionally. Thus, she is in search of professional development

opportunities that are not, from her perspective, the norm within higher education and that go beyond sharing past practices that simply can, as she puts it, "save energy." She also reflects on how to accomplish what is (from a content perspective) outlined on the syllabus and helping to coach and mentor students as future social workers which is not a formal part of the syllabus. Toward that end, she goes on at some length about how valuable informal conversations with a family member who is also in Education, but who comes from a very different perspective, have been to her in evolving her teaching practice. She begins with:

> Social workers interfere with peoples' emotional lives; hopefully to some positive outcome. He [her family member] is a teacher with a strong philosophy background…that [getting emotionally involved] is so foreign to him. That even considering what's going on psychologically and emotionally with a student in your class just isn't where he comes from in his thinking. So just having someone else to talk to from that very different perspective… and I remember talking to him and…him saying, "let them be uncomfortable. Let them figure it out." And just talking with him and then trying it, I did. I didn't interfere, I just said [making up names here], "John do you want to respond to Lisa. I mean, what do you think?" I didn't save anyone; I didn't rush in. Understanding that learning is a very individualized process and that it's not up to me to manage the emotional fallout all the time. A lot of it comes from a different perspective; a teacher with a very different perspective. I think that when you asked me to be a part of this research, it is appealing to me to gain different perspective…it enables me to take risks; I'm able to be provocative; I'm able to stick to my vision for the course and

> not be derailed by attending to everyone's emotional response. And that has come largely through practice and through talking with my family member…in talking with him who is a different kind of educator is one of the consistent ways I've learned new things by stretching and talking about different perspectives.

Sydney goes on to talk about wanting to observe others in their classrooms and have meaningful exchanges about those observations, but how, again, this does not appear to be the norm within her institution or in higher education. As one of her final thoughts about changes she might like to consider in her teaching practice, she makes an important distinction between reflection and obsession that is worth noting. In her words:

> Just from talking to students, I know there are colleagues who in other fields and disciplines, don't reflect on their teaching as much. And for me sometimes it feels like I'm just reciprocating and it doesn't feel all that reflective and that I'm just kind of obsessing because I don't have the skills or knowledge, like this is a skill set and I'm going to try this because I know that the literature says that this is effective with this age student and somehow I'm going to work on this. I don't know any of that so it's more education worry…

So, again, the point is made that professional development is often an isolated and uninformed exercise among faculty in higher education which could reduce the process from meaningful reflection to simple and circular obsession about one's teaching.

Education action research. Sydney had talked about involving her students in her research project, but unfortunately was unable to see the study through to completion because of a complication with a pregnancy. Because Sydney did not participate in the first discussion with the group, the design of her education action research project was

never fully developed beyond these first few thoughts in her first interview when she was beginning to talk about the changes she would like to make to her practice.

Summary

This chapter profiles the original, seven research participants in this study. Their perspectives and stories provide valuable context to the reader about them as individuals and as a group. This context also provides an informed backdrop from which to present the additional data resulting from this study in the next chapter. A display of the data is provided in Chapter 5 as a means of presenting and organizing the large data sets collected in this study beyond participant profiles. The next chapter includes, for example, data that contextualizes the motivation for professional development of participants' teaching practices, highlights their issues in approaching a new teaching and learning paradigm through action research as faculty development, and outlines their professional development process within action research.

CHAPTER 5: DATA DISPLAY

The purpose of my education action research study was to engage untenured faculty, positioned as adult learners, in their own action research focused on their teaching practice as a meaningful and integrated approach to professional development that could result in new and critically-evolved understandings about their roles and practices (especially related to teaching). The previous chapter provided the reader with important context about my research participants both as individuals and as a group and began the process of reducing the significant amount of data collected in this study. This chapter further lays out the research in the form of a data display supported by evidence taken directly from transcripts of individual interviews and group discussions, as well as field notes from individual discussions with participants and my own journaling. This data display is in keeping with what Miles and Huberman (1994, pp. 10-12) characterize as three primary steps to data analysis: (a) data reduction (a process of selecting, focusing, simplifying, abstracting and transforming data in field notes and transcriptions); (b) data display (organized, compressed assembly of information that permits conclusion drawing and action, especially in the form of matrices, graphs, charts and networks); and (c) conclusion drawing/verification (testing meanings emerging from the data for their plausibility, sturdiness, and confirmability).

The data display provided below is a sound fit with the design of this study because my action research sought to engage faculty in research on teaching and learning as a part of their own practice and within their respective disciplines, as well as to study the process they went through individually and as a group. In particular, the change I planned for this group of participants was to engage them in research (and possible

critical reflection) on their own teaching practices, in research on teaching and learning specific to their disciplines, and in dialogue with peers from other disciplines about their conceptions, beliefs, practice, research, and experience throughout the study. In turn, a primary method of engagement was for each participant (and the group) to go through the action research cycles as they designed their own education action research studies. Given these parameters and the individuality and complexity of action research, the data collected is better organized as a display that also allows a focus on the professional development process instead of reducing the data to simple themes.

Data Display

The data is displayed below in a format that allows for the identification of key data points found within the study.

Contextualizing What Motivates the Professional Development Process for these Participants

- Faculty as Learners
  - Lack of Formal Training on How to Teach
  - Learning from Teaching
  - Teaching Practice in Constant Development
    - Making advice and development personal and relevant
    - Learning in isolation
  - The Ongoing Search for Balance in Teaching between Engaging Students and Covering Content
    - The influence of teaching traditions within disciplines
    - The influence of common challenges
- Differences among Participants
  - In Relationship to the Instruction and Learning Paradigms
  - Personality Elements as a Part of Teaching and Professional Development

Approaching a New Teaching and Learning Paradigm

The following section of this chapter begins with contextualizing what motivates the professional development of their teaching practice for this group of participants.

Contextualizing What Motivates the Professional Development Process for These Participants

This section builds on the participant profile data displayed in the previous chapter that describes, in their own words, the commonalities and differences found among the group of participants in this study that are specific to their teaching practices. In particular, commonalities and differences with regard to their different backgrounds and disciplines, how they learned to teach, what they find most rewarding in their teaching practice, what they find most challenging in their practice, and what they were focused on changing in their practice as a participant in this study. These commonalities and differences among the members of the group help contextualize their motivation for professional development. Because significant description in the participants' own words was provided as a part of their profiles in the previous chapter, this section provides

extracts from initial interviews as sample evidence for points highlighted, as well as any pertinent descriptions from group discussions and second interviews.

Faculty as Learners

In the profiles of participants provided in Chapter 4, the elements of their professional development and practice that these newer faculty appear to have in common revolve around their preparation for teaching (or lack thereof), how they position learning to teach as a means of continuous learning, how they view their teaching practice as a continuously evolving part of the practice, and how they are still defining for themselves what teaching outcomes should be (for example, whether students should first learn more or be engaged) and how to balance engagement with content coverage (and memorization) since the two are still often perceived to be mutually exclusive. For this group, the commonalities seem often to outweigh the differences. In our final discussion, for example, Mike singled out how he had been struck by the similarities among this group of participants who come from different experiences, disciplines, and perspectives. He states that:

> One of the main things I took out of this was how much we all deal with the same issues across the whole university here. We all want to make it relevant. We all want to get our students involved, we all want them to get something out of the course rather than just pure memorization and just knowing enough to get through the test and that's it and they never have to worry about it again. That was something that I was kind of surprised about…I guess I shouldn't have been but just once I heard everybody talking it was like wow this is some of the same stuff

that I think about as well and how best can we go about doing this was really interesting to me.

Mike's perspective, then, is that the commonalities among this group of untenured professors may outweigh the differences by virtue of their common status as newer faculty members. A primary motivator for professional development with this group is their individual recognition that they, as newer faculty members, are still learning how to be academics and teachers. For example, the participants all shared a lack of formal preparation to teach in their discipline beyond basic classroom techniques. Again, they all voiced how their teaching practice is not yet formed and still in constant development and talked about their ongoing search for balance in teaching between inspiring and engaging students and teaching required content and concepts within a pre-existing curriculum structure.

Lack of formal training in how to teach. This section provides evidence on how participants universally lack any formal training in how to teach within their discipline. Instead, discipline expertise is the prerequisite for being hired as a teaching faculty member at this university. This puts these participants at a significant disadvantage in their practice which is focused on teaching in their discipline. It is important to note that as part of the selection criteria for this study I specified that participants would have no formal preparation to teach. This criteria means that I worked with only faculty from disciplines outside of Education, and who come from disciplines traditionally not requiring pedagogical understanding as a part of their graduate studies or in order to qualify as an expert in the field. The evidence in this section confirms that assumption within the selection criteria. In the data display and findings for this study, this becomes

a commonality among participants that they recognized individually. The distinction in perspective here, however, is that they see this lack of formal training as a reason to pursue professional development.

To a person, each participant conceded a lack of any formal training or focus on teaching and learning in their discipline. Several participants did receive some form of seminar on teaching techniques, safety procedures, lab set up procedures, and/or classroom management topics in graduate school in preparation, for example, to become a teaching assistant. Another participant drew on her experience as a coach to help inform her teaching practice. Yet another participant taught adults in a continuing education environment as a part of his graduate school experience. However, none really received any formal education on how to teach in their discipline. Some of the quotes provided in evidence below are repeated from Chapter 4. As stated by Chico:

> I learned to teach just from being a student…So I always approach my teaching in a way that I would have understood it when I was their age...I learned mostly through observation and what did and did not work for me. So, with that background, when I approach lecture preparation I think about how I would understand it best.

So, Chico learned primarily through his observation of others' teaching as a student and works to fashion his teaching on what he believes was effective for him as a student. Sydney, on the other hand, talked about her teaching practice being most informed by her experience as a coach. She says that:

> So, if I learned, it was because I was a coach and used different techniques in coaching. So if there was any way I learned, I'd say it was from coaching, but in

> terms of formal instruction in teaching, I've never had any. I did have in graduate school a sort of study group, but I'd say it met once a semester and centered more on discussions on curriculum than pedagogy or teaching strategies. And I don't think I've ever had any training, formal or informal, on teaching and learning.

Sydney, then, drew on her professional experience outside of the professorate as a model for her teaching. Finally, Lee talks about learning to teach through observation and instinct and practice. He says:

> I did not have any formal training [in teaching Biology]. All of my teaching would have been based on observation of how other people taught, what I liked from previous classes I had taken and then just experience doing it…So, I would say my teaching training would have just been doing it…I'll admit a lot of my teaching is feeling as far as it's a gut sense in terms of what seems to be clear; what seems to be comprehensible to the students.

Anastasia answers the question about how she learned to teach with, "by experience, I guess; I learned by listening to my professors and what fits for me and then adapting from what they had to offer me." Finally, Sydney offers (as previously quoted) a perspective that puts the lack of formal preparation for teaching among these participants in strong contrast to their colleagues within Education. She states:

> It's interesting because I have a colleague in my department who is in a doctoral program and they are actually taking a real course on teaching and learning. And I'm thinking, how amazing, an actual course on teaching. I don't know how common that is, but I've never had that experience.

As untenured professors at a teaching institution where the core responsibility of the participants in this study is to teach, it is understandable, then, that these individuals are challenged by their teaching role, see the development of their teaching practice as yet unformed and in constant development, and their teaching as, in essence, a proving ground where they constantly practice and learn often by trial and error. This is all done against the backdrop of a traditional approach to teaching ingrained through observation and without having the conceptual tools to experiment with or even name different approaches to teaching. Linda sums this up well with, "I don't know how different the experience is for other fields, but it is definitely something that I feel in the sciences…the educational path to getting this job really had nothing to do with teaching."

Learning from teaching. A second commonality among these participants is that they view their teaching practice as a continuous opportunity for their own learning. This is a motivator for professional development for these scholars who enjoy learning as a part of their professional development. Participants in this research are strong in their discipline (or specialty within their discipline) expertise, but are much more modest and humble about their teaching, especially when they include teaching in topics and areas within their discipline that are less known or unfamiliar to them. While getting questions from students to which they, as professors, do not know the answers, or preparing a new course in unfamiliar territory within their discipline can be challenging and uncomfortable, they express that they find these activities often to be motivating because they present them with learning opportunities.

In describing, for example, how she learns from teaching, Anastasia says, "I mean the students are smart and if they find that they don't understand something, they'll ask

you. Then from the interaction with the student you learn and you become better and better…For a new faculty it is also a learning experience." As also quoted earlier in Chapter 4, Chico expresses how he learns from teaching in this way:

> The thing I find rewarding is the opportunity to learn myself…I got a Ph.D. because I like science and I like learning. This not only pays the bills, but it is also an excuse to keep myself learning, whereas, if I was in a strictly research position that would not be the case…I have to teach general courses here, I have to teach outside of my specialty area and I appreciate that because it pushes me to explore other aspects and I make connections all the time and it helps me in my research…

Later in the same interview we talked about how he finds great value in his relationships with students and his ability to inspire and engage students. He offers that, "Yeah. But it's not all the relationship. Again, it's my ability to keep learning. I'd say it is 50/50. But certainly it would be uncomfortable if all the students weren't into it. So, I need the students to learn, I need to feel like their learning, I need to feel like I'm learning."

These faculty members learn through their interactions with their students and in preparing for new courses or labs that require research beyond what they already know. Finally, Sydney, in talking about her new experience in teaching undergraduates, states:

> The whole time in grad school, and really grad and undergrad school, they [her teachers] followed this kind of very traditional model where there was this really smart person who just opened your mind to all these new ideas. Of course, I never feel that I'm really doing that, but I like trying to do that and that, I'm learning, its what I love about teaching.

To the elements of learning from student questioning and preparation research, Sydney adds the element of learning about how to teach through her own practice. So, as is true for many of their students, it is the learning through applied practice which motivates and excites these newer professors as they develop their teaching expertise and practice. It is the continuous learning that inspires them to take on significant challenges as they evolve their practice.

Teaching practice in constant development. Throughout this research study from initial interviews through group discussions and final interviews, participants voiced their need for, and commitment to, constant improvement in their teaching practice. For example, Lee (in commenting on how finding ways to improve his teaching and engage students is part of the fabric of who he is as a professor) says, "…that is what I do 24/7, try to figure out ways that I can engage the students." Participants do this by seeking out professional development opportunities, conversations with colleagues, peers and even spouses, ongoing experimentation in the classroom, and even self-reflective journaling. Mike succinctly sums this up with, "So, I'm always searching for better ways to teach the topics."

Making advice and development personal and relevant. With more formal, professional development opportunities for faculty development, as well as in conversations with (especially) departmental colleagues, the participants found value in the experience and expertise outside of their own. They also found the need to take what was offered and, in a phrase, *make it their own* because it did not always translate directly to their needs. Lee puts it this way:

> If I have something that's bothering me…yeah, I've asked professors who have been around for quite a while doing it because I know that they know a lot more than I do…I know there's a base out there, but I'm a fairly independent person. I'm going to figure it out on my own pretty much.

In commenting on his interactions with his departmental colleagues about teaching and learning, Mike offers that, "Our department is pretty independent…at the same time, they're [his colleagues] open to discussion…but as far as regular discussion and communication about teaching techniques, it's not there." Linda supports the need to take what she is offered and individualize it by stating:

> One of the/my hesitations is while I enjoy hearing how other colleagues had approached things, set things up, or coordinated things in their classroom or within their courses, there is still this sense of independence; a sense of having to take that and incorporate it through my own filter. I might even use it in the same way on the surface, but how I'm gauging that might be very different from how a colleague is gauging an outcome or you know what their goal is. ..The highest priority for me might be one thing whereas for a colleague it might be slightly different.

As another example of this need to individualize professional advice on teaching from colleagues, Freda in talking about her experience in graduate school with a teaching preparation seminar, comments says, "But it didn't translate for me because it was so different from my discipline. It was more lecture style class that they were relating to, so it didn't translate."

Perhaps the strongest example of needing to take the advice, guidance, and experience of colleagues and filter it through the practical needs of her teaching practice in order to make it useful is offered by Sydney who provides an example from her own practice. She states:

> My department, in terms of individuals, is incredible in terms of if there are any questions. Lots of support. You know, the first time I taught a class, I can't say enough about how supportive they are. But what's interesting is that it is the same kind of support, in my experience, I've always received in academia. Meaning, oh here, here's how I did it. And that can be useful, but my question in particular is about teaching given that I've most recently worked as a researcher. I mean, this worked for you, and great and I'm pleased to save the energy of having to recreate the wheel, but I don't know if it's that we don't have the time or take the time to ask questions about why did we choose this method and why are we teaching it this way? It's more….and I'm fortunate to have in my department veterans who have been there what, 20 or 30 years which is most of them…who can teach me so much what, we in Social Work, call practice wisdom…I can walk into any department meeting and say, I'm really having trouble with Jim because he's missed four classes so what do I do? And Dr. X will say, I had him one semester and here's what I did and he will take hours to talk with me, but it's always about what he did…Right, so it's really more classroom management…

The insight provided by these participants is that while some formal and informal input and resources are available to them as newer faculty members, it is normally in the form of advice based on experience which feels one-sided (i.e., does not meet them

where they are) and often does not translate into their own practice. So, in the tradition of professing, colleagues and faculty developers are professing their advice, expertise, and experience to these newer faculty who, in turn, need to find ways to individualize and translate what is being offered in order to make it relevant and useful to their own practice and purpose. As shown by the examples provided above, this one-sided approach to development can be a source of frustration for untenured faculty, just like their professing advice, expertise and experience without individualization or translation can be a source of frustration to their students.

Learning in isolation. A second data point of note in the participants' work for constant improvement of their teaching practice is that all participants voiced (in one form or another) how what they do to improve their teaching practice is done in isolation. Experimentation in the classroom is self-evaluated in isolation without even a good understanding of how to assess whether a new approach or technique to teaching was successful or not, and how it could be modified to be successful for different classes with a different, collective student personality. Sydney likened evaluation of her own teaching practice in isolation to obsessing instead of reflecting. As previously quoted, she states:

> And for me sometimes it feels like I'm just reciprocating and it doesn't feel all that reflective and that I'm just kind of obsessing because I don't have the skills or knowledge…this is a skill set and I'm going to try this because I know that the literature says this is effective with this age student and somehow I'm going to work on this. I don't know any of that so it's more education worry.

When asked about what he might like to change in his teaching practice and experiment with as part of his education action research, Lee responds that he is not sure, that he is

constantly changing things, and that he really has no means of measuring the effectiveness of what he is changing. In his words:

> I don't know because I'm constantly changing things. Well, I think it's not appropriate to assume that I know what I'm doing. It's more appropriate to assume that I can always improve. And so that's the way I approach everything. I can always get better at what I'm doing, so, I don't have anything that I'm stuck on which this is the way I've done it and will have to do it again. Heck, half the time I can't remember exactly how I did it before so I'm redoing it [laughs].

In talking about how she continuously seeks out professional development opportunities, Linda offers, "Well, I guess part of my… part of the goal for seeking out input is in some ways to validate a lot of what I am doing instinctually…" and, again, in isolation. Finally, when asked about her self evaluation at the end of a semester and how she decides what to keep and what to change, she says:

> I'm not sure I have a good answer for that…I feel like partly I have a mental picture of what it is I am trying to do or I might introduce a particular strategy in a semester but I feel like I set it up once, try it out; I'm left to think…did it work? Did the students respond positively to it? Did they think it was not helpful? It feels like a very vague kind of assessment. And again going from semester to semester… just because it felt like it worked well this semester, doesn't mean next year's class…even when I think I'll do the same thing…it may not work. So, I don't know that necessarily have a good grasp on how to effectively evaluate those things and to some extent whether some of these things even have answers.

When I asked Anastasia about what she might like to experiment with as a part of her action research study, we began to talk about assessment. Her question, again, to me exemplifies how isolated her practice is from other disciplines when she asks, "Are there other methods of assessment that people use in different departments? I was always wondering about that…"

In her interview, Sydney talked about trying to balance teaching to inspire students to think differently or toward a passion for a subject while covering the necessary content in the syllabus. I commented that that seemed to be a fairly common issue among her colleagues in the study. Her response is indicative of her level of practice in isolation. She says, "Really? See I've never had this conversation with anyone." She goes on to talk about how uncomfortable making decisions in isolation about her classes can be and how uncomfortable she is about reaching out for input. She states:

> It is funny how even though your support is a little bit insular, I can think of a number of times a year where I've sort of thought, say a student is, whatever, failing and I'll decide, ok, what I'll do is let him write a makeup paper and I'll let him retake this quiz, but not the exam. And then in my head, I'm thinking I have no idea if this is the right way to handle this or if this is the right way to do this. And I can ask someone, but if I have to make a quick decision, I do and then think oh geez. I hope it will be ok. It's funny now that I think about it, even though I can ask for support, there are often times where I think that I have no idea if this is what other people do…Yeah. I mean in even in my department I don't always ask and I don't know why. I don't know if it's socialization or pressure I'm not

> acknowledging or what, but I guess we all have that fear of doing something not right.

Finally, Sydney offers:

> Yeah, I guess I just get frustrated because I'm so eager to learn and aware of how much I have to learn that I wish that would sell. I mean, I would love to go to other classes or have someone come into mine and say, this is what I saw and here's how I do things and why I do things, but it doesn't seem to generally be the accepted approach. It's more, here's how I survived in the classroom and what worked, now go and try this on your own.

As put forward in the literature review for this study, much research has been done and a great deal has been written since the 1980s and 1990s about adult education, faculty development, continuing professional education, and moving toward a learning paradigm that advocates a more communal approach to learning. The reality, however, for this group of untenured faculty in a teaching institution in 2008 is that they continue to operate in isolation as they work to develop their teaching approaches and practices. As highlighted earlier, Sydney was not familiar with the tension between teaching to inspire and engage students to think differently, be more self-directed in their learning, or toward a passion for a particular subject or discipline versus covering the necessary content in a course or program, but this was a common topic throughout the interviews and discussions. The data supporting this tension is offered in the next section of this data display.

The ongoing search for balance in teaching between engaging students and covering content. Participants talked a lot about whether the purpose of their teaching is

to engage students and hope that their interest will spark learning or to make certain that the content and concepts that students need to understand and master have been covered. The focus in traditional teaching has been on content coverage which has set up a separation between learning content and being engaged. This separation has made these elements of learning almost mutually exclusive in many traditional education (and teaching conception) models. The search for balance described here is the struggle and tension between these two elements of learning as newer faculty work to find ways to do both in their practice. For example, the participants' responses to my question about the most rewarding aspect of their teaching practice usually centered around their relationships with students and inspiring and engaging students in their course, the subject, their learning, and/or a discipline, especially in terms of the student being able to make connections for themselves as a part of their learning. Their motivation to engage and inspire is, as was pointed out in Chapter 4, fueled by their passion for the discipline, but it is also tempered by their realization that they have, especially at the introductory levels, certain content that must be covered.

Within this context, the tension was clearly expressed between wanting to teach to inspire and engage students (both in topic and in learning) and the need (and responsibility) to cover the basics and make certain that students had the concepts, techniques, ways of thinking, vocabulary, and so on necessary to take them to the next level of study in their education. The centrality of this tension to their teaching is reflected in both individual interviews with participants and our group discussions. Mike, for example, talked about the simulation he incorporated into one of his classes as his education action research project and how positive an experience that had been for him

and for his students. When I asked him if he lost any ground in covering content taking this approach, he replied:

> Yeah that is the big cost of doing it. In this case not so much especially it was only one section and I wasn't real concerned about the time that was lost. I think…and I was just actually reading about this last night. Some people believe that, *The Economist* believes that when we teach the intro courses we are trying to feed too much information to them at one time so they might learn more if they're taught less. So, in that case and in the summer course I wasn't real concerned and I wasn't juggling across…and the time lost was not all that significant.

So, his response was mixed again highlighting this tension between engaging students and covering content. Several exchanges in group discussions further amplify this dilemma of finding balance in teaching. The first exchange took place early during our first group discussion. I have provided it below with some edits incorporated to shorten the length of the exchange.

> Chico: I'm trying to see what turns kids on more here to my field of plant systematics which really is the study of plant taxonomy…So the change that I am planning is what? Well, basically… probably…my hypothesis is, the more active, the more research oriented, you know not just looking at what other people say about it, but doing it themselves will turn them on more and be more stimulating and they'll probably come out with a more favorable view of plant systems than if I just leave them all in the library.
>
> Mike: I think…you're driving at one point. The other point I think would be interesting is to see if they learned more.

Chico: Ok, that's tough.

Mike: There's someone in econ who did a study…I imagine we're all going to be going toward this idea of active learning vs. traditional methods and an econ professor did this. He taught one part of his class in a more active style with experiments and that type of thing and did traditional lecture over here. He found that the students who participated in active learning liked it more, but didn't learn more. And so it depends on which way you want to go. If your goal is for them to develop a favorable opinion about the subject then I would say that I would agree with that. The other interesting hypothesis, again I don't know how this would play out, would be did they really learn more?...I can't say they learned less, but I can definitely say they didn't learn more, but they enjoyed it more and they covered less in class.

[some interim discussion edited out here]

Lee: So, that again takes me back to where Chico starts and it's not how I'm presenting the material; its how do I get them interested? How do I get them to want to learn this topic?...And I think every one of us, if we took a poll. Every one of us could say the same thing. How the heck do you get your students interested in this topic because you have a section that says, 'I want to be here;' a section that is neutral, and a section that would rather have you dropped into a hole that you didn't come back out of. They're all there and it's true for all of us. None of us can really say that in my class, everyone wants to be in there. There's always going to be someone in there who is not interested. Actually, the neutral part is the sell...

Anastasia: Similar to him [indicating Lee], you know, in my beginning Chemistry class it is hard to get them interested because they have to take a series of chemistry levels whether they're from Biology, or Physics. And one thing that Chico said that is so true for the upper level [room noise and coughing drowns this part out]. How do you actually design a research project for intro students? You know beginning classes where they have a set curriculum and they have to be taught the technology and without the technology they cannot go to the next class or you cannot really…So, you can't really deviate too much, maybe a little bit, but not too much.

The conversation then turned beyond describing their challenge to simultaneously teach in such a manner that engages and inspires students while also making certain the students have the content and understanding needed to move beyond their current class(es), to what might be different for students when a course is completed. The responses to this simple question further highlight the quest on the part of the participants for balance between engagement and content coverage and which best enhances learning.

Chico: More students will want to take, let's say it's an intro to Botany course. More students will look favorably upon the hard sciences…Basically, be able to apply their knowledge and to be more well rounded.

Mike: For me, I think it would be more along the line of have I increased their knowledge and their ability to apply it to different situations. Especially at an intro level, that would be the main thing I would like to be able to improve upon.

Lee: I think I'd add to that appreciation. It is one thing to be able to regurgitate stuff; it is another to appreciate it and see the connection, kind of like you were

saying [pointing to Mike]. Now how does it connect and to have an appreciation for why it's important, why you're taking such and such a class as a requirement. Not just because someone thought it would be good and fun to make them take a class in [course name] but to share an appreciation…you gotta figure that every class is geared toward adding a brick in a wall, so. General classes are there to build a foundation, but the foundation should still make sense and provide the ability to connect it to the world because for students who go into anything other than Biology or Chemistry or something. Once they're done with general bio; they're never coming back to another general bio for any particular reason because they have all these other classes on their itinerary that they have to get done….so that's your one chance, you know, 20 years from now to actually have them understand why cloning may not be a good thing or why this global warming is a problem. You only have a tiny window for certain people; for other people you have a big window and years and years...

Linda: One of the things that I think about in terms of especially in teaching larger classes is thinking about how much time students don't spend time outside of class working…you, as a student, have to put in outside time to actually learn these things. You can't just come to class and expect that me explaining it up front is going to make you understand it and especially because I find that students will come to class and they'll listen and they think they understand it, but when they try to do a problem, then suddenly they can't make it work. So, their level of understanding really isn't as deep as I would like…where you can spend more class time talking about the interesting things. Because somehow they've

> actually…you've created a mechanism that is outside through which they learn more of the basics…So, that's the thing. How do you encourage… how do you inspire students to actually come to class prepared to hear what you have to say instead of hearing it for the first time in class and then later going and trying to figure out what it means…

This quest for balance between engaging students and covering content and how this relates to learning continued through our final discussion as a group. Freda, for example, expressed it as follows:

> I grapple with it all the time. Like what is the balance? How much information do I give them and then how much do they have to get themselves because if you show them the way and they are interested then they will go and learn but I can't cover all that in a course and I think some students expect me to cover like the history of typography in a course and it isn't going to happen.

An excerpt from that last discussion that focused on this topic is provided below with some edits to shorten the presentation. The conversation began with Mike:

> Mike: …And the project [meaning his own action research] was I did it for one class and then with another class in the same summer session I did not do it and I wanted to see does participating in this market game kind of thing help their learning on the exam. I don't believe it did. Just eyeballing the scores, they seemed pretty similar and I am sure, especially with the small sample size and if I control for gender and class and all that other stuff, then all these effects will probably go away but I think that the overall goal of getting them interested in showing them that some of these abstract things that we do in class really have

some powerful implications and that they kind of do these things and they are interacting really kind of opened their eyes a little bit.

Chico**:** So obviously your test did not gauge the depth of knowledge that they gained from that experiment and you would argue that they didn't?

Mike**:** I don't know. It is tough to quantify that. Maybe they did.

Linda**:** Well, there is a difference between a test that might assess their depth of knowledge and actually being able to assess what perspective or what opinion about Economics are they going to carry out now beyond that?

Mike: That's true, right.

Linda: I mean that is something that I don't know that we even want to…I mean we all would want our students to go away feeling positive about our field and seeing its relevance and importance, but I am not sure that we would want to grade them on that. Like you knew all the information, but you don't think Chemistry is important so you fail. I think…

Freda: But see, I think that's, and again I am coming from, I guess the softer side…although I don't classify it that way… but I think as a participating person in society and that is what we are here to create, I think, and, as a side note, we create scientists and we create all these other sort of classifications of things… but I think the more people appreciate or understand somebody else's field or whatever it is, I think it makes us stronger as a civilization…I mean you are talking about global issues and I think the more that we can engage our students, especially in Economics…I mean you're talking about political issues and all

these issues, if they can sort of relate to that in some sort of basic way, I think you're giving them more like Linda was saying.

Linda**:** I agree with you to some extent but I also, the flip side of that is…because I would agree that I would feel that my teaching was more successful if I knew that my students were going away with that appreciation of…however, I would be horribly remiss to send students out to say, wow Chemistry is cool; I can't tell you anything about it; I can't solve any problems, or I can't calculate anything related to it, but I think it is really cool. That is not going to cut it; I can't say that that student has learned science just because they appreciate it. And that's my struggle….

Freda**:** No, I agree with you. We have the same in Art where students come in and say I like art, but then you show them a contemporary piece and they say, oh I don't like that art… so they're qualifying…so, it's like, you don't have to like it but you have to understand it and how it happened and where it came from.

Linda**:** It is different to say you appreciate art and its role in your life…that doesn't make you an artist and it doesn't make you an expert in art. And I think for me that is one of the struggles that I have with how do you separate or how do you achieve both of those goals simultaneously. How do I make sure I am giving them the skills that actually warrant the "A" in Introductory Chemistry while at the same time giving them the enthusiasm about the relevance that Chemistry might have in their life? I don't think that I can separate those two things out.

Mike: I think especially at the intro level it is just a matter of what you want the main goal to be. If you feel the intro level is that you are preparing future majors

> as their first step in Chemistry then that is one thing. If you treat it as this may be the only time that these students may be exposed to Chemistry, what will be the main points that I want them to get out of it and I think since we have both types of students in the course, it is tough to do and so it always gets back to the breadth of an issue versus the depth that you want to get into and that is a real tough thing to do [lots of verbal and nonverbal agreement and acknowledgement of this point]…I am almost leaning toward getting at it with the goal of, alright this may be the only time they are going to be exposed to Economics, so what do I want to show them, and then from there if you hit their interest then they may want to take more and then you can get into it, so that is kind of the approach. This is a tough issue [again lots of verbal and nonverbal affirmatives and agreement from the group].

The tension between engaging students and covering content is exemplified in the exchanges provided as evidence above. There are other factors that influence this ongoing search for balance in one's teaching practice that also serve to motivate the professional development of that practice. These factors include the influence of teaching traditions within disciplines and the influence of common challenges in their teaching practices, as expressed by participants.

The influence of teaching traditions within disciplines. Again, the influence of teaching traditions within most disciplines emphasizes and institutionalizes traditional approaches to teaching in order to cover the necessary content students must receive to move to the next level of study. Because engagement of students in learning and sufficient coverage of content are often seen as being at odds, this presents a struggle for

newer faculty who want to engage their students and make what they teach relevant, but who operate within a structure that still often focuses (especially in the sciences) on content coverage and dissemination of information.

For example, within their motivation to inspire and engage students to learn (and with the exception of Freda and Sydney who practice outside of science), the primary teaching approaches for participants are traditional, organized lectures and (usually) highly structured labs which focus on content delivery, coverage, and mastery more so than engagement of students in a topic or subject. As summarized by Mike before his education action research experience:

> Yeah, [I teach] mostly through lecture because I think that it's just something you need to be shown the way to do it. I don't think Econ is (it can be in some stages) but I think there needs to be a more lecture and example based approach than a collaborative learning in a sense because if you don't show them a way to analyze the problem, you just get a bunch of people not knowing what to do and so with that kind of subject, I think you need to show them first before you cut them loose. I try to sprinkle more examples in the course as I go and allow them some time to work with neighbors to solve the problem.

In fact, Mike later (in a group discussion) talks about how when he is being pulled in many directions as a newer faculty member, he may resort to what he called, "canned teaching." In his words:

> In our position when you don't have tenure yet or have gone from an associate [professor] to a full [professor]…this semester, especially for me at least, trying to do other things; trying to do community work; trying to do research; teaching

> kind of gets canned. Ok, I know what I'm going to do and keep doing this without really spending any time on it.

Linda expresses the same perspective about lecture and lab in her final interview, but from a different disciplinary perspective and again talks about content coverage as being a responsibility of her job as a faculty member. She states that:

> If I was going to try something. If I was going to try something really different, but if it seems miserable then….those kinds of changes in my first five years are really, really hard because I feel like there's a responsibility to the students and to prepare them to go onto the next class that is dependent on you. I think actually another experience that I had this year that was eye opening was that I did a reading project. In doing those all I had kind, all I had was a general outline, basic organization but not all the specifics and structure. Being able to go in and have that kind of experience was just so different for me. I have had that conversation with a couple of people of how very, very different that kind of class setting was…I mean but I think different in a sense that there are some things that are great ideas as a teaching mechanism in general, but I don't have that classroom. Just to recognize that inherent difference between a science classroom…where you just have to develop more tangible skills. I am not sure, I guess, I don't really know what would be the course objectives for those classes…I mean I think they would be different than my course objectives where you have to be able to calculate certain kinds of equations…

This high level of structure within science teaching is in contrast to the teaching approaches of the arts and social science faculty who participated in the study. For

example, Freda, who teaches Art, also uses a lecture and lab format, but her approach to Art is captured in the phrase studio teaching. In talking about her first discussion with the rest of the research participants, she comments that:

> I didn't get much out of it to be honest with you, and I don't know if it is because lecture classes are so different from studio classrooms and although we do a lot of lectures in the studios I think we have the opportunity to have more one on one time with the students and so I can truly say I know every single one of my students on a one to one basis and I get to talk to them on a one to one basis. So a lot of the problems that they were talking about, or dealing with, we don't really deal with that in the studio classes as much. I found it beneficial when they talked about lectures somewhat, and then when I present lectures, but, I don't know, I think I tend to be a little bit more open, and I don't know if that is just me. I think that as studio faculty where with most of my students I am on a first name basis and it is very odd and even with my professors throughout my careers in art we were always on a sort of first name basis and it is not that professor [kind of relationship]…. I don't think there is as much distance in studio classes as there are in lecture classes.

Like Freda, Sydney, who is faculty within Social Work, sees her discipline as having content coverage requirements, but she too has an agenda and approach with her students that differs from the sciences. She describes it as follows:

> I think my strategies are fairly idiosyncratic and personal things, but I'm provocative on purpose and irreverent on purpose and controversial on purpose and [laughing] I don't know how well that will go long term… but, and I would

> have to say I do this even more since coming here, I'm clear that I'm offering this not as a value to be adopted, but as a way of thinking for them to try on and that I think that that kind of critical thinking skill is vital to being a good social worker…So, engaging students early on.

When I asked Sydney what approaches to teaching she uses her response was, "everything," meaning mini lectures, discussion, small group work, and so on.

These participants, then, all come from different starting points and perspectives in their teaching practices based on their personal experiences and traditions within their disciplines. The challenge becomes how to allow these participants to find balance in their practice between inspiration and content coverage through discussions with one another that foster sharing of their different perspectives and experiences to inspire and inform one another in their professional development.

The influence of common challenges. The participants also shared their greatest teaching challenges. Central to these challenges for the participants in this group (and beyond continuous improvement to their teaching practice) were unengaged and apathetic students, the perception that students expected the faculty members to work harder, and the concept of professional noise or responsibilities, such as serving on committees and grading, which take their focus off of teaching. For example, Chico, perhaps, best summarizes two of these issues for this group of participants when he talks about his biggest challenge in his professional practice. As previously quoted, he states:

> Let me just say multitasking and having lots of things on my plate is really challenging…because obviously there is more than teaching going on here…The second thing that's challenging (because that's the big one) is that it's distracting

> when you have students who aren't into it. Students who sigh when you mention a new subject; it's distracting when, you know, they roll their eyes and you can see it; it's distracting because students are very easy to read. If they don't enjoy something, it is very obvious. That's hard.

Mike provides a good example of the concept that these faculty members feel to be working harder and harder to engage and inspire students in both their classes and in learning. In his words:

> And it feels like I'm doing more and they're doing less and I care more about how they do than they do. So that's why I get upset. Maybe last year I didn't think about that as much…Because I spend a decent amount of time preparing; I even give them a shell of notes; I give them practice problems…[online] that I post with answers; I give them exam review sheets with a sample exam with answers. It takes time to do this stuff. I hold open office hours. I just feel that the resources are there for them to succeed and I feel that not a lot of them are taking full advantage of the resources that are there for them and that is what is frustrating.

What is interesting about these common challenges shared by the participants in this study are that they were most often expressed as motivators for professional development of participants' teaching practice in order to find ways to engage students and make students interested in finding ways to be responsible for their own learning. A third motivator was to find ways to focus on the development of one's teaching practice to accomplish (at least) these two things (student engagement and self-directed learning) in spite of the institutional and professional noise with which untenured faculty members must deal.

Summary. The data offered in evidence in this section supports the commonalities discovered among the participants in this study as untenured and newer faculty members in a teaching institution in disciplines outside of Education. These commonalities are provided as key drivers and motivators for professional development for the participants as faculty learners within their individual teaching practices. Of note was how much they had in common in terms of what they think about and strive for in their teaching practices in spite of the differences in their disciplines. All participants saw themselves as learners because of their lack of preparation to teach within their discipline; because of their interest in their own learning as a part of their teaching practice; and because they see their practice, as yet, in constant development. The participants in this study also had in common, as motivators for professional development within their teaching practice, rewards and challenges in their teaching practice. Within these common rewards and challenges in their teaching practice, participants consistently go back to the central issue of trying to find balance within their teaching practice. Balance between inspiring and engaging students in learning, a topic and a discipline and covering the necessary content (or basics) that students need to move to the next level. In the next section of this data display, I examine the differences among participants that make their motivation for professional development unique to them as individuals.

Differences among Participants

This section provides data that supports or highlights the differences among participants as they relate to their motivation for professional development of their teaching practice and, especially, to engaging in education action research as a form of professional development. The key differences offered in this section of the data display

center on my estimations of where each participant was in terms of their thinking and practice with regard to teaching and in relationship to the Instruction to Learning Paradigms when they began their participation in this study, and individual personality elements as a part of their teaching. It is interesting that each participant talked about the uniqueness of their discipline in one or both of their interviews, yet distinctions between teaching in one discipline versus another appeared to be far outweighed by the issues these faculty had in common as untenured faculty members in a teaching institution in disciplines outside of Education.

In Relationship to the Instruction and Learning Paradigms. Based on the individual interviews and dialogue in group discussions, where each participant began this study, in terms of their thinking about teaching and practice, can be related to the Instruction Paradigm (traditional and instructor-centered) and the Learning Paradigm (learning and learner-centered) as conceptualized by Barr and Tagg (1995).

In her description of her teaching practice, Anastasia appears to work most within a highly structured environment of lecture and lab with traditional concepts of, for example, assessment and coursework. In describing her teaching approaches, she says, "I have an extensive syllabus that in each section indicates what is needed and how it [technical report on lab findings] needs to be structured." Later in the same conversation, she talks about quizzes and examinations. Here description of her practice follows:

> So, after the first exam, they know what I expect. Students always like to ask you what is going to be on the exam and I don't think it's fair to actually tell them what is going to be in the exam because they have the textbook, they have the notes, they have the homework, and I tell them that all my exams are from these

> particular sources like the textbook. When I was in school nobody narrowed it down for me, but students always expect that. Like study guides. I never had study guides. I read the book and did all the homework and I remember my undergraduate professor, she used to tell us to read everything in the book. Then, all of a sudden, one exam question would be a figure caption from some picture there. So, you learn the first time that you have to read everything.

So, for Anastasia, the key to teaching is to provide the necessary information to students in her syllabi, lectures, labs, and texts. From there the onus is on the student to follow instructions and pay attention to details in order to demonstrate learning. This seems to reflect a fairly traditional approach to teaching.

Similarly, Lee talked about improving the flow of his lectures (as a primary teaching method) as being a key element to his teaching effectiveness and had/has a very traditional view of, for example, assessment and other approaches to teaching. He stated:

> Well, to me it comes down to when I design a class, I like to design it based on what seems to be a logical flow of information from a big picture to a small picture.

As another example, in our second group discussion, Lee talked about how he incorporated a test review session into a class. In his description, he reveals a very traditional, instructor-centered approach to testing. Specifically, that the test is to check their understanding of what he has decided is important and how they should think about what is important. He stated:

> During the last class before the test, so just this week I had the test on Thursday, well on Tuesday of my class I spent the first 2/3 of the class finishing up that

> section on diversity and then the last part of the class I did review and it was a shorter amount of time than they probably were given in the evening but they were all there and so then I was able to actually outline. This is how I perceive all of this material and this is how I think of it and so I gave them basically that list of major topics and concepts of how to think about it.

In this same conversation, we challenged Lee to think about how he might use tests as a learning tool. That quick exchange follows and further highlights Lee's more traditional paradigm around teaching and assessment. He states:

> Lee**:** The test doesn't help them learn.
>
> Bili: But could it? So how could you…
>
> Lee**:** I don't think a test should help them learn. Do you think they should? [gesturing to Chico]
>
> Chico: Yeah.

It is interesting to note that after sustained conversation among the participants in this second group discussion, Lee began to think about how to position tests so that they could act as a learning tool. The other members in the conversation simply exposed Lee to some ideas and approaches to assessment that had not previously been a part of his thinking about his teaching practice.

Mike provides evidence through his descriptions about his teaching practice that he may be closer to a Learning Paradigm approach to teaching than Anastasia or Lee. Mike primarily lectures to teach, but his grounding in experimental economics fosters a desire to incorporate more experimentation into his teaching which he expresses from the

outset of this study. In his final interview he reflects on his progress toward this goal to connect what he is teaching to concrete and relevant examples for students. He stated:

> Try to gauge student interest in the subject by trying to make it relevant to their daily lives. I think we all try to do that especially with Economics. A lot of people don't know what it is and it is such a broad based discipline that I think it really enhances their enjoyment and understanding if you can present it in a way that they already kind of interact with to begin with rather than making it abstract, make it concrete and that is something that the experiments really tried to do because you can introduce these topics without even talking about them formally and use their behavior and their decision making…say look here is what you guys did, it corresponds or it does not correspond to this theory and that is the key that I like to do in my classes and that is something that again reinforces what I do [as a researcher].

Like Anastasia, who is also in Chemistry, Linda relies heavily on structured lecture and labs. What is different for Linda and what places her closer to a Learning Paradigm approach is that she is constantly questioning her approaches in order to make them more relevant and student-centered. For Linda this appears to come from both her background within a family of educators and her making a direct effort to take advantage of professional development opportunities focused on teaching and learning. Linda's commitment to continuing to explore different approaches to teaching as she seeks balance between inspiring students and covering content in her practice is revealed in her final interview. She states:

> One thing that I think if I was going to say something to continue the process would be to identify a group of people who are willing to commit, I don't know, being able to organize something like that I think would be really beneficial. Although I have been in the habit of writing up an evaluation at the end of each semester that's only going on paper about here is how a semester went, this is how I feel about it. I found that to be helpful for me personally. It might not necessarily be for everyone I guess, but I think that if I had a group of people to talk with that could give me feedback, that could be really helpful. Then again getting that kind of thing organized… I think it could be good, probably I would want to do that with people who face a lot of the same things that I face.

Chico appears slightly closer than Linda to orienting his approach to teaching and practice toward a learner-centered model at the beginning of this study. For example, his descriptions reveal that he is predisposed to creating more applied projects for his classes as a way of engaging the students and in support of his desire to "get things done." His traditional, and sometimes, authoritarian approach to teaching, however, comes through when he talks, in particular, about motivating students through, in essence, the threat of punishment or exposure. This dichotomy in his teaching approach (which is not unique to him among the participants) comes through on multiple occasions during interviews and discussions. It is, however, best illustrated by his final comments during our final group discussion. He states:

> So my final thought is the way…I want them [his students] to be equipped with tools, right, to be able to do things. I want them to be impressive. I want them to represent our institution well when they go out and have an employer ask them to

> do something, that they could go out and know how to do it. So that was the overarching theme and how did I get them to do it. You know I basically hung over them the threat of this stuff is going online or you know from my other service learning course, they are talking tonight in front of the community and the school board and so they get nervous about that and it is going to be up online and then that is another thing. I say guys it is not another idea to plagiarize. First of all it is going to be online so somebody could find their work. Okay I am posting all of those. That was the overarching thing. Making a product. If you're proud of it and you can use it on your resume and you won't feel badly about it. If you are not proud of it, it is going online anyway…you know it's going to be out there.

Sydney appears close to a Learning Paradigm approach to her teaching because she specifically designs her teaching within Social Work to help students to think, or provoke them into thinking, differently and more critically. She keeps them active and engaged through the power of her energy and personality as a teacher. In her words:

> I'm offering this [example or perspective] not as a value to be adopted, but as a way of thinking for them to try on and that I think that that kind of critical thinking skill is vital to being a good social worker. So that within your personal life, if you think homosexuality is a sin, great and that's not my business and has nothing to do with what we are doing in class. But because you will encounter gay and lesbian clients, the ability to think about homosexuality in a different way will enable you to serve them as part of the code of ethics you've sworn to. So there you go. That's how I do it. I try and open their minds in those ways. I do this in a

> balanced way, I never want a student to feel badly about the way they think, so I try to be a little bit provocative and challenging.

In describing her primary teaching approach, Sydney offers a mix of all teaching approaches as evidence that she works toward participatory, active, and learner-centered approaches to teaching. She states:

> I'm very comfortable lecturing for a bit, but I think that after 20 or 30 minutes you start to lose them. That idea of energy. I guess active learning is the phrase I'm struggling for. I'm active, I make sure they are active. To the point where I say, you know you guys are dragging, go get coffee and we'll just stop class. Which does a couple of things. It tells them that I'm paying attention and it does let them reenergize and tells them that I care that they're learning. So, it's all that sort of personal connection stuff, but whatever to keep it interesting; anything to keep it interesting…And I have no problem wandering around the room when I talk to keep things interesting. I have to be flexible too. If I have an off day and two students are falling asleep, well something's not right. So, I'll say, Mark's falling asleep in the back of the room; is anyone else bored? So I would say it's a healthy mix of lots of different methods.

Of the group, Freda provides the most consistent evidence of her teaching approach and practice being student centered from the start. She describes, on more than one occasion, her struggles with the rigidity of structure institutionalized within her department and university; she seems to balance being engaged with students and getting across content through more learning centered approaches; she thinks of her teaching in the context of broader social issues as a part of the higher education process and seeks to

collaborate with colleagues to address these across disciplines. In talking about the structure within which she must now operate at her current university, Freda offers that:

> Yes, I absolutely hated it like when I found out that I had to do a schedule and that this was the norm. I, first of all, never had a schedule as an undergraduate. Never. I never had rubrics as an undergraduate. You sort of knew where you stood or if you didn't…it wasn't clear to you, you asked. And like at the midpoint, some instructors would come up to you and tell you where you were at. Wherever it was.

In our final interview when she talked about how she set up the interaction between her advanced and introductory level students in the same class, I asked Freda about how she felt about giving up some of the authority within the classroom. She responded:

> My teaching style isn't…I would rather sit there and say nothing on a critique and have it be more student driven. I mean at that point, not at the intro level, but at the advanced level, I think at that point they should be learning to talk about themselves and critique more or less their critique on the work and not so much the work anymore.

Her concern about framing her teaching within broader societal issues appeared in one of the conversations with her colleagues about finding balance between engaging and inspiring students with covering content and getting the basics across. This was previously offered as evidence elsewhere, but is again quoted because it is so relevant. She states:

> But see, I think that's, and again I am coming from, I guess the softer side…although I don't classify it that way… but I think as a participating person

> in society and that is what we are here to create, I think, and, as a side note, we create scientists and we create all these other sort of classifications of things… but I think the more people appreciate or understand somebody else's field or whatever it is, I think it makes us stronger as a civilization…

In our final group discussion in dialogue with her colleague from Biology about getting his experience in this study published, she (for the second time during the course of this study) reaches out to him for potential collaboration as a means of breaking down some silos between disciplines. In her words:

> Well did you think about publishing it, taking it out of context because I want to talk to you afterwards because all these ideas are flying through my head after hearing about your project. But taking it out of your arena of Biology and maybe presenting it to another group, like the creative group or something like that. Saying this is an idea for a teaching thing; not that you have all the science or the quantifiable qualities, but just presenting it as, at a conference, as a way that to a different audience than you would normally present. Because I think there is a lot of great information that you are doing. Like I can see that our conferences which is [name of professional association here] where maybe where you show how you take the scientific information and pair it with graphic design. Oh God, that would be a great project. I would love to show my students in maybe my communications design class your project and then them doing a booklet or some sort of advertising to show this thing that is happening and then taking that to a thing and saying look this is how science people and artists…. or somebody else

> can work Chemistry. If there is some way we can pair it together that could maybe continue it so that it can become something that can be presented

This data illustrates a significant difference among our group. Why? Because it means that each of us began from a different perspective on teaching and learning as it relates to the Instruction and Learning Paradigms which, in turn, impacts each individual's process and outcome(s). A second difference between participants is the very different aspects of personality that they bring to their teaching practice.

Personality elements as part of teaching and professional development. Some individuals are, by nature, outgoing and high energy while others are more reserved and low key. Previous studies of teaching effectiveness often confused these types of personality traits (and enjoyment levels on the part of students) with effective teaching traits. Yet, arguably, our personality traits influence how we think about teaching and our predisposition to experimentation and change. For example, if an individual does not like to speak in front of groups, then teaching in a lecture format may be highly uncomfortable, but safe because it is within the realm of what is familiar. This section highlights three examples of personality elements among participants in this study that provide evidence that these should be factored into any professional development process focused on teaching practice. This is not intended to digress into a psychological analysis of the participants or the group. Instead this section provides some data that highlights personality as an important consideration for professional development of faculty because of its potential impact on participation and engagement. Not all participants offered data about their personalities as it relates to teaching, so, only the data offered (unsolicited) by the participants is presented in this section.

Sydney relies on her outgoing nature and high-energy style to keep students engaged. She talks about her sheer energy and the power of her personality as a big part of her teaching practice, especially because she does not have any learning theory or pedagogical framework(s) within which to name elements of her practice. She states:

> Again, I think that because I didn't really have any training and what I did was based more on survival. I've learned that there are parts of my personality that enable me to be an effective teacher and I just tend to amplify those…But what I get the most feedback on from students, what seems to work the most are things that create energy and showcase my energy…It almost feels inauthentic to call that a strategy…So, engaging students early on…

Freda, on the other hand, talks about how she uses her directness with her students as a teaching tool which, as a female professor, sometimes causes discomfort in her students. She also talks about how students came to understand the impact of this element of her personality on her teaching style.

> And I tend to be, and I don't know if this is a female issue, but when I speak in critiques, I tend to be very direct. I don't beat around the bush. I don't do it to be mean and don't direct it in a derogatory way, but I don't put flowers on it either. …I don't know if they don't like that…but I've had students talk about male counterparts and how tough they are…but they joke about that. And they see it almost as a badge of honor to get through that critique with that male counterpart, but with me as a female… yeah. And I don't know if that's a gender issue or what. But I do know that personality wise I tend to be direct.

Lee, on the other hand, appears to struggle with his lack of comfort with speaking publicly which may need to be addressed through professional development prior to his truly being comfortable experimenting with this teaching practice. Lee, for example, offers throughout our interviews and discussions how uncomfortable he is talking in front of people or taking part in a discussion. Yet, he also talks frequently about how he wants to improve on his ability to lecture as the focus of his development instead of exploring other approaches to teaching that might be less public speaking intensive. Though multiple examples of this exist for Lee, probably the most revealing exchange occurred in our second group discussion. It is revealing not only in terms of Lee's personality elements to be considered as a part of any professional development approach, but also provides insight into aspects of personality for Chico, Mike, and me. I have provided the exchange below to illustrate the importance and dynamic established by personality as a consideration within an exchange directed toward professional development of a teaching practice. Some edits are incorporated to shorten the length. Lee's first comment comes on the heels of Chico describing how he has designed a colloquium class to make certain that everyone participates in discussion and no one is allowed to hide (which is also an element of learning designed within a Learning Paradigm). The exchange follows:

Lee: You figure that either way, it depends on your point of view.

Mike**:** People respond better to your punishment than rewards. I don't want to over generalize the result but in certain environments.

Lee**:** I know I would. I don't know about you guys, how you perceive the special classes. Did you discuss a lot in your discussion classes [gestures to me]?

Bili: Yes [laughing].

Lee: Good for you. Did you discuss a lot in your discussion classes [points to Mike]?

Mike**:** Me personally? Not in grad school, no [laughs].

Lee: Do you feel you do it naturally? [again gesturing to me]

Bili: Yes I do.

Lee**:** Chico, do you feel like you discuss naturally?

Chico**:** I do.

Lee**:** Fear of God [pointing at himself]. I cannot discuss things. The idea of doing this group thing was tormenting to me.

Bili: Go back to the last line of our first interview.

Lee**:** Yeah. I saw it and I think what it says fits me perfectly and I am doing better because I am comfortable with you guys, but I said you should be warned ahead of time I don't like talking in groups, you said okay, and I said so good luck with that. You said that was fair enough. I don't like to discuss things and in your class [gesturing to Chico] I would fail. I would have failed that class to force me to have to try and discuss things. How do you adjust to that?

Chico**:** You just come up with an answer and because of the limitation of time not everyone can ask more than one question. Basically I can basically only give you one point out of the 5 for a question but so essentially for the most part if you ask one question you are going to get the five points.

Lee**:** It is a terrifying class for the less confident person. I was never confident that I would have good questions. I was never confident enough to think I understood enough to ask good questions.

Through this exchange, Lee (and Mike) remind us that when we design professional development opportunities for faculty members, we must consider differences in personality as a part of their participation. It is also important to remember that professional development of practice need not mean the achievement of what, in the past, have been held up as desirable and effective teaching traits (like being high energy) that are more about personality than teaching. Instead, each individual must address how best to incorporate their personality into their teaching practice.

Sydney, then, brings her natural energy and outgoing personality to her teaching to make her feel effective; Freda brings her directness and high expectations to bear in changing student expectations; and Lee helps us understand that for individuals, like him and Mike, the very prospect of talking in front of groups or participating in group discussions can be daunting while for me and Chico, presentation and discussion comes fairly naturally. Again, this data is offered so that personality remains a consideration and differentiator in the professional development process and what individuals will experience within that process. Too often we assume more homogeneity among those engaged in professional development of their teaching practice and approaches.

Summary. While the participants shared much in common in terms of motivators and challenges in the development of their teaching approaches and practices, there were also significant differences which provide key elements for consideration when developing professional development approaches for newer and untenured faculty whose core responsibility is teaching. These include where they begin their professional development process on a continuum from the Instruction Paradigm to the Learning Paradigm based on their own experiences, personalities, challenges within their teaching

practice, and teaching traditions within their disciplines. The next section of this data display focuses on how this particular research study forced (in some cases) both different teaching and learning paradigms, as well as research paradigms, into the thinking of the participants and into the conversation among the participants.

Approaching a New Teaching and Learning Paradigm

Again, the broad purpose of my research was to engage untenured faculty, positioned as adult learners, in a meaningful and integrated approach (considering both personal and professional elements) to professional development that could result in new and critically-evolved understandings about their roles and practices (especially related to teaching and learning). My specific action research design was to engage participating faculty in the development of a critically reflective teaching practice through their own education action research on teaching and learning in their discipline. By designing this study toward this purpose, and engaging participants in discussion about their experiences as a part of education action research, participants highlighted two important data points within their professional development process. First, for the most part, these participants from disciplines outside of Education are without comparative educational models (beyond observation and disciplinary tradition) within which to think about teaching and learning and from which to discuss the development of their teaching and learning. Second, engaging participants in a qualitative action research project put some of them in conflict with the traditions and perspectives of the scientific research paradigm, especially for the science faculty. The data in support of each of these points is provided below by the participants.

Absence of Comparative Educational Models

The evidence of an absence of different (or comparative) educational models within which to think about teaching and learning and from which to discuss the development of their teaching has (in some cases) previously been highlighted while other evidence provided below is newly quoted in support of this data point. For example, Lee perhaps, summarized this absence of a comparative, educational framework for his practice best in talking about how to decide if something within his practice was effective or not. He stated:

> I suspect from my point of view that is the truth simply because I am limited in what I know. I have not been teaching for 20 years. I don't have a vast pool of this works and this doesn't work to pull from. So for me everything is a child's mode to try to figure out how would I actually figure out if this did work…

Linda, too, talked in terms of being able to legitimize her instincts by being able to name them as approaches or strategies within specific educational or research models. In her final interview as she reflected about how she benefited from her participation in this research, she says, "I guess for me maybe the most significant thing is kind of coming to the realization that as we discussed kind of concrete ideas of a project that would constitute doing, just that realization that I use this strategy [education action research] on a regular basis." Earlier, during our first interview, Linda offered:

> So, I don't necessarily know some times what you might call what I'm doing, but then later I see when someone describes this kind of thing that I'm doing; it fits with that approach. And a lot of times I can see where there might be something where something someone else has used runs parallel with what I've done and

> they might have a different aspect or twist to it that I can adopt because I can see easily how that fits into what my strategy already was.

As further evidence of this lack of educational understanding, when I asked Anastasia about what she might like to experiment with as a part of her action research study, we began to talk about assessment. Her question to me again exemplifies not only how isolated her practice is from other disciplines, but also that she is without the educational models (to include concepts and vocabulary) to inform her practice. This is clear when she asks, "Are there other methods of assessment that people use in different departments? I was always wondering about that…"

As another example, Mike provides insight into his lack of educational understanding as a part of his teaching when he describes a formal course he took in graduate school that was designed to prepare him to teach undergraduate courses. His description shows that this training did not include comparative educational models or theories as a part of the course, instead it was focused on techniques and classroom management. He stated:

> We went through pretty much everything from how to set up syllabi to how to create good tests, how to grade different types of tests, what to do if there's any problems in the classroom. And as part of the actual course we went into an existing class and taught a session and it was videotaped…Well, things like making sure about minor stuff. Like erasing the chalkboard when you're done teaching. You know maintaining good eye contact with students; making sure there is a difference between teaching with an overhead and teaching using the chalk board/mainly you can use an overhead to face the class rather than turning

> your back all the time and using the chalk board. Kind of concrete how to's is what stuck with me but I think…At the same time he did not really say here is how you should teach this topic. It was more about how to set yourself up in the classroom to do what you needed to do to do a capable job.

Freda's answer to how she learned to teach is also provided as an example of her not having comparative educational models from which to develop her practice professionally. She states:

> I really didn't have an Education background, like I did not know what a rubric was before I started teaching here. So, if that doesn't explain it all. So, pretty much by the examples I saw. Once I started figuring things out, I started exploring a little more.

Finally, Sydney provides us with insight into her struggle with not having comparative educational models within which to think about and develop her practice.

> I want to be a good teacher not only because of my knowledge and personality, but also because of my skill and I want to be developing those skills and sometimes I feel like I'm just good because I love it…I think I just have questions about how do I know what I'm doing is really effective and what do I mean by that. How do I define a skills set, identify it, develop it so that it feels like this authentic trade that I'm applying rather than…There must be something terribly wrong with that. I love being in the classroom. I think not having any formal training in it and not being able to articulate what works…

This evidence is important because this lack of educational understanding (to include models, concepts and vocabulary) from which to discuss their teaching and

learning practice, puts these participants at a disadvantage in a professional development sense. It also leaves a void in their practice on how they can determine for themselves their effectiveness as a teacher. Specifically, it is difficult to critically reflect on, and examine, different teaching approaches and practices when they cannot be named. Further, it is important because it is difficult for these participants to translate into practice what they advocate as key goals within their teaching (especially a balance between inspiring and engaging students and covering the requisite content) because they do not have the vocabulary, skills and knowledge to accomplish such a translation. Finally, it is challenging because these are faculty who are passionate about their chosen fields and disciplines and who do not necessarily want to study educational models or theories or even be involved in philosophical discussions about educational theory. Chico and Linda illustrate this last point best in their final interviews.

In her final interview, my conversation with Linda turned to talking about how she might make focusing on the development of her teaching practice a priority. An excerpt from this conversation serves to illustrate how Linda is committed differently to the study of pedagogy and educational theory than some of her colleagues who are science educators. She states:

> I think that…I mean I have had some colleagues who schedule time for that [to discuss pedagogy]… that works for them and again the idea of that, it doesn't work for me, like everyday around noon… I enjoy doing it and I think about it a lot of times, but it does not fit into my schedule. I think there is something to be said for finding time in your schedule. I think that our President introduced the Friday get together a couple times a semester, and I think really it is that same

> concept to actually take some time to hear ideas instead of everyone sitting in their office coming up with the same ideas over and over again…and I think it is a little bit like everything else…even though it is positive we bump it.

Chico provided a second example, of non-Education faculty not necessarily being interested in studying educational models, during our final interview. Chico stated:

> This is something I am not really into…pedagogy. I am only into it to help myself. You know I have an easier time, and I certainly want to do that with my students but I do not want to sit around in a day workshop on how to teach. I'm into it… I got a Ph.D. because I like doing research and I think Education is important because I was headed towards that, but I would rather inspire young minds with good projects, science projects or service projects and I would rather not push a lot of paper around and go around just talking with other…especially outside of my field. I would rather have meetings with people in my field to talk about science and perhaps talk about ways of teaching certain topics, of limited value to talk to someone from [another non-science discipline].

When I asked Chico as a follow up if he thought our group discussions fell into the realm he had just described, he said, "…no…but I am not into educational workshops." This is interesting on multiple levels. First it highlights an understandable passion for his discipline and not pedagogy which I suspect is true of many non-Education faculty members in teaching institutions. Second, it shows that the design of this action research which included working sessions and discussions is not painted in the same light as more traditional, faculty development and educational workshops. Finally, this is important because the fact that the participants in this study lacked comparative educational models

from which to think about and develop their teaching practices, does not automatically translate into a desire, on their part, to study pedagogy and other educational models.

Participants in this study do not have comparative educational models within which to think about, or from which to discuss, their teaching approaches and practices which provides a challenge. A traditional and immediate response to this challenge might be to provide them with seminars and workshops on a variety of educational theories and paradigms. As non-Education faculty, however, these participants may also not be predisposed to philosophizing about their teaching practice in educational or pedagogical terms, nor do they necessarily want to invest the time (or have the time to invest) in attending more traditional educational workshops that focus on pedagogy and are provided as part of more traditional faculty development. A course or workshop on educational theories and paradigms, for example, would unlikely be attended by the majority, if not all, of the participants in this study.

The design of this study which positions faculty as adult learners engaged in qualitative, action research also sets up a conflict between research paradigms as a part of professional development that is supported by evidence from the participants in the next section of this data display.

Research Approaches and Traditions Placed in Conflict

The design of this research took some individuals steeped in the tradition of the scientific research paradigm and placed them within a qualitative, action research paradigm. This caused some of the participants, like Freda, not socialized in the scientific research paradigm to reaffirm (or name) their approaches to professional development of their teaching practice, while it caused others disorientation and confusion that resulted

in, at least initially, attempts to fit action research back into the scientific research paradigm. For the participants unfamiliar and uncomfortable with qualitative, action research it also tended to create an inability or uncertainty about how to move forward with their own education action research projects. This conflict of research paradigms is well expressed by Lee in his final interview, he stated:

> Lee: For me, yeah it comes back to I tend to be very systematic person and the first half of this series [meaning the research project] I was just totally confused as to what was supposed to be going on. I did not understand.
>
> Bili: You wanted structure?
>
> Lee: Yeah. What do you call it? I forget the term for the type of research.
>
> Bili: Action research.
>
> Lee: Yeah.
>
> Bili: Education action research.
>
> Lee: It didn't work well for my brain [laughs].
>
> Bili: Because your brain has been sort of wired differently?
>
> Lee: I guess so because there was no definitive question. Therefore, no definitive way to experiment, at least from my perception. I just had this discussion with a student the other day based on philosophy and science and whether or not there was room for science and philosophy together and I came to the realization that I have done a very good job in my world of kind of limiting philosophy. I have kind of shut it out in the sense that science revolves around questions that you find a way to ask the question and you find a way to answer the question that is definitive. It is not about finding truth. It is about finding fact. The facts that are

> accumulated give you knowledge; knowledge is what it is all about. So without that it kind of gets me confused for awhile. But once I got past the fact, not that I was supposed to be doing something in particular for you, it was just that oh I'm just supposed to do something…

A second, minor example of this clash in research paradigms surfaced during our first group discussion when I began by introducing the concept of ground rules for our group. Specifically the rules we wanted to operate under as a group. After some time, the group came up with several rules to include confidentiality, respect for other members and what they have to say, and to practice fair critique which essentially meant creating a safe environment that combined the ability to support and challenge one another as colleagues. While the concept of a group establishing ground rules for their discussions and interactions is fairly standard within social science research, it is not viewed as relevant or important among some of the science faculty in this study. This makes sense, given that scientific research most often does not incorporate discussion as a method of research and data collection. During the discussion about ground rules, Mike, for example, stated:

> I'm fine with everything that's been said here. I didn't come into this expecting to have ground rules. I just think its fine. I think it's weird that we need to discuss how we're going to discuss the discussion. I think that we should just do it and not worry about it.

More concrete evidence of the clash between research paradigms is expressed throughout group discussions, as well as individual interviews. The evidence is primarily in the scientific research terms used to try and plan the education action research projects.

This is not to imply that action research cannot be quantitative, but the emphasis in this study was on more qualitative approaches to experimentation within participants' teaching practice. Excerpts from the dialogue during the first group meeting that focused on planning for the education action research projects illustrate how the participants used scientific research terms and approaches and tried to apply them to action research. For example, Chico begins by talking in terms of a hypothesis for his action research, but does not intend to measure the results quantitatively. He stated:

> Well, basically… probably…my hypothesis is, the more active, the more research oriented, you know not just looking at what other people say about it, but doing it themselves will turn them on more and be more stimulating and they'll probably come out with a more favorable view of plant systems than if I just leave them all in the library.

The following exchange further illustrates this clash of research paradigms experienced by participants in this study. Chico begins the exchange by stating that:

> Chico: I think Linda brought up a good point. Maybe rather than divide the class half and half which was my idea…So, I certainly would not like to split them. If we make them do that type of project versus a different one later, I could be biasing the outcome based on where they were in the semester. I mean I would expect if I've done anything right in the semester, then any project at the end would have the higher approval rating because they've gone through the entire course.
>
> Mike: Well, to really control for that, you would need to do it for two semesters and flip the order.

Lee: But that's a very important thing. Most everything that we're talking about in terms of output requires more than one semester. I mean how do you make a big sweeping change in class and figure out how it's going to make a difference? From my point of view, I'm thinking of doing something in the general bio class. A great idea would be to switch the order of what I teach so you're going from the atom up to organisms and ecosystems as opposed to the ecosystem backwards. But how do I switch and then determine whether or not that made a difference?

Linda: One of my general questions about all this is we're all talking about, especially those of us in the sciences, controls. About how to control and being empirical and all that good stuff. This concept of action research, I guess I was seeing as a little bit different than the typical kind research that we tend to do. Where it's not as important to have controls per se. But one of things I need clarity on is how to do assessment of what I'm doing because if I'm doing action research…it's a little bit like scientific model where they do not so much base it on a hypothesis but more that you try something and somehow evaluate it and the effectiveness of it and then you modify based on what parts worked and what parts didn't so that every time you are going through the cycle, you're trying something different and modifying it. Which to me conceptually is very different than what's been described [by other group members]. You know, this group is doing one thing and this other group is doing something different. Or this class is doing one thing and this other class is doing something different and using those tangible markers. Now, it's nice to have a tangible output, you know like an objective test at the end of the year or the semester or whatever and to evaluate

that. But I guess maybe this relates back to your idea [pointing at Lee]. If the goal is to generate excitement, how do you really assess that? Is it just based on what goes on…

Lee: Yeah, I have a tough time with that because I am not a believer in survey. I don't believe in surveys. They're subjective.

Chico: A well –designed survey is pretty powerful.

Mike: The problem with surveys is not all of them ask clear questions or leave a lot of room for ambiguity. I think that's the most important part. I think surveys can be done correctly…

Lee: I'm not familiar with…

Mike: Yeah, I'm not. I became somewhat familiar in a teaching styles class. Again, I think there are ways to do it where you can be more objective than just, how do you feel about this? How do you feel about that? That's just… There are certain scales that you can use to direct the question to be as specific as possible. That kind of thing to reduce some of those biases. The bias never goes away, but if you get a sample size large enough you can kind of cancel it out.

Mike, in our last group discussion, again highlights this tension between research paradigms by continuing to try to quantitatively measure and compare the outcomes of his education action research while simultaneously recognizing that subjective indicators of higher student engagement were evident as a result of the change he made in his practice. He stated:

So what I decided to do, and I kind of went about it in a scientific approach, where in the macro course I sort of kept it standard, more lecture based, and in the

> micro course I added a few newspaper articles as well and then I gave them an interactive experiment to try to simulate what we talk about when we talk about competitive markets; supply and demand curves… rather than just lecturing about it. Then the next part where I was going to sort of test whether it was worthwhile as far as learning… Just by eyeballing the scores [on the first exams] they sort of look the same to me between the courses and when I try to control a little bit for the demographics it's probably not going to play out that way… but overall I mean besides that, the interest was there, the engagement was there…Overall I think it went pretty well. At least with engagement; with the learning part, I'm not so sure.

Finally, as a part of his last interview, Mike also shared his thoughts on working within action research as a scientist and how this created a new research perspective for him as a researcher from within the scientific tradition. He said that:

> I think the whole aspect of the action research was kind of strange to me because we are very used to….I think some of the people in the hard sciences felt that way as well, that everything is very structured, you have a hypothesis, you figure out a way to test this hypothesis and you look for differences by these formal tests and this [action research] is something that is pretty new and it is very subject oriented and I know I complained before about it seems like I was doing the research and you just kind of sat back behind the glass wall and monitored as the monkeys went and did their thing…Your research is watching us come up with all this stuff. How do you do something different in your classes? So it was just unusual.

> It was an unusual field just to look at as a researcher. That was probably the hardest thing for me to grasp.

The clash between research paradigms is evident from the descriptions provided above. Specifically, those individuals placed in a qualitative, action research paradigm as a means of professional development who came from the scientific tradition understandably sought to apply scientific research concepts and terms to their education action research projects, wanted clearer direction and more directive behavior from me as the researcher, and wanted to find quantitative (instead of qualitative) measures for the outcomes of the action research projects.

Summary. Participants provided evidence that they did not have comparative educational models within which to reflect on their teaching practice and from which to discuss the professional development of their practice. This is an important consideration in professional development approaches and designs for non-Education faculty while also remembering that these faculty members are not necessarily interested in studying pedagogy or educational theory which is why they chose the discipline in which they are experts and for which they have passion. There is also evidence of tension between the scientific research paradigm and the action research paradigm resulting from the design of this study which engaged participants in qualitative education action research as a means of professional development of their teaching practice. Lack of educational concepts and vocabulary for teaching and placing some participants who were socialized in the scientific research paradigm into the qualitative, action research paradigm combined to create confusion (on the part of some participants) and (arguably) a disorienting dilemma, as well as a focus, across all participants, on each individual's

teaching practice. The next section of this data display provides data that looks at the professional development process for each participant and for the group as part of this research design.

The Professional Development Process within Action Research

As was true earlier in this chapter when looking at commonalities and differences between and among the research participants with regard to what motivates the professional development of their teaching practice, so too there are commonalities and differences with regard to each individual's (and the group's) professional development process as a part of this study.

My action research project was designed to engage faculty members in their own education action research projects as a non-traditional and more integrated approach to professional development. A key purpose of the initial interviews was to provide context for each participant about their teaching and learning and to motivate them to begin to focus their thinking on their practice and what they might like to change, or experiment with, within their practice. The group discussions were loosely meant to follow key elements of the action research spiral and, as such, the first group discussion centered on teaching issues and planning and the second group discussion focused more on implementation and feedback. Two members (Freda and Linda) of the group of five participants who were able to see the study through were unable to attend the second group discussion and I met with them individually to talk about their projects and their progress. This is important because during final interviews (which took place prior to the third group discussion), Freda and Linda, who had experienced only the one group discussion, were far less enthusiastic about their participation and results than other group

members. The third discussion centered on reflection and replanning (or what might be useful going forward) and, unfortunately, Lee was not present at this discussion. Let us now look at the commonalities and differences among the participants in this study as it relates to their professional development process (as opposed to their motivation to participate in this process as laid out earlier) within an action research paradigm.

What Participants Highlighted as Key Elements in this Process

Participants highlighted key elements of the professional development process within this study from the data collected during, especially, the third group discussion and final interviews. Participants found value in having the opportunity to focus (and reflect) on various aspects of their teaching practice; they believed that the discussion component of this professional development approach provided a unique value added in bringing them out of isolation and to peer support and challenges as well as new ideas and perspectives. Each participant voiced a continuing challenge with time to focus on teaching, time to engage in this type of professional development, and more time needed to determine the impact of this process on themselves, their teaching, and their students. Finally, participants talked about the need to change expectations of students, their institution, and higher education toward learners being more self-directed and interdisciplinary and finding new measures for faculty that fit these changing expectations.

The opportunity to focus (and reflect) on their teaching practice. The data presented below provides evidence that the opportunity to focus on their teaching practice was a key benefit of participation in this study. While expressed as an ability to focus, participants appear to imply that focus is interchangeable with being able to pay attention

to, and reflect on, their teaching practice. This outcome also supports the need for institutions of higher education to allow newer faculty opportunities to focus on their teaching practice. While each participant focused (and reflected) on a different aspect of their teaching practice, efforts seemed to converge on the common issues of fostering student engagement, creating experiential, participatory, and applied learning opportunities for students, finding better ways for assessment of teaching effectiveness, as well as evolving their own teaching practice and being able to experiment. A key benefit, however, appears to be in creating the opportunity for these newer faculty members to be able to take some time and focus and reflect on their self-defined priorities within their teaching practice.

For example, Linda expresses this benefit of participation as:

> I think probably the most beneficial thing was…that there is no way to anticipate everything that might work or not work, even for courses where things worked for others whether they came up with a strategy and dealt with something and knowing that it may or may not work for you.

Freda says, "I guess it made me think about things I guess I had already been thinking about but just maybe formulate them a little bit better in this whole process because really that is what this experience has done for me." Lee expresses this opportunity to focus in terms of and increased awareness about his teaching practice or, perhaps, actively reflecting on his teaching practice. He states that:

> It was an interesting concept in the sense that it was a chance to kind of give a thought to what I am doing, a little self evaluation. A little confusing as to what was supposed to go on…but I think overall it just mostly became a sense of

> reflection, a sense of just deciding one of the things I might have decided that I am going to do that I might do differently…Awareness…By drawing attention to the fact that we are looking, or trying to evaluate what it is that is going to help students or subconsciously that's just what I do. I don't think about it. It becomes a little bit more apparent to have somebody saying how would you do this? Or what would you do for this kind of scenario in this class, which is part of the reason that these groups discussions are somewhat interesting depending on what the topic becomes and how cyclic it becomes but you still have interest.

Another example of the benefits of providing opportunities for faculty to focus and reflect on various aspects of their practice comes from Chico. In his words:

> I have been thinking about what I am doing in a more rigorous manner than I would have otherwise so that has probably helped me focus how I would write up my teaching philosophy and perhaps talk about how my teaching has changed in my tenure and promotion package.

Finally, Mike expresses the benefits of being able to focus and reflect on his teaching practice in terms of being pleased about being able to run the economics simulation and have it be successful in engaging students.

> Well, I was happy to be able to run it [the market simulation], to be able to do something different in class rather than just the traditional lecture and question formats. I got to interact with a new piece of software that I just learned about earlier that summer at a workshop so it was fun for me to get in there and learn something new and was pleased that I was able to pull it off...that was something I

> enjoyed and the fact that I know given the resources or the time and the availability of the lab it is something I can do again.

Each participant expressed as a direct benefit of their participation in this study, the opportunity to focus and reflect on various aspects of their teaching practice (as defined by each individual) through experimentation and peer discussion. A second, unique value added of engaging participants in education action research was the group discussions designed to loosely follow the action research spiral of planning, implementation, reflection, and replanning.

Discussion as unique value added. It was previously established that these untenured, non-Education faculty consider professional development of their teaching practice to be an ongoing and continuous effort. The element of discussion incorporated into this study (and that included peer support, feedback, and challenges, as well as exposure to new ideas and perspectives), however, does not normally appear to be included (for this group) in that professional development effort.

For instance, Lee best highlights the overall unique value of discussion with peers when he responds to the question about his benefit of participation in this study during his final interview. He stated:

> For me it would have been in our last session when we actually had some discussion going back and forth about how different people would do different things. With regards to my own experience, with my own research in doing different things in the classroom, that is not unique to this study, so the only thing that would be unique in this scenario would have been the fact that I had a chance to interact with people I wouldn't have interacted with…it's different people from

> different departments are going to see things differently and it is always an advantage to have different ideas or just a different way of looking at something in order to get new ideas for yourself of how to do something.

Later in the same interview, Lee points out that this type of discussion which he viewed as uniquely beneficial is not something he would proactively work to make happen on his own. In his words:

> Yeah and that [discussion with colleagues] is a good thing and it is not just something that I would seek out because I don't have a lot of time. So a directed interaction with other faculty with other points of view is a good thing and it is not exactly something you just gravitate toward, especially faculty that are younger, busy; you have commitments.

When I asked Lee if the discussions had not been a part of the study design, what, then, would be a benefit to his participation, he responded with, "Then I wouldn't have been able to tell any difference between the study and my regular life." By "regular life," I believe he meant his independent and continuous efforts to improve on his teaching practice.

Similarly, Linda and Freda express the overall unique value added for them by the discussions as a part of the study in the following exchange during our final time together as a group.

> Linda: My final thought is, and Bili and I talked about this at our interview, just the idea of being able to meet with, and to have a group of people that I feel, leading into a semester, that I can sit down with and actually have tangible conversations with about some of the strategies that we are trying, so that instead

> of me feeling like I'm coming up with ideas or figuring out how to implement things in a vacuum that I am actually doing that in conversation with people… even in other fields, sometimes it definitely helps to do it with people within your own field, but even with people outside your field… anything that actually forces me to actually sit down and do that organization part; that processing that Bili mentioned at the beginning, I think is good…
>
> Freda: I agree. I think talking about what makes sense…I think talking through a lot of this also helped me to see where everybody is and how we do things sort of differently and say, oh yeah, I never thought of that aspect of how you might struggle with these sort of issues [gesturing to Mike] or maybe if I do more of that in my classes then this might happen. Just to be able to see the other side.

This conversation is particularly interesting because, in her final interview (which occurred before the exchange above), Linda expressed her belief that science requires a different and unique approach to teaching than, say, the arts, and that the discussions would be most productive if they were limited to faculty from similar disciplines or the same discipline. Freda, also during her final interview, talked about how she got little out of the first group discussion because it centered on teaching within disciplines that take much more of a lecture-based approach than she does in her teaching of art. In the excerpt above and in group discussion instead of individual interviews, however, both individuals express the value of ideas and perspectives from multiple disciplines. It is also important to note that Linda and Freda did not have the advantage of participating in the second group discussion. In fact, Linda comments on this during her final interview. She stated:

> Also, and I think I missed one of that group meetings and that [the group meeting] was helpful…I find it really helpful to talk to other faculty, to other colleagues about the kinds of things that they have done or things that they've tried. I think it is interesting too because sometimes something that someone else tried that didn't work for them…and I don't think I can over emphasize how important it is for me to have those discussions.

Freda showed her disappointment in having to miss the second discussion (and before the third meeting) and the unique value of discussion as a part of this study. She stated:

> I haven't had the opportunity to be with too many other colleagues so I was hoping for more interaction that way but I think that is the experience I thought. I wish there was more of that than happened but other than that, I think it was a good experience…

A unique value and benefit of this study, then, proved to be the group discussions. This is in part true because they provided an opportunity for expressions of peer support and peer challenges, as well as new ideas and perspectives for participants to consider.

New ideas and perspectives through peer support and challenges in group discussion. In reading and reducing the data from this study, instances of peer support and challenge that result in new ideas and perspectives are noted throughout group discussions. Mike, for example, seems supported by his newly found understanding of similarities between the issues he deals with as part of his practice and his fellow, untenured, non-Education colleagues. Mike stated:

> Again I think it was kind of interesting that all of us had to do the same types of things…we are all looking for different ways in student learning to aid their

> understanding, make it more interesting and applicable to them. It was interesting to see that all of us here generally had most of the same concerns and goals and all strive to make our classes as interesting to our students and I think it was nice to see that across the different departments here at our university.

A second example is provided by Linda who in her second interview talks about the power of peer pressure in helping her make professional development (and participation in this study) a priority among her many, many priorities and commitments. From the citation below, Linda frames peer pressure as a positive support in helping her prioritize because it speaks to the need for accountability to the group as a part of making professional development a priority. In her words:

> I really don't feel like I have an answer to how to make it a priority other than the peer pressure aspect. I mean that does create an environment where I really do know that I'm going to get a lot of out of it because they are there as well to go through the process. It helps to be the motivating…not just motivating factor but just to, I think in terms of how you make it a priority for me I guess I have to connect it to what I do in class. In class you have that sense [of priority] because you have to be there regardless of whether you've been up all night, doing your promotion applications, it doesn't matter, and I think it is a little bit like everything else…even though it is positive we bump it.

In another group discussion, Freda describes her challenges with working within the rigidity of structure expected by the students and how this is not in line with her normal, flexible approach to teaching. After some reflection, Chico questions Freda on this:

Chico: Freda, why are you worried about the schedule being laid out? I mean, they [the students] express their frustrations, and I've had that. Certainly my classes, upper level classes, I do that. Because I'm always trying to learn…that's the selfish part…and so I'm always teaching stuff that I'm just learning; new techniques and new ways of analysis and that helps me. But I don't know exactly how long it's going to take and sometimes I do have to extend it because it's a very complicated subject. Are you afraid that it will reflect on your evaluations?

Freda: It has.

Chico: Because you can say [makes authoritative, nonverbal chopping gesture], ok, you know this is what we're going to do to learn more.

The above is probably one of the better exchanges that illustrate colleagues challenging each other to think differently about their teaching. This type of peer challenge, however, is also a key example of how discussion with colleagues can introduce new ideas and perspectives to one another in order to produce new thinking about teaching.

The exchange provided below is offered as evidence of how discussion focused on teaching practice can, on a peer level, challenge participants toward new thinking through the sharing of new ideas and perspectives. While this exchange goes on for some time, the gist of the conversation is provided in the excerpts below. This is a discussion originating with Lee when he describes how he is providing a review session for his exams as a result of a previous group conversation within this study. When I encouraged him to think about how he might use these assessments as a part of the learning process, Lee says:

Lee**:** Like a project? I need an idea, discussion kind of thing.

Chico: This is just a discussion, right? Okay basically you have an assignment where the student has to take five questions that they got wrong and say why they got it wrong and explain the correct answer, why they understand the correct answer. For them to go back and reflect upon the ones they got wrong and of course it is going to be different for everyone unless of course you go back to your sheet and everyone got it wrong. So that is a way to use their individual test results as actual learning tools.

Lee: So use them as learning devices…okay you got this wrong, here is another chance to actually learn why.

Chico**:** Not to retake the test but to reflect upon why you got it wrong and go back and do the research and make sure you understand the right answer.

Lee: You know, that has a lot of potential. I like that. I can find the potential [in the suggestion made by Chico].

More discussion followed about how tests are used and their purpose which resulted in a question from me about how we could think about linking tests to learning and moving students to the next level of skill or understanding. Here is Lee's response and other key excerpts to round out this discussion that demonstrates peer challenge mixed with new ideas and perspectives in action to stimulate new thinking about teaching approaches and practices. The discussion begins with Lee who states:

Lee**:** I have mixed feelings on that [using tests to teach]. You can't do that on a lower level class. That is basically saying okay students you are going to do self study. You need to have at least I think in the lower levels, the 100 levels, the 200 levels, you have to have a very defined sequence of things that they have to

learn because those things are hinged for everything else, so there is room for additional things. I am not saying that there is not room for that but there has to be these milestones or whatever you want to call them, these tests that are geared toward and say hey this is the material you should know for advancement to other classes. If you don't know this, you've got to do something different. In that part I guess I am thinking the tests are not necessarily a learning tool. It is simply to show the student whether or not they have comprehended things. The learning goes on continuously up to the point and all the way through the class you would hope and so the test simply becomes now just a tool, at least that is how I see it, so I don't know that you would need to gear the test to trying to teach them something new but they certainly should reflect on it because if you get a 50% on your test, obviously something is wrong but that is going to vary between every single student. What was the problem? Was it because they not care about the material? Was it the instructor? They didn't understand the material. All of those mean different things with regards to how you shift teaching but I don't know that you can address all of them.

Chico**:** The problem is not so much as to how you shift teaching but that reflective assignment of taking your five questions that you got wrong and actually going back to your notes, going back to your reading assignments, and actually saying the answer was right [there]. And Mike brought up the point that this is a process…ok, what do I have to do to do better on these things? You ask those questions. Is the answer really that easy, was it really in my notes, was it really in the reading, and suddenly yes, the answer is yes to that. They didn't see

that. They didn't see how they took that information they asked you about and you didn't get it, so they can use that to understand the process of studying. So it becomes a wonderful reflective tool.

Lee: And the students actually look at themselves in that scenario…Here's an idea. These ideas actually come up when we talk with each other, but an expansion of what you brought up Chico. What if you what if you modify it in another way? You can give the students five questions that you don't teach about. Give them five questions that you don't cover or you just cover in general but they have to actually identify what that particular information is and then put those five questions on your test…They have to figure out exactly what it is. I mean obviously it is multiple choice questions so it is going to have answers, at least in my case, but it could be an essay question. It could be anything like that where you assign them, say here are five questions. This is utilizing the information that we are teaching here. You have to understand the true details of this and these five questions will be on the test.

Chico**:** So you give them a research assignment?

Lee**:** It becomes a research assignment that becomes part of the test and there is your teaching tool. You give them the questions. You don't hide it, you don't say that it could be something like this. You say this is information that you have to be responsible for.

Though somewhat lengthy, this excerpt is good evidence of the group process. In this case, Lee, through discussion with his peer, moved from the position of not seeing tests as potential learning tools to generating his own ideas of how to turn them into learning

tools. The discussion that followed between Lee, Chico and Mike supported this idea even further because they all likened this approach to teaching they had experienced as students, especially as graduate students.

Another example of how this study brought together colleagues to stimulate new ideas and provide different perspectives took place during our final group discussion when the conversation turned to the possibility of publishing or presenting some of the results of their experiences with education action research. At first, the barrier of lack of quantitative data resulting from their education action research and the lack of objective experiment design were discussed, especially by Chico. Freda and Linda, however, encouraged him to think about presenting his efforts and results to a group outside of his discipline and outside of the scientific research paradigm. Chico, in turn, began to encourage Mike to publish the results of his having incorporated a market simulation into his summer, Economics course. An excerpt from that discussion is provided as evidence of this exchange which displays peer support, peer challenge, and the generation of new ideas. Chico began the conversation with:

> Chico**:** I was thinking about what Mike did which was great. I mean I understand how that works, that type of learning experience and certainly he could post it up on line and if I was an economist and I was searching around for lab ideas, I would find his approach to be excellent and I would probably print it out and I would probably adapt it, but for him to publish it, from my understanding he needs to show that it increased learning…
>
> Mike: Yeah, there'd need to be a little bit more, but **t**here are journals…there is a journal of economics education and that is what they do.

> Linda**:** I think there are different levels on whether you are presenting it, because I know we…it would be the same thing for us and I would think you'd be pretty similar [gesturing at Chico]… There are some places to kind of say write up your experience and say here is the context and the concept and my experience with it that doesn't have the quantification on it to say, if you use my strategy, it will make your class do this and the other, so not necessarily that…so it's not really research on biological education, but it is still a… I think there are forums for exchanging those kinds of ideas.

In the example provided above, peer support and different perspectives helped launch thinking for some participants about presenting or publishing their experience in this study in spite of the fact that it did not fit in the scientific research paradigm. Another example of how new ideas and perspectives were introduced in discussion comes from Freda who strongly advocates for cross-disciplinary collaborations. She does this consistently from the first group meeting, but it is during the last group meeting that this idea of collaboration across disciplines begins to resonate as a part of the discussion and with her peers. It is after this final group discussion that Chico promises to follow up with Freda about combining their disciplines around some of the projects he described as a part of his education action research. It was after this final discussion, too, that Freda and Linda began to talk about how they could collaborate with one another. Freda's argument for collaboration to the group is provided in the excerpt below. Freda states:

> And the thing that I find really frustrating in this academic world is that we all live in silos and it's very difficult to break those silos because I think, for my students anyway, I think they get a lot out of it [being interdisciplinary] and

> understand better if they were working with other students from other areas and doing things because they would have to understand and would have to do that research. For me that's a big frustration, because when you work in the real world…I worked for a chemical company designing brochures for years and they did stuff with bugs and patents, so I had to go talk to the chemists; I had to understand what these bugs were. I didn't need to know the molecular structure, but I needed to understand how they worked, so for me that's a big frustration. I don't know how you get that through to the students that you're going to have clients from all over and that's why they need to do the research. You know, one day it might be a chemical company; one day it might be a psychology company.

During our first group conversation Freda approached Chico about having her students work with his as a part of his applied projects. Chico's students could supply the content and Freda's student could create a marketing and graphic design campaign to help brand and publicize his projects. During the first discussion, Freda's gesture to collaborate was not recognized by Chico. During the second discussion (during which Freda was absent), I took a minute toward the end of our conversation to check in with Chico on this idea of collaboration. I stated:

> Bili: Out of curiosity, have you and Freda (from art) talked more? I just remember the exchange between the two of you where she was really intrigued with the notion of mapping what you were going to do and then she was talking about the potential of creating the visual for that data utilizing her students in such a way that they would understand more about Botany, or need to understand more about Botany in order to create that visual representation.

Chico: A mapping project…that's an idea…

Bili: And I will remind her. I just remember her interest.

By the end of the third group discussion, Chico left with this promise, "But Freda, I am going to have to go, I promise I will talk to you [about collaborating]…" These examples demonstrate how peer support and challenges as a part of discussion focused on teaching practice create an environment for an exchange of new ideas and diverse perspectives that stimulated new thinking about their teaching practice with these participants over time. A fourth key element in the professional development process for this group of participants was the issue of time.

The lack of time for professional development. There are several aspects to this issue raised by the participants. One is the lack of time they have (or are provided) to invest in professional development of their teaching practice; a second is that the education action research spiral requires longer to evolve than the finite period of time for this research (although it did span a prolonged period of engagement over ten months and two academic years), and, third, there is a need for a better longitudinal view of the impact of this study on the participants, their institution and their students. Linda provides a good example of a shared sentiment of lacking time to invest in the professional development of their practice. She stated:

> In terms of talking about how helpful it is to have conversations with colleagues, I think we probably all pretty much agree that that is helpful. I think it is really finding the time. During the school year I always feel so spent and I can't clear a spot to be able to sit and have an organized discussion that might actually go somewhere productive. The point of frustration where you kind of throw a lot of

> things out there and that is good and that is helpful but then in terms of actually going back and thinking about it…doesn't happen.

Later in the same discussion, Linda talks about trying to find what she would consider enough time to really have engaged more in her education action research in her practice. She states:

> I think it was difficult for me to find something that I could define that felt different [about her teaching practice after participating in this study]. I think probably the time issue was the most difficult because structurally I had heard about the process [education action research] but the reality of trying to bring anything extensive into my practice on a regular basis is just impossible. We are all there. We all have so many things on our plate that finding the opportunity or making the opportunity to really get good ideas even though it is beneficial, it's still difficult. It is a little bit like going to the gym. You know, great idea and we would feel better if we did it but there are other priorities, other things that have to be first and so I think I really felt like I couldn't set a priority to be engaged and think about the process. That is the part that is most productive is to really do it in an organized approach; not that you can't but… I think I was doing it anyways but always just kind of in my head, well let's try this, lets try that. I don't see solutions for that problem. I really don't.

As another example of the challenge posed by time as an element of experimentation with his teaching practice, Chico talks about having taken on too many changes and applied projects. He stated:

> Well this semester I have learned what works and what doesn't. I have been very ambitious this semester. I have also had 14 contact hours so I have been way overworked actually.

So a challenge of time to fit in professional development is one issue to be addressed. A second issue is participants wanting more time to evolve their education action research projects and to determine the impact of their participation in this study on themselves, their teaching and their students. Linda talks, for example, about wanting more time for her education action research project. She stated:

> As I think about how I started to, you know, adding things to this process of practice and how it seems there is growth there but I don't know that I see it as…but I think also partly that is because I see the approach [in action research], in general, as matching mine…more time, more time.

Lee and Linda both talk about the need for more time to understand the long-term implications of their participation in the study. In Lee's words:

> No, I think it needs more time to actually have a way to evaluate from one's self what they have been doing. It is not enough for me to work with to say, you know what this experience definitively changed my way of thinking when I am still developing my way of thinking and how do you separate those two?...This is an experience. It is sort of a stepping stone along the way of trying to figure out how I am going to teach but something like this cannot profoundly change me when I haven't even finalized what I am.

Linda, as part of the discussion during our first meeting about whether the purpose of teaching is to engage and inspire or to have them learn more, offers another example of wanting more time to determine the impact of her teaching on her students. She stated:

> And then even, how much did they learn during this semester versus how much will they learn over time? Some of this is based more on a test at the end of a semester because it is hard to quantify those who learned more versus those who grew to like the subject and go on to actually do more studying in the long run they'll end up knowing more about the subject and they'll continue to study. That's hard to look at in this small time frame…

So, the issue of time is an important consideration in professional development for faculty, especially newer faculty. This is not a surprising issue or even a new issue, but it challenges faculty developers to think creatively about how to best support untenured, non-Education faculty.

A fourth area that consistently resonated among participants was the need to be able to change expectations (especially expectations about what teaching and learning should be) on the part of students, their institutions, and in higher education, as well as the need for new ways to measure teaching and learning beyond student evaluations. The next section of this data display provides evidence in support of this data point.

Changing students' expectations. Participants talked about student expectations for structure, immediate feedback, and teaching and learning within a traditional structure for higher education which includes lecture, lab, assessment assignments, and so on. Expectations do not necessarily include an approach that is more geared toward applied and active learning in which students are more self-directed in, and responsible for, their

learning. Modifying, or going against, traditional approaches to learning as a teacher necessitates a change in student expectations for teaching and learning. Making this change is, unfortunately, often tied to "taking a hit" on student evaluations and student evaluations in teaching institutions are often tied to the promotion and tenure process for untenured faculty. So, experimenting with teaching and learning in such a way that it challenges student expectations can have a negative impact on standard teaching evaluations and, in turn, on promotion and tenure.

For example, Freda describes her struggle with student expectations for strong structure repeatedly during the study. She stated:

> Well, part of it is because I learned not to do that [not stick to the schedule] but also because of those teaching eval things that we all have to deal with. I was being evaluated on multiple things and, after talking with people, they said that students will crucify you if they don't know what's happening [as far as scheduling]. Like there was one class where you could see them thinking, just make up your mind! And it wasn't about that, it was that I just did not see the progress happening here. As though they felt, ok we did that project [slapping hands together in gesture of being finished with something] so done and done and let's move on to the next one. While I'm saying, no it's not done.

In one group discussion, Linda also describes this dilemma of how to change the expectations of students (especially how to motivate them to be more self-directed) who have come to her classes with twelve or more years experience already within an education system that remains highly structured and traditional. She states:

> I definitely think that that is something that I struggle with in terms of being prepared to implement an ambitious project like that… in a field where students have to learn a certain amount of information. There's is no way around the fact that they need to learn that…and on the one hand, yes you could create a project that they might be interested in it but it requires them to actually show the self motivation to learn the things they need to do in support of that project and if they don't do that, then you are stuck with students who don't even know what they are supposed to learn plus didn't really participate in the project in a meaningful way, and then what do you do with that? And I guess I sometimes am afraid that that kind of division – I mean would you compare it to kind of the have's and have not's? The people who were going to learn something anyway are the ones who would really benefit from that kind of experience. The ones who are in the class for whatever other reason are not gonna engage…regardless of how interesting you think it is.

In response, Freda supported Linda in her portrayal of student expectations. In Freda's words:

> As opposed to…as opposed to… they feel that when they're lectured at and can regurgitate what you've said, then that's learning. And then that's what they're being tested on and if they get that, then they've learned something.

After this portrayal of student expectations, and the need to find ways to change them, I asked if the group thought their education action research projects challenged these expectations. Chico and Freda responded with:

> Chico**:** Oh yeah.

Freda**:** Oh yeah. I mean yeah.

Chico**:** Oh yeah, definitely. And that is probably why half the class and, I don't know, because I haven't seen the evaluations yet, but I'm going to take a hit. But, I really out of principle don't teach or cater to my evaluations, although I am more aware than ever now that tenure and promotion is approaching, but I refuse to be a slave to that because I'm against it.

Chico, then, told the group in more detail about how some students were excited by the new approaches he was taking in his teaching, while others will use it as an excuse to criticize his teaching. In his words:

And I heard exclamations during the class, like "oh wow!" And then after class two people came up to me and said are there positions like this open in the herbarium for me to do this, and I was like, 'yeah but we don't have any paid positions to do this. You can volunteer.' So I think this applied project (because this is very applied, right?) worked and it might even have recruited some people into my upper level course…I felt pretty good about it. Now I don't think this worked for everyone. I think some people said oh he's just getting us to do his work.

In his last interview, Chico talks about one of his applied projects with which he experimented in his class and talks about how student expectations for a traditional model of education are so strong, that they did not believe him about the time that needed to be invested by the students early on when he assigned an applied project. He stated:

And anyway I think people, they didn't believe me. They didn't believe me as to how hard it would be. They didn't believe me when I said it is going to take you

> the whole semester. You need to get your letters out next week and I would review the letters before you send them out and I gave them a sample letter. They didn't believe me, so halfway through the semester I asked for a progress report because I could tell there were some people that weren't doing anything. They thought that it was a normal project that they could just cram the night before on and sure enough half the class didn't hand in their progress reports.

Later in the same interview, Chico again describes how his education action research challenged students' expectations in his classes. He stated:

> So my whole thing was doing the applied stuff. Well this is by far…And it has been a headache because these are not canned stuff. I cannot say it is all in the library. I am dealing with lazy people here as well and people that have never done anything like this before, therefore they didn't believe me.

He then again talks about what impact his active learning experiments are likely to have on his student evaluations because of the changes they create for the role of students in their learning. In his words:

> So I think I am going to take a hit, and I am going to take a hit because some of the students are going to think oh you are really not teaching us on how to get these permits, he is just making us do it. So I told them every place to go. I told them what you need to do but some students who are not motivated are going to use this as an excuse…the subjects were ambiguous, they were nebulous…when they really weren't. The final outcome was not nebulous but as long as you put the effort in you know.

When, as a part of the same interview, I asked Chico why he thought he would get bad evaluations from some of the students, he replied:

> Yeah we [the students] were expecting a formal lecture and you know, and plus because I also have been overworked and because these kinds of projects have required more of my time in terms of contacting people. Well it is going to obviously make me think about trying to still do the same thing because overall I think some students are going to really be happy with this. There are going to be a minority of students who really saw this as a major learning opportunity, probably going to give me stellar [evaluations] maybe. I would think that some people…I am not tooting my own horn, I think that there's probably 2 out of every 10 students that probably see what this has done for them; they like being empowered. They like feeling like they contributed and so they might give me really good ratings, but I think generally half the class has probably struggled so what I will probably do for future is try to make it controlled a little more. Like for instance not leaving 30 points of a major project to something that might not work out, making that extra credit, something like that.

Finally, Freda again lifts this need to change expectations to the institutional level and frames it as a need for professional development opportunities that break down walls between disciplines and professors, that are not directly tied to promotion and tenure, and that are less formal. In her words to the group:

> I think maybe if we include something, and I know you said time is an issue for everybody, but maybe if we observed each other's classes and just not so much like when we go for tenure you have this peer review evaluation which is very

> different but just for a totally, oh gee I never thought of doing that and I am sure there are things that people don't talk about in these sessions because they don't think they are important or the way they do things and if I could observe somebody else teaching that's a new faculty or they could observe my classes I think we would probably learn from each other that way and then maybe we could ask questions in group sessions and say, gee I noticed when you were doing this lecture you did this and can you explain that or gee that is a great idea kind of stuff. I think we could have learned that way too.

A key data point within this research, then, is the effect on student expectations brought on by changes within the teaching practices of some of these participants through their education action research. In particular, students primarily expect a more traditional, structured, one-way, and passive approach to learning and when this expectation is challenged, it can result in negative feedback from the students (at least initially) which can, in turn, affect promotion and tenure if these are tied in large part to student evaluations which is often true in teaching institutions. So, how to best manage this change in expectations (especially at the student and institutional levels) that is necessitated by a change in teaching practice is important in the professional development process of faculty. The next section of this data display provides descriptions as evidence of some of the differences within this professional development process for individual participants.

Differences among Participants' Experiences

In an earlier section of this data display, the differences between participants as to how their respective teaching approaches at the beginning of this study might relate to

Instruction and Learning Paradigms were used to illustrate differences in levels of motivation to participate in professional development. With that evidence as a starting point, and focusing on the five participants who were able to complete the study, it could be argued that Lee (who appears to identify more with the Instructional Paradigm) might be the least comfortable with experimentation in his practice, but could make the most significant change along the continuum. Mike, Chico, and Linda (who give voice to being closer to a learner-centered approach in their thinking) would potentially be open to change through experimentation. Finally, Freda, could be the most challenged to find experimentation that would continue her growth since her evidence already places her within a learner-centered approach to teaching and learning. This could explain Freda's regular attempts to lift up the conversation to address issues such as interdisciplinary collaboration, finding other ways to cross established disciplinary boundaries, and to find new ways of measuring teaching and learning beyond student evaluation. It is again important to note that participants found a unique value of their participation in this study to be our group discussions and that Linda and Freda had to miss the second group discussion. Even though I met with both individuals separately to take some time to talk about their action research projects, missing the second discussion could also have impacted the nature of their experimentation within their practice because they did not have that particular challenge and exchange of the group as part of their momentum in this study.

How the participants described the impact of their participation in this study first requires evidence about the nature of their experimentation within their practice as a part of this research, as well as some indicator toward the end of this study as to where they

see themselves in the evolution of their practice. Let us first better define the nature of the experiments for each participant in the next section of this display.

The nature of experimentation for each participant. Each participant in this study designed their own education action research experiment focused on making a change within their teaching practice. By examining what they actually did, the nature of their experimentation as it relates to their practice can be characterized. More specifically, was the nature of their experimentation designed to significantly change their teaching practice or was it designed to have a more minor (for example, structural or organizational) impact on their teaching approach? The answer rests with each individual participant in this study. Thus, excerpts from final interviews are provided in this section that give insight into the nature and intent of the experiments designed by each participant within their teaching practice.

Lee's primary education action research experiment was to go from, as he described it, broad concepts to more micro concepts in his lectures as a part of his summer Biology course and in an effort to more quickly engage his students. The nature of this experiment was to change something structurally within his teaching, but does not appear to target a significant change to his teaching practice. For example, he did not choose to add more applied projects or to move away from being lecture based in his teaching. As such, when he talks about why this worked well for him, he talks more in terms of how students were engaged earlier and how this flowed well for him as a lecturer, but the value of this change appears to be marginal. In his words:

> It worked in the sense that it was no less confusing for the students to experience it that way. What I noticed, the immediate thing I noticed, was that the first exam

> that was all on macro stuff, very large eco system biosphere type concepts, they did very well on. But they then did poorly or I should say decreased their averages fairly significantly when we got into more and more specific things which did suggest that it does not really matter which way you present it, it is just complicated material for students that aren't engaged in it. The summer Biology class I teach is typically going to be 80% non-majors, 90% non-majors. They are not invested in it. So, yeah, they got on board right away with macro set but probably because it is something they can intuitively understand and then when you get to the cellular stuff, it is just going to be more difficult material. So for my thought on that, to me right now I don't see that it would make a difference too much other than it is a nice way to ease into the class, and so I probably would continue doing it that way in the summers but the problem with that also comes in that I only have one semester doing it each way, how do I really know which way is the best way? I can't answer that question.

On the other hand, as demonstrated earlier in this data display, Lee did have his teaching approaches and practices significantly challenged during this study by other group members which, as he admits, will cause him to re-think and evaluate his approaches moving forward. So for Lee, the value of this study is found less in the experimentation and more in the group discussions which were motivated by and planned around the education action research experiments.

Mike's experiment was designed to decrease the amount of lecture in his summer Economics course and began with a market simulation in which students immediately participated and then used the results of that simulation to introduce and support key,

economic concepts. This was a significant experiment for Mike who states in his first interview that his primary approach to teaching was lecture. At the end of this study, and as a result of experimenting with a significant change to his teaching practice, he expresses that a more active learning model will be his approach to teaching moving forward. However, he points out that his participation in this study helped him focus and bring to fruition an approach about which he had already been thinking. Mike stated:

> I think really it kind of reinforced what I already think and try to do. I am having an opportunity next year to switch my classes. I am getting out of the macro stuff that is hard to do these kind of experiments and switching to micro classes which are a lot easier, more applicable to my field of research and so that is something I am looking forward to. That is a new challenge. Also I will have to prep a lot more courses, but I think it will really enable me to do more of that kind of interaction with the students, something I am really looking forward to and learn how to adapt that thing, that experiment type process more into my courses.

The value of his participation, therefore, appears to be that the study provided him with an environment in which he could experiment with and realize a new approach to teaching that he had already been contemplating.

Linda's education action research experiment was to have a volunteer group of students in a Chemistry lab class go through lab reports, and the instructions for how to prepare those lab reports, in order to determine what they paid attention to and what they did not as a means of helping to improve the quality of the reports and effectiveness of the instructions. For Linda who talked early on about the value she places on constant improvement of her teaching practice and the value of experimentation and, especially,

her discussions about experimentation with colleagues in this study, the intended impact of this experiment on her teaching practice seems minimal. Like Lee, the design of this experiment seems less targeted on a change in her teaching practice and more on a structural or organizational change to her teaching. Linda stated:

> Honestly, I would have to say very little [changed in my teaching practice]. Having said that I really think that in terms of experiences sort of like you know today to tomorrow to the next day, [then] no. But when it is something you haven't seen for awhile then it may look enormously different. As I think about how I started to, you know, adding things to this process of practice and how it seems there is growth there but I don't know that I see it as…but I think also partly that is because I see the approach [in action research], in general, as matching mine…

Therefore, Linda, like Lee, appears to have benefited less in her teaching practice from the education action research experiment she designed and more from the group discussions which she highlights in the last group discussion. As repeated from earlier, Linda stated:

> My final thought is…just the idea of being able to meet with, and to have a group of people that I feel, leading into a semester, that I can sit down with and actually have tangible conversations with about some of the strategies that we are trying, so that instead of me feeling like I'm coming up with ideas or figuring out how to implement things in a vacuum that I am actually doing that in conversation with people…anything that actually forces me to actually sit down and do that organization part…I think is good…

The nature of Chico's multiple experiments with active learning in several of his classes appear to have been designed to make significant changes to his teaching approach. At the time this research was completed he seems to have attached value to those changes and experiments within his teaching practice. He was, however, uncertain about how to best balance these changes moving forward while also creating a change in student expectations so they would be successful with, and empowered by, his more applied approach to teaching science. He, like Mike, talks about how his participation in this study allowed him to realize some new approaches to his teaching practice which he had already been considering.

> Well I, you know I would have done some of this already on my own because I was geared towards that anyway but now you just happened to catch me at the time when I was making these changes [toward a more active learning model], really, encouraging me to think more critically about these changes in terms of… but I would have done it anyway…I can really couch it in terms of participation or change in my teaching strategy with these services. I have gotten stuff done. These are things that needed to be done. I'm on this foundation, and someone would have had to have done all the demographic profiling of the students at [a middle school], identify their needs, look at their test scores, you know on science testing, see where they are deficient. Instead of me doing it, they've [the students have] done it now. So I love getting that stuff done like that and they are learning and someone would have had to come up with educational activities to help teachers take students out into the woods because these teachers are overworked anyway, middle school teachers. So instead of me having to do it, the three teams

> of students have now done it and they have brought in all their stuff, and I have directed them of course, so I like getting stuff done. It is practical.

Later in the same interview, he states:

> I think it [his education action research projects] accomplished it [making his teaching more applied and students more engaged]. They got to see what real scientists do and they learned in the process. I want them to be…I guess I would be willing to have them memorize fewer terms but do something applied so they get a feel for what the career is actually like.

So, the nature and intent of Chico's experimentation was to significantly make a change to his teaching practice which he accomplished, but not without consequence. He still struggles, for example, with managing or changing student expectations to accept and succeed with a more applied and learner centered approach to teaching.

Finally, based on her contributions throughout this study, Freda already operates pretty consistently within a Learning Paradigm approach to teaching wherein she, through a studio approach to teaching Art, is highly involved with students one on one, her students are responsible for their own learning, and she guides and coaches them less through lecture and more through feedback and challenge. Yet, the nature of the experiment she designed as a part of this study was to make more of a structural change to one of her combined classes instead of a real change within her teaching practice. Specifically, she took a combined class of beginning and advanced students and paired them up as best she could to work as a team to allow the advanced students to provide the beginning students with feedback and direction on their work (instead of Freda providing it). In Freda's words:

> It was different because I have never combined the two classes in that way. I mean I have taught them combined but always separate days I would critique advanced classes and on another day I would critique intro, so I never had them critique each other. I think it went fairly well because it was more anonymous; we just picked numbers and said you are doing this one and that way….but they had to not only critique it but they had to give direction and structure which is a little bit different than the advance students are used to. I make them critique peer work all the time but here it wasn't just a critique and then it was more, ok, you critique the work and now you have to tell him what to do to fix it, or how to fix it or give him direction beyond just saying this is not working and to look at this and that and I think that was more difficult for them…for the advanced student to put in words and actually art direct someone as to how to make the piece better and then we came back on the second critique and had them look at it and give the critique as to whether they followed the instructions or if there was a misunderstanding, and I think they learned from that process how they had to clarify things a little bit better.. .I thought that process went fairly well. I probably would do it again in when I have these courses where they are stacked courses where I have a beginning and intro class together.

Again, the impact of the experiment on Freda's teaching practice does not appear to be significant. Perhaps because Freda already operates within a Learning Paradigm approach to teaching, the nature of her education action research experiments in the future need to be challenged to a different level of experimentation beyond structural or organizational changes to her classes. For example, her ongoing push in group discussions for ways of

working with other group members toward interdisciplinary collaborations may be a starting point for future experimentation for Freda.

In summary, the nature of the education action research experiments designed by Lee, Linda and Freda did not appear to be intended to have a significant impact on, or make a real change within, their teaching practice. On the other hand, the nature of the education action research designed by Mike and Chico were intended to experiment with substantial changes to their teaching practice. Lee, Linda and Freda appeared to get less benefit from their education action research and find the most benefit, instead, as a result of the group discussions. Why these differences? It may be attributable to where they began this study in relationship to the learning paradigms, as well as their ability to participate in all the group discussions. The important outcome to note, however, is that those individuals who designed education action research intended to experiment with a substantial change in their teaching practice and who benefited from all the group discussions, also appear to have made the most significant changes within their practice going forward. The nature of the experimentation in which each participant engaged, therefore, appears related to how each participant viewed the evolution of their teaching practice as a result of their involvement in this study and education action research.

Participants' views on action research as professional development. Each participant provided comments about how they view their teaching practice as a result of their participation in this study and their being engaged through action research. In the previous section of this data display, evidence was provided to illustrate the nature of the experimentation in which each participant in this study engaged. More specifically, it was determined whether or not the education action research designed by each participant

was intended to experiment with real or significant change in their teaching practice (such as lecturing less and incorporating more applied projects) or was intended to have less impact on teaching practice and be more targeted at structural and organizational issues within their course or teaching. It was determined that the nature of the education action research designed by Mike and Chico was intended to experiment with real change to their teaching practice, while Lee, Linda, and Freda focused their research more on structural and organizational aspects of their teaching. It follows, then, that Mike and Chico might see action research as having more of an impact on their practice, while Lee, Linda, and Freda would not.

Mike and Chico intended their education action research to experiment with substantial changes to their teaching approaches and practices. The impact on the professional development of their teaching practice through their participation in, and engagement with, action research is reflected in excerpts from their final interviews. Mike, for example, views his engagement in this research as having solidified a more applied and experimental approach to his teaching practice, and he can articulate this difference. In his words:

> I think again it just reinforced the things I like to do…Try to gauge student interest in the subject by trying to make it relevant to their daily lives…make it concrete and that is something that the experiments really tried to do because you can introduce these topics without even talking about them formally and use their behavior and their decision making…say look here is what you guys did, it corresponds or it does not correspond to this theory and that is the key that I like to do in my classes and that is something that again reinforces what I do…Rather

> than theory, try to bring in more examples and that it actually does work and it applies to a lot of their lives.

In his final interview, Chico describes significant changes in his teaching philosophy and practice as a result of engaging in education action research as a part of this research. He states:

> Well my teaching philosophy…I will just use one example because that is a big topic but one example is in Botany. I used to go into Botany thinking they need all the basics in an intro Botany course. They need all the basics whether they like it or not and the basics can be pretty boring or dull to many people because they don't get to see any application beyond what is already known. They don't see Botany as an exciting field because they think, oh, this is already known. So, in my push for this project to do applied stuff and to get involved with cool projects for the students that are really leading towards something, I have just been rethinking how I would approach general Botany as well and I think I am going to teach it in the future through applications of computer science and case studies of what a plant physiologist is doing right now. Somewhat of the hot topics and that might turn them on more and more. I use those as vehicles to teach them the basics but I disguise the basics and I think we also may end up recruiting more students into the Botany option in Biology…

Again, the nature of experimentation for Lee, Linda, and Freda within education action research focused on structural and organizational aspects of their teaching and did not really explore substantial changes to their practices. Therefore, they may not see action research and their participation in this study as having a significant impact on the

professional development of their teaching practice. In his final interview, for example, Lee is unclear about the impact of his participation in this study on his teaching practices over time. He states:

> I don't know, I have not reflected that much. As of this research or because of this experience…if it [my teaching practice] has [changed], I don't know how. It does not mean it hasn't. I tend to be very fluid in my response to what I learn or what I see and so I may make shifts that I am not even noticing. At this stage it is kind of hard to even judge that question because how do I know that it is because of this particular scenario or just because it would have been just what I would have chosen to do anyway, I am not sure…

Consistently, Linda too sees little change in her teaching practice, but is now able to name her continuous efforts at professional development as action research. She states:

> I guess for me maybe the most significant thing is kind of coming to the realization that as we discussed kind of concrete ideas of a project that would constitute doing, just that realization that I use this strategy [education action research] on a regular basis. Whether or not I would call it action research because I really do feel like every semester is…I see each semester as a chance to structure or use different mechanisms or pedagogy strategies or anything like that and then that process of trying to keep the things that work and let go of the things that don't…

Finally, Freda does not see that her participation in this study contributed significantly to the evolution of her teaching practice because her teaching practice is already so significantly different from the other members in the group. In her words:

> Oh, the group exchange. I think it was fine. I didn't get much out of it to be honest with you, and I don't know if it is because lecture classes are so different from studio classrooms and, although we do a lot of lectures in the studios, I think we have the opportunity to have more one on one time with the students and so I can truly say I know every single one of my students on a one to one basis and I get to talk to them on a one to one basis. So a lot of the problems that they were talking about, or dealing with, we don't really deal with that in the studio classes as much. I found it beneficial when they talked about lectures somewhat, and then when I present lectures, but, I don't know, I think I tend to be a little bit more open, and I don't know if that is just me. I think that is studio faculty where with most of my students I am on a first name basis and it is very odd and even with my professors throughout my careers in art we were always on a sort of first name basis and it is not that professor [kind of relationship]…. I don't think there is as much distance in studio classes as there are in lecture classes.

In summary, Lee, Linda and Freda saw their participation in this study and in their own education action research as having an unknown, little, or no effect on the evolution of their teaching practice. Mike and Chico, on the other hand, viewed their participation as having a significant effect on the evolution of their teaching practice, but also point out that they were both predisposed to making those changes. When combined with the differences in where each participant began along the learning paradigm continuum and the nature of the experimentation in which each participant engaged, a relationship begins to emerge that is discussed further in the next chapter.

In summary, differences in the professional development process for each participant in this study are greatly influenced by where they began the study in relationship to the learning paradigms, the nature of the experiments they designed as a part of their education action research, their participation in group discussions, and how they perceive the evolution of their teaching practice as a result of being engaged in this action research study.

Summary

This chapter provides a data display and descriptions from participants in evidence and support of this display. In particular, this chapter addressed contextualizing what motivates the professional development process for participants in this study to include commonalities and differences among participants. Participants are motivated to develop their teaching practice because they lack formal preparation for teaching, they view teaching as a continuous source of learning, they position their practice as being in constant development (but do so in isolation and with a need to make it personally relevant), and they struggle with finding a balance between engaging students and covering content which they often see as mutually exclusive of one another. Differences among participants which need to be considered in their motivation to develop their practice are that they begin their development from different places in relationship to the Instruction Paradigm to the Learning Paradigm, and individual personality elements that influence their approach to change and professional development. The design of this study also caused participants to approach a new teaching and learning paradigm through action research as faculty development. As a result, two points of data were uncovered that become important design considerations in faculty development efforts. First,

participants do not have comparative education models in which to think about, or from which to discuss, their teaching practice, and they are not necessarily (as non-Education faculty) interested in engaging in significant or formal conversations about educational approaches or models. Second, faculty outside of Education often come from the scientific research paradigm which can be placed in conflict when they are engaged in a qualitative, action research approach.

As a professional development process, participants saw value in this study which was based on action research and discussion because it allowed them to focus and reflect on their teaching practice. They also saw value in the unique aspect of our less formal discussions centered on their teaching practices which provided them with peer support, peer challenges, and new ideas on, and perspectives about, teaching from other untenured colleagues. All participants identified not having enough time to invest in their professional development while simultaneously wanting more time for the education action research and more time to measure its longer term impact on their practice and on their students as an issue in their professional development process as a part of this study. Most of the participants in this research appear to view the need to change student expectations about teaching and learning in higher education as going hand in hand with the evolution of their teaching approaches toward a more applied and learner centered state. Indicators of the differences among participants in their development process are found in where they began the study in relationship to the learning paradigms, their ability to fully participate in discussions, the nature of their experimentation within their practice as a part of education action research, and their perception of action research as a means of evolving their teaching practice.

The next chapter takes the data displayed in Chapters 4 and 5, ties it back to the literature, provides an analysis of the data in relation to the purpose of this study and its key research questions, identifies the implications of this study, and makes recommendations for future research.

CHAPTER 6: ANALYSIS

This chapter provides an analysis of the primary findings in relation to the literature, explores the implications of these findings, and provides suggestions for future research. The primary gaps within the literature that informed the design of this research, the purpose of this research, the questions it was designed to investigate, and the theoretical lenses through which this research was analyzed are restated briefly below in order to frame this analysis.

The need for this research is supported by the primary gaps identified in the literature reviewed for this study. The literature reviewed reveals a lack of research on how to engage faculty (especially newer faculty) in fostering the development of a critically reflective teaching practice, particularly one that moves them from the Instruction Paradigm to the Learning Paradigm as described by Barr and Tagg (1995) and Tagg (2003). Other gaps identified were a lack of research that explored the tension between learner-centered and teacher-centered paradigms focused on what it means to learn and teach; developing, implementing, and analyzing holistic and integrated approaches (beyond updates and remediation) to faculty development; the existing need to establish a clearer relationship between theory and practice in CPE and faculty development; and the need to study the relationship between adult learning and professional development and practice within a specific context.

The broad purpose of my research, therefore, was to engage untenured faculty, positioned as adult learners, in a meaningful and integrated approach (considering both personal and professional elements) to professional development that could result in new and critically-evolved understandings about their roles and practices related to teaching

and learning. My specific design was to engage participating faculty from disciplines outside of Education in their own education action research focused on their teaching practice and to take part in discussions about their research as a means of professional development and, potentially, the development of a reflective or critically reflective teaching practice. This research was designed to foster an examination of, and discourse on, underlying assumptions and beliefs about higher education, teaching, and learning through engagement and discussion.

The questions guiding this research were:

- How can we foster critical reflection on faculty teaching beliefs?
- How do we engage faculty in their own action research in their classrooms?
- How do faculty members see their role differently after questioning their beliefs related to teaching and learning?
- How does change in teaching conceptions and beliefs manifest in practice?

Because the development of a critically reflective teaching practice implies continuous questioning and examining of that practice, perspective transformation and new ways of making meaning, as well as new meaning making, constructivism and transformative learning theory are the lenses applied to this study. The analysis begins below by relating the key findings of this research back to the literature which they expand, support or contradict.

Findings and the Literature

This section reviews the key findings of this study and relates them back to the literature in higher education, teaching conceptions and beliefs, reflective learning, faculty development, and Continuing Professional Education (CPE) and adult learning.

Finding 1: Participants are Adult Learners Motivated to Engage in Professional Development

As stated in the review of literature in Chapter 2, significant conceptual and research pieces exist that examine various aspects of motivation, the motivation to teach, and motivation (and barriers) to participating in professional development (Bess, 1997; Bess, 2000; Caffarella & Zinn, 1999; Scanlan & Darkenwald, 1984). Specific to faculty in higher education, McKeachie (1997) reports that motivation and sources of satisfaction are found in: (a) open-ended problem solving, (b) being helpful, (c) a sense of making a difference, (d) interaction with students, (e) being appreciated by the department Chair, colleagues, students, and family, (f) a sense of competence – increasing skills and knowledge, (g) opportunities to use skills and knowledge, (h) opportunities for learning, and (i) autonomy and independence (p. 24). McKeachie (1997) cites a Carnegie Foundation survey that shows teaching successes are the most frequently cited source of satisfaction and self-esteem for faculty. Yet, teaching is the role for which the majority of faculty members are least prepared (Boice, 1992), for which current reward structures are not reinforcing or supportive (Angelo, n.d.), and which more traditional approaches to faculty development do not holistically address. It is logical to conclude, therefore, that teaching can simultaneously be the greatest source of reward and also frustration for faculty.

Strikingly, the untenured faculty members who participated in this research from a variety of disciplines outside of Education have many factors in common that motivate their continuous drive toward professional development. Some of these factors map back to those identified by McKeachie (1997) such as opportunities to learn and interaction

with students, while others support the literature on faculty development, CPE, and adult learning that calls for more integrated and holistic approaches to professional development that meet participants where they are in the evolution of their teaching practice and are framed within adult learning theory aimed at new meaning making and perspective transformation (Cranton, 1996, 2002; King, 2005). The evidence from this study that shows that the participants(who are from different departments and disciplines) have so many factors in common that motivate them to focus on professional development of their teaching practice, for example, puts into question the calls for faculty development that are more discipline and department-specific (Quinlan & Akerlind, 2000). There may be more value, instead, in cross-disciplinary faculty development among groups of faculty who are newer to the Academy in order to challenge the existing, compartmentalized, and discipline specific, organization of higher education. These faculty's common motivators appear to support the need, for example, for what is termed within Continuing Professional Education (CPE) literature as interprofessional (or interdisciplinary) collaboration that is designed to address broad social issues such as what it should mean to teach and learn within higher education in society today (Cunningham & McLaughlin,1990; Harsh, Fewell & Casto, 2000; Queeney, 2000; Queeney & Casto,1990).

Still learning how to be teachers and academics. The thoughts and stories shared by the participants in this study reveal a consistently high motivation for continuous professional development of their teaching practice, and that they see this development as an opportunity, and process by which, to continue their own learning. This is consistent with the findings of a survey conducted by Eleser and Chauvin (1998) from which they

discovered that tenured, but not full professors placed a higher importance on the development of their teaching than did tenured, full professors. So, those faculty members with the least experience in teaching (or who are new to teaching) should, logically, place a higher priority on the professional development of their teaching practice. This is especially true when faculty members are positioned as adult learners who are motivated to learn because, as the participants revealed, they also have in common a lack of formal preparation to teach. The fact that all participants expressed a lack of preparation in the development of their teaching practice supports the findings of other researchers within adult education (Austin, 2003; Boice, 1992; Cranton, 1996; Palmer 1998; Schein, 1972). Instead, they primarily learned to teach through observation akin to Lortie's (1975) concept of "apprenticeship of observation" as the root for the development of a teaching practice.

The evidence that members of this group were highly motivated to develop their practice, however, appears to contradict Alstete's (2000) assertion that early-career faculty members are too preoccupied with survival and tenure to be concerned with professional development of their teaching practice. While it is born out by this group of participants that demands on them as new faculty members are intense and divert any time they may have to focus on, and prioritize, their teaching, this does not appear to diminish their desire and commitment to engage in the continuous improvement of their teaching practice. It is finding ways to meet this desire within the existing, professional realities of early-career faculty that, prior to this study, remained largely unexplored beyond approaches that involved more formal faculty development workshops, seminars, consulting or coaching.

Development in isolation is still the norm. While these untenured faculty members are committed to the continuous improvement of their teaching practice, they still predominantly and normally do so in isolation and without educational concepts or vocabulary from which to evolve or evaluate their practice. This is in direct support of what Brookfield (1995) described as a culture of silence within teaching in higher education and what Palmer (1993) characterized as a culture of isolationism within which faculty practice. That faculty members teach and develop themselves professionally in isolation is an observation also supported by other empirical and conceptual research in adult learning (Cranton, 1996; Cranton & Carusetta, 2004; Nolan & Meister, 2000; Palmer, 1998). Parker Palmer (1993), for example, was writing fifteen years ago about the need to create more communities within higher education in response to a culture of isolationism. The fact that isolated development is still evident among the participants in this study means that the need for experimentation with new, and meaningful, approaches to faculty development remains obvious, especially development targeted at untenured and non-Education faculty to promote the development of their reflective teaching practice. To continue to push to eliminate the development of teaching practices of untenured faculty in isolation is also important because transformative learning theory tells us that simple reflection in isolation can often confirm our perspectives and meanings, instead of challenging them through critical reflection and dialogue (Brookfield, 1995; Brookfield & Preskill, 1999; Schon, 1987; Schon, 1991; Schon, 1995). Cranton (1996) again summarizes this point with, "…as with any profession, to stay the same and to follow in the footsteps of those who precede us is easier than to critically question our colleagues and consequently our own practice" (p. 148). The

participants in this study want to practice good and thoughtful teaching that is relevant to the students of today, but cannot transform their perspective without continuous critical reflection and dialogue with colleagues that forces them out of isolation.

The evidence that this group of participants still develops its teaching practice in isolation also seems to contradict what they expressed as one of their primary motivators to teach, which speaks to the relationships that they have with their students. While it makes sense that they may feel (as a part of the tradition within higher education) the need to maintain an authority relationship with their students, they cannot develop these relationships in isolation, and point to these relationships as being motivating. So, essentially, these participants are developing motivating relationships with students, but continue to work in isolation from other peers and colleagues. It might follow, then, that the development of relationships with peers and colleagues with similar challenges and issues could become a motivator within their teaching practice as well.

The ongoing search for balance between engagement and content coverage. In addition to the issue of isolation, participants described a tension between wanting to immediately engage students in their learning and in the subject and the need to cover content. The tension they describe and discuss also reflects the differences between what it means to teach and learn in the Instruction Paradigm versus the Learning Paradigm (Barr & Tagg, 1995; Tagg, 2003). The Instruction Paradigm is steeped in the traditional approaches to teaching which are teacher-focused with the atomistic goal of disseminating knowledge on content (or content coverage), while the Learning Paradigm emphasizes a learning and learner-focused approach to higher education and teaching with the holistic goal of teaching learners to be self-directed and responsible for their own

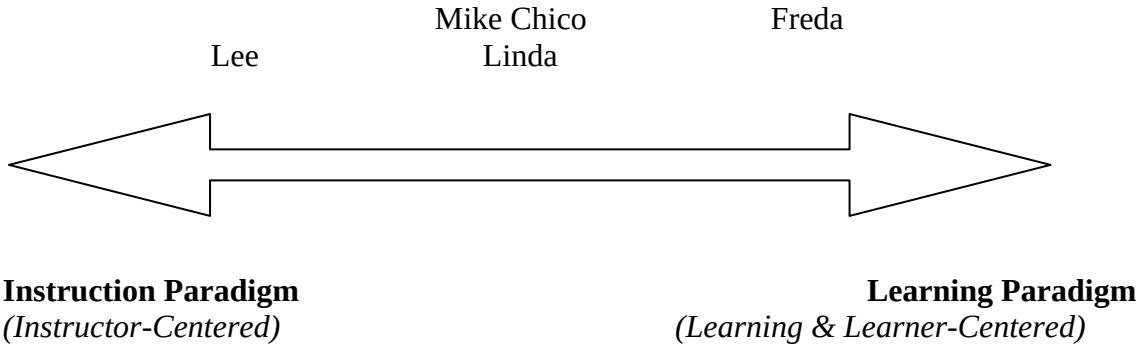
learning with the support of teachers and others within institutions. It is the Instruction Paradigm that is, as yet, firmly evident in higher education. Weimer (2002), for example, provides arguments for moving away from a focus on content coverage and toward teaching approaches that help students to learn how to learn, especially through critical thinking. She also recognizes, however, the reality of teaching traditions rooted in the existing norms of a discipline or higher education and how difficult it is to change what it means to teach beyond these norms and traditions, and toward the Learning Paradigm.

The constant need to reconcile the extremes of these two educational paradigms is evident in the conversations and interviews with and among the participants who talk about whether the goal of their teaching should be to get students interested or to make certain that they learn more both in terms of content and their ability to connect that content to larger concepts. The participants could not articulate (or name) the contrasting elements of the paradigms, but certainly were able to express the tension between them within their own practices. Where participants found themselves at the outset of this study in relation to the Instruction Paradigm and the Learning Paradigm (Barr & Tagg, 1995; Tagg, 2003) appears to have been an influence on how they participated in this research and what benefits they did or did not receive.

I have, therefore, plotted the participants along a continuum based on their self-described teaching practice and changes to it (if any) resulting from their being engaged in education action research and peer discussions focused on their practice. It is important to note that this is simply my interpretation, and a visual representation, of data based on the evidence provided. This visual, however, does not consider the traditions and norms for teaching within each separate discipline or within the institution of higher education

for which they all teach which, of course, also influence how they would map their teaching at the outset of this study in relation to the Instructional Paradigm and the Learning Paradigm. In considering the data from which this visual is created, one conclusion that can be drawn is that the more a participant is placed at either extreme, the more difficult it is to fully engage them and the more difficult it is for them to experiment within their teaching practice. Those, for example, who were fully engaged in their education action research and the discussions as a part of this research did experience and express movement along the continuum of learning paradigm approaches from a more teacher-centered approach to teaching and toward being more learning and learner-center (or active learning centered) in their approach. Based directly on their own descriptions of their teaching practices as provided in Chapter 5, the figure below shows my interpretation of where participants started along this learning models continuum and where, as a result of their participation in this study, they found themselves ten months later:

At the beginning of the study:



At the end of the study:

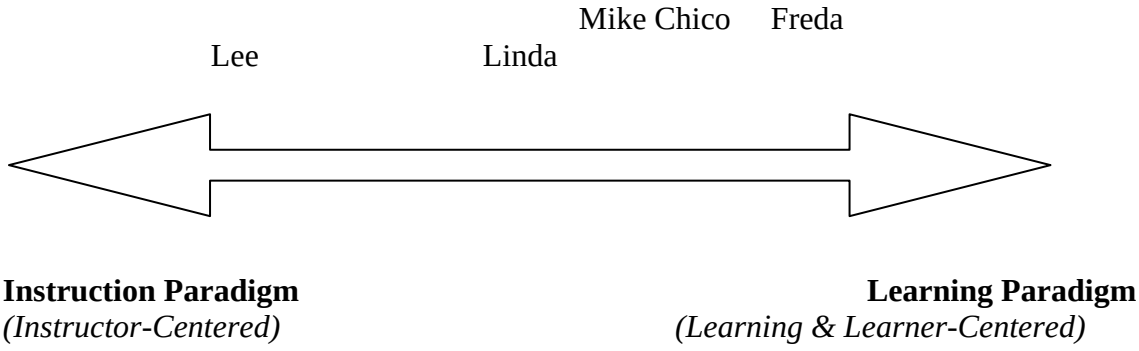


Fig.1. Author's before and after visual interpretation of self-described teaching practices along continuum of educational models

This visual interpretation should not suggest that Lee and Freda will not make progress in their professional development, but it does support the concept that the making of new meaning and perspective transformation is gradual and cannot be confined to a specific time frame. It also indicates that professional development approaches designed for individuals closer to either extreme of this continuum must be carefully designed to meet these individual where they are in their development.

How individuals described their teaching practice at the beginning of the study also helped define the challenges for the participants in this group that served as motivators for their professional development. These obstacles were unengaged and apathetic students, the perception that students expected them to work harder, and the

concept of professional noise or activities and responsibilities, such as serving on committees and grading, which take their focus off of teaching. It is these challenges that helped push some individuals in their professional growth toward a more active learning model that places the responsibility of learning on the student and is more self-directed. On the other hand, in the case of Linda and Freda specifically, a combination of factors served as a significant barrier (as opposed to motivator) to their experimentation within their teaching practices. For example, they experienced significantly high levels of what I have earlier characterized as professional noise because both had promotion and tenure applications due during the time they would have been implementing the changes in their practice as a part of their education action research. Linda and Freda also could not attend the second group discussion which may have provided them with more ideas and perspectives and momentum moving forward with their experimentation.

In summary, the untenured participants in this research expressed a continuous commitment to the development of their teaching practices in spite of their status as newer faculty and their lack of time to focus on teaching and learning. This appears to be motivated by their recognition that they lack formal preparation to teach, their ongoing quest for a marriage between engagement and interest with content coverage, and their relationships with their students (much more so than with their colleagues). It is also evident that the professional development of their teaching practice is done in isolation and without educational concepts or vocabulary with which to reflect on their practice.

Finding 2: Engaging Participants through Education Action Research Introduced Them to a Research Approach and an Approach to Teaching

Because of its historical development and strong traditions, it is the estimation of some experts that deep reform and timely change in higher education (especially in relation to teaching and learning) is not evident even after decades and centuries of discussion and debate, which raises questions about its continued relevance in society (Briggs, Stark & Rowland-Poplawski, 2003; Camblin & Steger, 2000; Guskin & Marcy, 2003; Levine, 2001; Lazerson, et al., 2000). One of these entrenched traditions is that the dominant method of instruction in American higher education remains the lecture (Brubacher & Rudy, 1977) which was also true among most of the participants at the beginning of this study. A second is the predominant use of the scientific research method.

Most of the participants were trained and socialized in the scientific research paradigm, which is characterized by validity, reliability, and objectivity, minimization of bias or contamination, and measurement in order to generalize results (Creswell, 1998). While qualitative action research is about collecting rich descriptions as data to support or report the process of an ongoing spiral of discovery through identifying a problem, planning a change, implementing that change, evaluating the change, replanning and so on through multiple evolutions. Unlike scientific experimentation, qualitative education action research does not strive to be objective, nor is it expected to be generalized. Instead, quality in this research is defined, according to Creswell (1998), by trustworthiness, credibility, transferability, dependability and confirmability. In the case

of this study, that spiral of reflection is centered on the individual participant's professional development process of their teaching practice through experimentation.

The act, however, of pulling those participants well-versed and socialized in the scientific research paradigm into qualitative, action research as a means of professional development (and instead of a seminar or workshop) proved important for two reasons. First, it allowed participants to experience first-hand and through their individual lens of experiences a clash in research paradigms which helped them (sometimes through confusion) begin to explore deep-seated paradigms from which they operate while, simultaneously, working to understand new approaches to research and, as a result, teaching and learning. For example, the use of scientific concepts such as bias, measurement, assessment, and control are woven throughout the conversations with and among the participants about action research to which these terms are largely not applicable. It is also interesting to note that Linda had asked me (prior to her agreeing to be a part of this research) for additional information on action research which I provided along with some links to web-based references on action research. She then took it upon herself to become more educated about action research and she is the one to begin to inform the group about its similarities to what she calls the scientific model, as well as the differences between it and scientific research. This was not staged or planned in any way as a part of their experience, and was a self-directed effort on Linda's part.

Second, this engaged approach did not require a formal setting that taught participants the differences in educational paradigms, concepts, or vocabulary. Instead, it allowed the participants in this study to be immediately engaged and self-directed in their exploration of a possible, alternative learning (and research) paradigm through

experimentation in their own teaching practice. It is true that the nature of experimentation, focus, and participation among participants varied, but the professional development opportunity was provided and it was up to the individual as to how bold she/he chose to be in their experimentation. In essence the design of this study modeled the primary elements of a Learning Paradigm approach to participants through immediate engagement and self-directed and informal approaches to professional development.

The design of this study also worked to model a means of engaging the participants in the scholarship of teaching through active research and experimentation that focused on professional development of their teaching practice. The study, for example, included what Shulman (2004b) recommends as moving beyond skills development toward a reflective and community approach to development. Therefore, this experiment within the scholarship of teaching is consistent with the emerging call within faculty development to find new approaches that are learner-centered, self-directed, reflective, and more informal (Cottrell & Jones, 2003; Koch et al., 2002; Kreber & Cranton 2000; Shulman, 2004 a, b).

In summary, the design of this study provided the opportunity for participants to immerse themselves in a research activity focused on their teaching practice. This design pulled individuals who are expert in the scientific research paradigm directly into the qualitative action research paradigm which, for some, set up a cognitive conflict.

Finding 3: Participants' Lack Formal Educational Training and Find Value in Focusing on their Teaching Practice

Socialization into the professorate has been the primary means by which faculty form conceptions, beliefs, and their practice of teaching and learning. Austin (2003), for

example, concludes from the results of her four-year longitudinal study of graduate students that socialization into the professorate and a discipline begins in graduate school, and that the graduate school experience has remained remarkably unchanged in spite of the modern, changing expectations and requirements for faculty. These changes include a greater emphasis on learning outcomes, a need for broader subject-matter expertise, the effective use of technology, the integration of knowledge and application, and the ability to solve open-ended problems. In particular, the graduate school experience overall can be portrayed as lacking in the provision of preparation for teaching within higher education. This traditional lack of preparation to teach, as well as defining subject matter expertise as preparedness to teach in a discipline, means that individuals, like my participants, lack a basic understanding of educational concepts and vocabulary. In Shulman's (2004b) terms, they are likely to have content knowledge (the amount and organization of knowledge on the subject), but not pedagogical content knowledge (how to represent and formulate the subject so others can understand) or curricular knowledge (full range and sequence that assumes knowing what to use, how and why) – except through observation.

The participants in this research are all self-described knowledge experts lacking the educational concepts and vocabulary to describe their practice, to be aware of or explore alternatives, and from which to reflect on and assess their practice. Based on their discussions and stories, this lack of, especially, pedagogical content knowledge was sometimes a barrier to their experimentation and reflection. Again, the immediate response might be to teach these participants about educational philosophies, concepts, approaches and vocabulary. The challenge, however, is to figure out how to best engage

faculty in discovering these for themselves either as individuals or as a group, and remembering that they either do not have the time to be at a workshop or do not find more formal professional development on pedagogy necessary or of interest. The gradual nature of developing a critically reflective practice (Cranton, 1996) also implies the need for sustained professional development activity over time.

The data provided in previous chapters does include examples of participants discussing pedagogical approaches, strategies, and techniques through their engagement in this research both in discussions and as a part of our one on one interviews and conversations between sessions. For example, the discussion between Mike, Chico, Lee and me about the use of exams supports Lee in thinking differently about exams as learning tools and toward an educative assessment approach. Without his education action research and his participation in that conversation, it is arguable that Lee may never have consciously thought about, or had the opportunity to think through, an alternative approach to exams as a part of his teaching.

Sunal, et al. (2001) state that, “creating cognitive conflict with faculty members’ conceptions of teaching is an important goal of successful professional development” (Summary, ¶2). This statement is, in general, consistent with the literature on adult learning that advocates for the development of a critically reflective practice toward perspective transformation that changes teaching approaches (Brookfield, 1995; Cranton, 1996; King, 2005; King & Lawler, 2000), the faculty development literature that supports the same through integrated and holistic professional development approaches (Camblin & Steger, 2000; Chopp et al., 2001; Eleser & Chauvin, 1998), and the CPE literature that also supports integrated, meaningful and collaborative approaches to professional

development (Baskett & Marsick, 1992; Baskett, Marsik & Cervero, 1992; Caffarella, 2002; Daley & Mott, 2000; Fink, 2003; Queeney, 2000).

In my study, participants were able to translate these theories further into practice through their engagement in education action research. With some participants, the process of developing a critically reflective practice has begun to evolve as manifested by their incorporation of more active learning approaches into their practice and in the way they think about their practice. However, for other participants it is either not evident or not yet evident. But creating cognitive conflict, imagining alternatives, implementing those, and reflecting on them is insufficient to the development of a critically reflective practice. What this study also suggests is a need for peer-level, sustained, professional development activity and support over time that becomes woven into the fabric of what it means to be a faculty member in higher education.

The participants in this study identified the ability to focus their thinking (and reflection) on their teaching as a direct and unique benefit of their participation. They also talked in terms of needing and wanting more time to focus on their teaching beyond this study, wanting more time to talk with their peers, knowing they should make time for professional development but rarely getting around to it, and wanting a more longitudinal approach and view of our experiment and its impact on them (individually and as a group) and their students. This supports the work of researchers who all identify the need for more time to close the gap in consistency between beliefs and practice in teaching through the gradual development of a reflective practice and toward true educational reform (Ben-Peretz, 2002; Fang, 1996; Hativa et al., 2001; Murray & McDonald, 1997; Nolan & Meister, 2000; Schon, 1991). Only by finding ways to support newer faculty in

the creation of these peer approaches to professional development that are sustainable over time do we change the faculty development tradition of creating one-time, isolated, snapshot-like events and occurrences of professional development that can only hope to have long-term impacts.

In summary, the participants in this study lacked educational understanding beyond content knowledge which sometimes created a barrier for experimentation and the reflective evolution of their practice. Engaging participants in education action research focused on their teaching, as well as discussion about their research and practice, helped them explore some educational issues and develop (and name) some of the concepts, approaches and vocabulary needed to begin to think about their practice from a more pedagogical perspective. It also allowed them to focus (and reflect) on their teaching in a professional development context. The creation of cognitive conflict through engaging participants in education action research and the development of some educational understanding, however, should be sustained over time and at the peer level in order to allow for the gradual development of a critically reflective practice.

Finding 4: Participants Found Unique Value in Discussing with Peers about Teaching

Every participant in this study expressed that a key benefit of their participation in this research was the discussions with their peers about their research and their practice. Lee and Linda, for example, already felt that prior to this study, they had thought about how to improve their practice by making changes from semester to semester and reflecting on those changes. So, for Lee and Linda, the actual experiment in which they engaged in their practice through education action research did not feel new or unique. What did, however, energize and challenge them (and the other participants) were the

group discussions where they found a safe environment, peer support, and peer challenges (to their approaches, ways of thinking, and so on). It was also in these discussions that they gained new ideas and perspectives about teaching from a variety of individuals from different disciplines, but all of whom had in common that they were untenured and still relatively new to teaching in a discipline outside of Education. Another key element to these discussions was that they were informal (not structured) and dominated and led by the participants' voices (and not that of a pedagogical expert or instructor), thereby making them truly opportunities for peer to peer exchange and learning. Another dimension to these discussions is that they are the one element in this professional development experiment that forced participants out of isolated development of their practice. So, education action research became the reason and focus for engagement, while the discussions provided the opportunity for reflection and exchange with peers. In fact, discussion was such an important component to participants' experiences that the two participants, Linda and Freda, who missed the second discussion made a point of talking about their disappointment about having to miss the conversation. As mentioned earlier, it is also possible that their having missed the one conversation negatively impacted the momentum and energy they applied to their education action research because they lacked sustained peer support and challenge.

This data supports that, in practice, discussion is one critical element in the approach toward transformation as a professional development goal (Cranton, 1996). This finding also supports Mezirow's (2000) perspective in transformative learning theory that learning is a social process with the learner being the locus of control over learning and the educator playing the role of facilitator and/or composer (King, 2005). In

fact, the data goes beyond this to suggest that the role of the educator is that of convener and participant instead of a composer which sounds more manipulative in nature. Discussion as central to the benefit received by participants in this study provides evidence that discussion is a critical element in adult learning, faculty development, and continuing professional education that seeks to approach perspective transformation and new meaning making and must be considered in the design of professional development opportunities.

This idea is not new. Brookfield and Preskill (1999), for example, devoted a book to the concept of discussion as a way of teaching based on the premise that perspective transformation as a part of learning is inherently a social process that cannot, necessarily, be achieved in isolation. While Brookfield and Preskill (1999) focus on discussions within formal classrooms as a means of designing learning opportunities for students, the data provided in Chapter 5 by the research participants expands this concept to be directly relevant and applicable to professional development of faculty within an adult learning framework and within a more informal approach that included peer-led exchanges and discussions. This more informal approach allowed participants to be more self-directed and peer-based in their experimentation and professional development, but it was not without its challenges. For example, there was probably more confusion among some participants in this group about how to design their education action research than there would have been if they had had a more formal presentation on the history, purpose, and potential utility of this research model as relates to other models.

In summary, it was previously established that these untenured, non-Education faculty consider professional development of their teaching practice to be an ongoing and

continuous effort. The element of discussion that includes peer support, feedback, and challenges, as well as exposure to new ideas and perspectives on teaching, however, does not normally appear to be included (for this group) in that professional development effort. These focused peer discussions provide a response to isolated professional development and the development of a reflective teaching practice, as well as evidence from the field in support of discussion as a way of teaching, and learning as a social process, within transformative learning theory. The need, moving forward, is to discover ways of sustaining discovery and discussion over time that are peer-based and informal within an environment (higher education) that does not yet universally support this effort. Continuous involvement in research and experimentation on their teaching practice may prove to be one means of sustained engagement going forward as it was for this research.

Finding 5: Rethinking Faculty Development

Participants in this study spoke about having access to more senior and experienced colleagues from whom they could solicit teaching advice. They, however, did not always feel comfortable soliciting that advice and when they did, felt that the advice was more professorial than collegial in nature. This means that the advice and guidance offered by senior colleagues, while well intended, seems to simply convey their own experience, techniques, and practices in their teaching with an invitation to their junior colleagues to duplicate or reinvent these for themselves. As Sydney put it, the experience of receiving advice from senior colleagues feels like a one-way conversation from expert to novice. Therefore, there appears to be a feeling among these untenured faculty members that they need to make the professional development (through experimentation) of their teaching practice unique to their own goals, experience, and

values. Professional development, for these participants, needs to be personalized and must fit within their desired conceptions and outcomes for their teaching practice. A second data point provided in Chapter 5 indicates that, at least for some of the participants, their interest and motivation to develop their teaching practice does not include becoming pedagogy experts through formal channels of faculty development. Chico, for example, said that he became a scientist because he loved science and not as a means by which to attend pedagogy workshops.

The experiences of these participants support the idea of thinking differently about faculty development by incorporating more informal (and personal) learning into holistic and integrated approaches to faculty development as CPE within the context of adult learning theory. This moves faculty development away from the traditional model (Sorcinelli et al., 2006) with the faculty developer as the expert in a formal setting and toward framing faculty development within the Learning Paradigm thereby making it learner and learning-centered with faculty members as learners. My direct experience with this changed role and framework as a part of this study is provided and analyzed next.

My role as researcher and faculty developer. As a reminder, action research is unique in that it involves the researcher as an active element within the research and requires that the research design and process be allowed to evolve over time and from the research group. So, to explore the professional development process among participants, I first had to find a means of getting them immediately engaged and focused on their teaching practice without providing a formal context or environment for this process. I chose to experiment with engaging participants in their own education action research in

their classrooms and as a part of the evolution of their practice. So, in essence, I too struggled with finding a balance between engaging and inspiring participants to focus on their teaching practice while simultaneously resisting being in charge and providing content coverage. In this case, content coverage would have meant to provide participants with a solid background on action research, their own teaching approaches and philosophies, and various educational theories, paradigms, and approaches. So, my struggle to find balance in my role in this research paralleled the same exploration for balance that the participants described as a commonality in their teaching practices. The second aspect of note in my role as the researcher was a realization early on that the participants in this process needed to make it personal and individual to themselves which amplified the importance of my not imposing my views, experience, and recommendations on the participants or the group. I think like any good adult educator and continuing educator (or faculty developer) it was very difficult at times for me not to take over and start teaching, but to allow the participants instead to work through their issues from a personal perspective while I remained a good participant. Again, this mirrors what the participants describe as their quest to make students more responsible for their own learning. These two data points, from the perspective of being the researcher are best captured in one of my journal entries after the first group discussion. I wrote:

> I am watching the nonverbal language within the group discussion and observe that at the beginning of the discussion, each participant addresses their comments to me instead of to one another. I actually made a notation on the transcript about half-way through our time together when they stopped directing their comments

> to me and started talking with one another. In fact, when I make a brief comment later in the discussion, all heads turn to me almost startled to remember that I am still there. More amusing is watching my own body language. I literally put my hand over my mouth when I want to jump into the discussion and take over and redirect or provide instruction to keep myself from doing so.

I believe this observation is important because too often in the design of professional development opportunities for faculty as a means of evolving their teaching practice, developers do not consider their own bias. Whether that bias is toward teaching in a more traditional format and wanting to impart knowledge and wisdom to faculty as adult learners, or it is toward a more learner-centered paradigm (as in my case). Either bias could be what makes what is designed fall short of being holistic and integrated and personal to participants.

Faculty development within the learning paradigm. Framing faculty development within the Learning Paradigm, however, can also serve to help place faculty development within the new definition of what it means to teach and learn. Specifically, Bandura (2001) points to the rapid pace of informational, social, and technological change today (and the complexities this change creates) as the catalyst requiring learners (in this case faculty) to take on responsibility for learning and expansion of their knowledge and cognitive competencies on a continuous basis in order to remain competent. The need to become more self-directed as learners highlights, according to Brancato (2003) and Tsui (2001), the prominence of developing critical thinking skills (in this case as part of a reflective practice) as a key learning objective across disciplines in higher education, and points to how this differs from traditional definitions of learning based more on the

acquisition of information and knowledge (or subject expertise). Weimer (2002) positions the emerging definition of learning as being learner-centered and requiring learner-centered teaching. The emphasis on the changing nature of learning, and what it means to be educated and, therefore, what it means to teach also implies that what it means to support the professional development of faculty, especially newer faculty, also must change.

For example, it follows that when operating within the Instruction Paradigm, faculty preparation and professional development focuses on maintaining faculty members' status as experts within their disciplines and refining teaching techniques and skills, whereas faculty preparation and professional development when operating in the Learning Paradigm includes positioning faculty as adult learners interested in the development of teaching and learning theory and practice beyond discipline expertise and instrumental knowledge of skills and techniques (Brookfield, 1995; Cranton, 1994; Cranton, 1996; Cranton, 2002; King, 2002; King, 2004; King, 2005; King & Lawler, 2000; King & Lawler, 2003; Lawler, 1991; Lawler, 2003). In short, faculty development and preparation has been positioned as a catalyst for change in higher education toward a learner-centered approach to teaching and learning and, therefore, must model that approach.

This study provides one example of this new approach because, by its very nature, education action research is personal, more informal, ongoing, and includes the researcher as participant. Especially during discussions, it was evident that my participation, for example, had to be as a member of the group instead of as pedagogical expert which, in practice, meant that I was not in charge, did not lead the discussion, and

talked much less. Throughout the study, my role was more in support of the participants' research projects and as convener and facilitator of the group. This again meant a need to examine my own preconceived beliefs and conceptions about faculty development which tended more toward the traditional approaches to instruction. For example, in the original design of this study, it was very difficult for me to give up the idea that I needed to have an intensive session with the participants to help them understand education action research, the Instruction Paradigm, and the Learning Paradigm, and it was difficult not to go into teaching mode when participants professed confusion because they did not understand these things to the level that I understood them.

This study, then, supports a shift away from the professional development assumption that more knowledge about the correlation between teaching practices and learning outcomes will enhance instruction. Instead it took into consideration that underlying conceptions and beliefs held by participants would likely be at the root of their thinking about knowledge, teaching, and teaching practice (Fang, 1996). This shift might be further accomplished in practice by innovating other ways that place teaching beliefs at the center of faculty professional development. For example, this might be accomplished by rethinking faculty development approaches in order to create a learner-centered and truly collaborative environment that empowers faculty members to research, design, and practice teaching and learning (Warren Little, 1999). It is such an approach that this study sought to create and model on a small scale with its emphasis on experimentation within each participant's practice.

In summary, this study provides an example of an integrated approach to faculty development that allowed participants to drive their own professional development

focused on their teaching practice. The need for this shift in faculty development and the changing role of a faculty developer is supported by the data in this study that points to the limited utility of advice from senior colleagues who offer it simply as examples of what they have done, as well as the data which supports that some participants do not want to make formal development opportunities centered on pedagogy a part of their development.

Finding 6: Constructivism and Transformative Learning Theory are Useful to Professional Development of Faculty

This study was designed and conducted to engage participants through education action research and discussion focused on their teaching practice as an approach to the development of a reflective practice through critical and self reflection and to observe how this manifested itself in their thinking and teaching. This was in response to the researchers in adult education, teacher education, and faculty development who assert that conditions must exist or be created for transformative learning to occur (Cranton, 1996; Taylor, 2000), that critical reflection which first examines underlying assumptions is a key factor in the development of a critically reflective practice (Brookfield, 1995; Cranton, 2002; Ferry & Ross-Gordon, 1998; Mezirow,1998), that a critically reflective practice is at the foundation of real learning and changes to teaching (Kreber & Cranton, 2000; Lawler, 2003), and that this is necessary because teaching conceptions are evolved at the belief level and, therefore, are not easy to change (Meister & Melnick, 2003; Nolan & Meister, 2000; Kane et al., 2002).

So, did this research engage participants in activities which caused them to examine their underlying assumptions about teaching and learning in higher education

and to question those assumptions in order to evolve new and alternative approaches to teaching? This study did engage participants on a personal level in their own action research; they were provided the opportunity to explore and question their assumptions through experimentation and conversations with their peers; and did create conditions (such as a safe and confidential environment in discussion with one another) for reflection. It cannot, however, be concluded that this approach caused all participants to question their assumptions and evolve new meaning and alternative approaches. For at least one participant (Lee) it is as yet, according to him, too soon to determine the impact of his participation. It is arguable that two of the five participants did question their approach to teaching during their participation and manifested their changed assumptions through the incorporation of new approaches to teaching in their practice. In Chico's case, he actually talks in terms of the changes to his teaching philosophy and describes how it manifested itself in his thinking and practice as a commitment to active learning as a foundation for his practice. For Freda and Linda the answer may come later when their efforts to collaborate with one another have played out. Part of the answer too is in how the data in this study is viewed through the constructivist and transformative lenses.

The constructivist tradition, again, is based on the belief that the learner is an active agent who is responsible for her or his own learning through reflection on experiences that help construct and make meaning, as well as understand the world in which we live (Elias & Merriam, 2005). It is this tradition that is at the root of learner-centered paradigms and conceptions of teaching in higher education. The participants in this research certainly were active agents responsible for their own learning (through experimentation and discussion) and reflection in order to provide the opportunity for

new meaning making within their practice. But did this achieve perspective transformation for participants which is central to transformative learning theory?

At the heart of transformative learning theory is the idea of growth of learning through change (Mezirow, 1991). Cranton (1996) identifies eight possible conditions that must exist in some form to drive a perspective transformation: (a) the old ways of doing and thinking do not work; (b) a disorienting dilemma exists; (c) the origins of beliefs are critically examined; (d) differed perspectives gained from others with whom discourse can be held; (e) the educator is ready for a change; (f) freedom from existing and/or perceived restraints can be achieved; (g) support is available for this transformation process; (h) alternative ways of being are possible (p. 114). As mentioned previously, once a condition exists to drive a perspective transformation, the process of this transformation can begin. Mezirow (1991) describes the phases of perspective transformation as: (a) a disorienting dilemma; (b) self-examination with feelings of guilt or shame; (c) a critical assessment of epistemic, sociocultural, or psychic assumptions; (d) recognition that one's discontent and the process of transformation are shared and that others have negotiated a similar change; (e) exploration of options for new roles, relationships, and actions; (f) planning of a course of action; (g) acquisition of knowledge and skills for implementing one's plans; (h) provisional trying of new roles; (i) building of competence and self-confidence in new roles and relationships; and (j) a reintegration into one's life on the basis of conditions dictated by one's new perspective (pp. 168, 169). Mezirow (1991) recognized that not all adult education (in this case faculty development) is transformative in nature, but advocates that this should always be its goal.

Participants in this research were invited to read Barr and Tagg's (1995) article on the Instruction Paradigm and the Learning Paradigm in higher education and to take Pratt and Collins' (2000*) Teaching Perspective Inventory* (www.edst.educ.ubc.sa/faculty/pratt/DPtpi.html) for their own information. They had to examine and question their teaching practice in order to design an experiment as part of their education action research. The very idea of engaging in education action research which is participatory, less formal, and not within the scientific research paradigm led some participants to a disorienting dilemma and cognitive conflict that further led them to question their premises. The discussions, because they were peer led and focused on their research, which centered on their practice, did illuminate some assumptions and were subject to peer support, as well as challenge, on topics such as what should be the purpose of teaching. Finally, the semi-structured interviews were designed to highlight some of the assumptions and beliefs underlying their practice. This research did not, however, call for participants to formally or fully explore their teaching philosophies, conceptions and beliefs before engaging in experimentation and discussion, nor did we use this language as a part of the group discussions. I would argue that given the participants' lack of educational understanding or pedagogical content knowledge (Shulman, 1994b), this type of conversation at the outset (even when framed by a critical incident) would have been confusing at best since the study of learning philosophies was not the focus of this research. From this perspective, the discovery and conversation about beliefs did not separately manifest itself as such, nor did it occur prior to engaging participants in their education action research. Instead it is embedded in the vocabulary and conversations (especially in discussions) with and among the participants. For

example, when Freda describes her practice within the framework of a studio art approach, she shared that she prefers to have the students take the lead in her classes and that her interaction with students is high and a part of the learning process, then she was also sharing that her style is closer to the Learning Paradigm than the Instruction Paradigm.

Did this approach to faculty development cause participants to question their practice, reflect on it, and imagine alternatives? Yes it did for the reasons provided above. This would be in support of how Boud (2001) defines a reflective practice as, "those intellectual and affective activities in which individuals engage to explore their experiences in order to lead to new understandings and appreciations." It is less evident, however, that participants engaged in critical reflection, especially at the level of their belief systems and that their reflection included questioning the philosophical roots and power issues related to education processes and decisions (Brookfield, 1995; Schon, 1987). Therefore, it is also inconclusive whether participants will continue with what was begun by this research as a part of their professional development over time or if they will view this as a one-time experiment. Based on the data, therefore, evidence of engagement in reflection on their practice exists while evidence that the reflection was critical in nature or at the level of belief systems is not evident. This research created the opportunity for participants to begin to develop a critically reflective practice and acted as a catalyst to focus their attention on their teaching from a professional development perspective, but it was up to the learners to decide to what level their reflection would reach and how bold they would be with their experimentation. For those individuals who did take this opportunity, who were engaged, who did participate, and who were bold in

their experimentation, the differences this made to their teaching were manifested first in their practice through experimentation. So, this research supports an argument (such as that posed by Fullan in 2001) for engaging faculty in experimentation with a focus on teaching as a means of discovery and change instead of attempting first to talk with them about their conceptions and beliefs.

In summary, the data from this research supports immediate engagement of participants in, for example, education action research as a means of focus with interviews, experimentation, and discussions as providing an opportunity for exchange and reflection. While the extent to which this research will cause participants to develop a critically reflective practice over time cannot yet be measured, it can be stated that this study did create an opportunity for participants to reflect on their practice in a personal and more informal way, and that where change became evident as a result of this study, it was first manifested in the practice of a few participants and in the form of more active learning approaches in their teaching. The next section of this chapter discusses these findings.

Implications for Practice

The participants in this study view continuous improvement of their teaching practice as part of their commitment and responsibility as a faculty member in a teaching institution. Yet it is this newer, untenured group that faculty developers tend to shy away from in terms of creatively experimenting with new approaches to professional development because they are assumed to be too preoccupied with still learning to become academics and gaining tenure. This study suggests that rather than leaving this group alone and in isolation to develop their teaching practice, it is incumbent on faculty

developers to find new, integrated approaches to engage this group and to foster peer learning since they are hungry for this type of professional development. One way to approach this group, as suggested by this study and supported by the data, is through immediate and personal engagement that allows them to focus on their teaching practice through experimentation (which requires reflection on practice and reflection on changes to that practice); a second is the use of interviewing, as well as discussions that are peer led, to provide new perspectives and ideas, support, and challenges in their experimentation; a third is to create these opportunities within a framework that models a learning and learner-centered approach that can also introduce individuals to new learning and research paradigms through direct experience. These can provide the focus and potential cognitive conflict for untenured faculty at a personal level that workshops, seminars, and even coaching cannot. Finally, to create these opportunities for newer faculty within a framework of constructivism with transformative learning as its goal will ensure that participants will have the opportunity to evolve a reflective practice that can manifest in practice and, perhaps, over time a critically reflective practice that goes to the level of assumptions and beliefs about teaching and learning. This research, according to the data, provided one small scale example of such an approach.

To continue to experiment in this vein and toward bringing theoretical calls for integrated and holistic and interdisciplinary approaches to adult learning, faculty development and CPE into practice, as noted earlier, also requires that the conception of faculty development and the role of the faculty developer must be rethought as well. By pulling participants in this study into new learning and research paradigms, it was interesting to note that they often exhibited behaviors about which they often complain

when it is manifested in their own students. For example, most wanted me as the researcher to be more directive in my approach and to take on more of an instructional role. Some wanted clear, quantitative, and objective ways of measuring the outcomes of their experimentation. Some wanted clearly delineated approaches to their experimentation. In short, by modeling an action research and Learning Paradigm approach to these participants, this research played havoc with their expectations about research and their participation in it. This is an especially important point because the participants talked about how their experimentation in their practice (depending on how bold they were) also required changing expectations among their students who are well versed in the role of passive, traditional learner in higher education. For some participants in this study that translated into some poor evaluations from students. This is mentioned because it is a risk of participation and eventuality that will need to be addressed with participants (as I did) and considered in the design of any faculty development opportunity aimed at change and new meaning making in teaching practice.

Finally, the issue of time is paramount. In particular, the type of professional development created in this study must become ongoing and sustainable over time, especially at the peer level. Even though this study spanned a prolonged period of engagement that included two academic years, one summer, and ten months, the action research reflective spiral begun by this research was still, arguably, in its infancy when formal research ended. It was, for example, during the last group discussion that potential collaborations among participants were first really beginning to be explored, and it was during this discussion that more than one participant acknowledged that they did not feel they had finished (or even begun) to evaluate or reflect on their

experimentation. Again, one participant (Lee) made the point in his final interview that he may not know for some time what might be the impact of his participation in this study. This type of statement argues for finding approaches to faculty development that are not isolated or one-time, but that are woven into the very fabric of what it means to be a faculty member, that are personally motivated and self-directed, sustainable over time, and that are peer-based. It is in this way that faculty development can truly support the gradual development of a reflective practice over time, and on a personal level among individuals who want to develop such a practice, and within an environment that still supports isolation and silence. This study is one experiment in that direction.

Future Research

This research, based on the data, findings, and discussion provided, argues strongly for further research on untenured faculty being engaged in the form of professional development designed into this study over a longer period of time. This is necessary to allow for the further, and sustained, evolution of the action research reflective spiral with participants and to better evaluate the longitudinal effects of being involved in education action research focused on teaching practice and on the development of a critically reflective practice and learning-centered teaching approaches. As was mentioned earlier, participants wanted more time to talk with their peers about teaching, more time to assess and experience the impact of their participation in this study, as well as more time to assess the impact of changes they made in their teaching practice on student learning.

. Second, this study shows the need for further experimentation in personal, self-directed approaches to professional development among faculty (especially newer

faculty) that is supported through peer-based educational models such as peer learning circles. This can serve to find additional informal (and individually driven) approaches to professional development that go beyond the models of learning communities, mentoring, and coaching. While most institutions of higher education have a faculty development effort that this ongoing and most faculty members expect to be self-directed in their professional development, the future research suggested here would be focused on teaching as a primary component of their role and responsibility and how this can be developed creatively. This will require further experimentation with ways of engaging faculty beyond the structures found in most, for example, learning community models that continue to focus on improvement of student learning and not necessarily faculty professional development. Said differently, they are positioned to "fix" teaching and make it more effective instead of focusing on developing faculty as professionals.

Finally, research is needed in taking these approaches on a broader scale to larger numbers of faculty to measure cultural impact to an institution over time. For example, if, on a voluntary basis, new faculty were engaged in integrated, personal, peer-based, and experimental development of their teaching practice, then how might this affect and change the culture of an institution of higher education over time? While faculty development programs exist for newer faculty in the form of, for example, orientations, pedagogy seminars, seminars and workshops, summer institutes, mentoring, and so on, they appear still to be about learning institutional culture and ways of teaching effectively (as defined by someone other than the faculty member). The majority do not yet seem to engage newer faculty in experimentation with their practice that also challenges them (through peers) to question and examine why they teach the way they do. The suggestion

here is for future faculty development research that consistently models the Learning Paradigm, creatively begins at the level of the individual faculty member, meets them where they are in the evolution of their teaching practice, and provides an opportunity to reflect on their teaching practice so as to observe, over time, the cultural impact of these approaches.

Summary and Conclusions

This study found that the participants consisting of untenured faculty from a teaching institution, and from a variety of disciplines outside of Education, were motivated to continuously improve and develop their teaching practice. It was also discovered that they did so with little time to focus on thinking about their teaching, still in isolation, and while struggling to create a balance between engaging and interesting students and simultaneously covering necessary content. This research showed the value to these participants of experientially introducing them to new research and learning paradigms, of allowing them to focus their thinking on their teaching practice, and of engaging them in discussions that were more informal, peer led and focused on teaching practice. Finally, this qualitative approach to engagement, experimentation, and reflection in faculty development provides a basis, in practice, for new approaches to faculty development within a constructivist framework and with transformative learning as a professional goal. While the data are inconclusive about all participants having evolved reflection at a level of criticality, it did achieve immediate engagement, reflection on teaching practice, and experimentation with the same. The implication of these findings is the need for faculty development approaches that are engaging, personal, relevant, and self-directed as framed within the Learning Paradigm, the constructivist tradition, and

with a goal of transformative learning. To do this requires rethinking the role of the faculty developer and a sustained period of engagement beyond the boundaries of most formal research today.

This study provides an opportunity for future research that explores faculty engagement in education action research and peer-led discussion on teaching practice over time; for further experimentation in personal, self-directed approaches for professional development among faculty; and to create qualitative research initiatives with new faculty that can measure the impact on institutional culture over time.

A final thought is that this study took its point of reference (and beginning) to be the individual faculty member with the idea that reform and alignment of higher education must begin at the level of the individual. This is not to take away from the calls for reform in higher education, such as those put forth by Levine (2001), which are aimed more at the societal and policy levels, or to the leaders within higher education institutions, or toward moving teaching as a recognized form of scholarship across higher education and to include research institutions. Instead pointing out that this research began at the level of the individual faculty member reinforces that real efforts at reform must continue at all levels. It is at the level of the individual, teaching faculty member, however, where inroads can be made to make reform personal and a priority. This study, through a combination of experimentation, reflection, and discussion with peers, is one attempt at creating such an environment for change.

APPENDIX
INTERVIEW GUIDES

First Interview

How did you learn to teach?

What are the most positive and rewarding results of your teaching?

What do you find most challenging in your role as a teacher?

What is your approach to teaching and how would you describe your teaching practice?

Why did you choose to practice at a teaching institution?

If you could change something in your teaching practice, what might that be?

Second Interview

Talk a little bit about your experience as a participant in this study.

What was of greatest benefit to you as a result of your participation in this study?

What was of least benefit to you as a result of your participation in this study?

How do you think differently about your teaching practice?

What has changed in your teaching practice?

Would you continue with this group beyond the formal research for this study and on an informal basis?

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