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An exploratory study of Proximal Mentoring in graduate education

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AN EXPLORATORY STUDY OF PROXIMAL MENTORING IN GRADUATE EDUCATION

by

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ABSTRACT

An Exploratory Study of *Proximal Mentoring* in Graduate Education

By

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This dissertation explored the construct of *Proximal Mentoring* from the perspective of the professor, student-mentees, and *Proximal Mentors*. A master's course and a beginning doctorate course were selected for implementation. All participants were in agreement that the definition of the role of *Proximal Mentoring* is: "provider of content and feedback, model for collaboration, clarifier of course objectives, guide, and role model." None of the participants in this study perceived the role of the PM as a tutor. However, they did not see the role as an expert mentor either. This dissertation suggested that PMs were able to increase their depth and breadth of knowledge while working within the ZPD of new learners to bring those learners to knowledge at a faster rate than the actual developmental level of those learners would normally allow through caring and sharing of themselves along with the sharing of their growing knowledge base.

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CHAPTER 1

INTRODUCTION

Programs of graduate studies can be intense, content-knowledge focused learning environments where learners pursue their individual agendas of obtaining advanced credentials, licensure, and/or degrees by means of a single-focus determination in fulfilling their own scholarly destiny. Many graduate students can feel isolated, even when they are surrounded by other graduate students (Edwards & Gordon, 2006). As such, graduate studies can be "a time of both isolation and intense bonding" (Hager, 2003, p. ii). Many do not complete this mostly lonely, hectic, isolated path of scholarly activity.

Dorn and Papalewis (1997) noted that while the rate of non-completion varies from program to program, the average non-completion rate in graduate programs was at least fifty percent across graduate education nationwide (p. 2). In addition, they found that less traditional graduate programs had an even higher rate of non-completion due to the demands of work, home, and family. Less traditional was operationally defined as those programs with a higher percentage of older students who hold full-time jobs.

Graduate education tends to move beyond the traditional relationship of student to faculty into one of faculty mentorship (Hager, 2003). In this sense, faculty provide students with more than just the content of their chosen field of study. Faculty may also provide professional guidance (Bean, Readence, Barone, & Sylvester, 2004; Diamond & Mullen, 1996; Edwards & Gordon, 2006; Hager, 2003).

Bean et al. (2004) undertook a longitudinal case study over a three-year period involving doctoral students and faculty mentors from eight North American universities. Data collected consisted of on-campus individual interviews, on-campus observations of faculty mentor doctoral student interactions, off-campus written correspondence (including email), and records

of phone conversations. Bean et al. described the doctoral student's perception of their experience as having been "fraught and unsatisfactory and was often experienced in terms of neglect, abandonment, and indifference" on the part of their faculty mentor (p. 372). Hager (2003) described three attributes inherent in the traditional faculty/student mentoring paradigm that might contribute to these perceptions: lack of mentor availability (time), mismatched research interests, and mismatched skills.

Faculty Mentor Availability

Of the attributes Hager (2003) found problematic in graduate mentoring, faculty mentor availability in terms of time have continued to be troublesome as enrollment and class sizes increased without a proportionate increase in faculty (Bean et al., 2004; Palincsar 1998). Beyond the need to work with students, faculty workload may also include teaching, conducting research, publishing, serving on committees, initially advising students, and serving on masters' and doctoral committee as students near completion of their programs. Given the limitation of a 24 hour day, when faculty members are assigned more students with whom they must interact, without a concomitant decrease in any other portion of the current faculty workload, something will not be finished at the end of each day. As Hager (2003) and Bean et al. (2004) suggested, intense mentoring of doctoral students may be the portion of the workload that would not completed when the day ends.

Students notice the lack of availability of the faculty as they attempt to create the various graduate committees requiring the presence of multiple faculty members (such as research, comps, thesis, proposal, and defense committees). Faculty/student ratios are difficult to compute. Any computation would be incomplete if the statistic did not take into account part-time faculty, part-time students, faculty who did not teach graduate courses, faculty who taught only graduate courses, and departments that serviced only graduate programs (such as Schools of Law). Some colleges require extensive faculty training before allowing faculty to participate in doctoral committees. Therefore, not all faculty interact with doctoral students.

Regardless of these issues, faculty time is a finite commodity. The more students in a program, the less time faculty spend with each student.

In a study by Bean et al. (2004) one faculty member addressed this issue directly:

> I think when you're working with one or two students it's one thing, but now that I'm going to be working with ten, I don't know how that will play. I'm nervous in how that plays out with time commitment and emotional commitment and intellectual commitment. I mean I'll still maintain the mentor role I know. I will, but how do you do that with ten? I mean I'm not sure, and that's what I'm trying to think through right now – how you can be fair to all of them but not kill yourself in the process? I think if you do mentoring really well, it's labor intensive and emotionally draining. For two, it's easy; for ten or 12, I'm not sure that I'll be able to satisfy their needs in the doctoral program as well. Faculty Mentor Kathy. (p. 377)

Faculty themselves may need mentoring in how to mentor and advise doctoral students thereby reducing their available time to mentor/advise students due to the time requirements of receiving training of their own. As admission rates rise, faculty may be asked to mentor more students with no other lessening of their already overloaded schedules of teaching, research, and service in addition to their private needs to care for home and family.

Beyond assistance from faculty, programs of support for students have been implemented with varying degrees of success. The most common form of additional student assistance has been tutoring.

Tutoring

Students may have access to a myriad of peer support programs, such as tutoring. Tutoring has been implemented within classrooms; provided by campus organizations such as the writing center, career center, teaching & learning department, advising center, and women's studies center; and offered by off-campus businesses. Still, faculty mentoring and all the peer-support programs available to graduate students do not seem to be enough for successful completion of graduate programs when faced with non-completion rates in these programs of

more than 50% as noted by Dorn and Papalewis (1997). Sobral (2002) suggested that a next step in the acquisition of knowledge for the learner can be mentoring.

Mentoring

While mentoring can occur in any setting, Milner and Bossers (2004) found strong agreement by both mentor and mentee on the role of the mentor: guide, counsel, and sponsor the mentee. Through the process of being mentored, mentees might build self-confidence while assimilating the professional environment and navigating situations native to their domain. In the current paradigm of mentoring, the mentor accomplished these feats through knowledge and experience in and of the field along with personal and empathetic connections with the mentee.

Reports of benefits to the mentor were sparse. Pullins & Fine (2002) noted the current mentoring research relies on self-report to elucidate the benefits of mentoring to the mentor. They suggested mentors may be so focused on the success of the mentee, any benefits they received themselves could be over- or under-reported. In addition, mentors may not have received benefits they reported on surveys and/or may have received benefits they did not even acknowledge.

Still, like peer-support programs, mentoring did not seem to be enough to stem the 50% non-completion rate in doctoral programs. In the academic content realm, student supporting students were incorporated into the teaching paradigm as tutors with much success for all involved. But, when the idea of students supporting students in the tutoring paradigm was contrasted with the traditional mentoring paradigm, it appeared that an intermediary component in the mentoring paradigm might be appropriate. If so, what would they be called? To answer this question, I turned to the theory of learning and development proposed by Lev Vygotsky (1962, 1978, 1987, 1997).

Theoretical Framework

This dissertation will rely on Vygotsky's theory of learning and development, with particular attention being paid to the zone of proximal development (ZPD) as a construct for

understanding the mentor/novice relationship. Vygotsky (1962, 1978) proposed that learning was an inherently social and historical process. Vygotsky's work has been considered by recent scholars to be both a theory of psychological development (Moll, 1990) and at the same time a theory of education (Bruner, 1962). Central to Vygotsky's theory was the reciprocal relationship of thinking and speech, with the use of language as a meditational tool for learning. Learners used language to gain knowledge, and in turn used language to communicate that knowledge to others. Vygotsky viewed language as both a tool and a psychological function. The relationship between thought and language was viewed as a developmental process in which thought was completed in the meaning of the word (Vygotsky, 1987).

Another central point in Vygotsky's (1978) work was that internalization of higher psychological functions was a process that consisted of various transformations. He proposed that functions that occurred first on a social level were then reconstructed by the individual on an intrapsychological plane. This transformation took place as a "result of a long series of developmental events" (Vygotsky, 1978, p. 57). Unlike other developmental theorists of his time, Vygotsky did not view development as stages, rather his view of development was one of a "progressive unfolding of the meaning inherent in language through the interaction of speech and thought" (Bruner, 1987, p. 11).

As part of the progressive unfolding, Vygotsky (1978) postulated two developmental levels that

> . . . would allow the researcher to discover the actual relations of the developmental process to learning capabilities. . . . The actual developmental level characterizes mental development *retrospectively* [italics added], while the zone of proximal development (ZPD) characterizes mental development *prospectively* [italics added]. (pp. 85-86)

In other words, the actual development level represented the current level of development of a learner's mental functions. These levels could be measured by having the learner perform tasks that could be completed independently. However, Vygotsky (1987) noted that to fully

understand the learner's developmental level, he would have to test beyond independent completion through what he called the ZPD. The ZPD represented:

> . . . those functions that have not yet matured but are in the process of maturation, functions that will mature tomorrow but are currently in an embryonic state. These functions could be termed the 'buds' or 'flowers' of development rather than the 'fruits' of development. (Vygotsky, 1978, p. 86)

According to Vygotsky, it was within the ZPD that learners, through the guidance of experts or more knowledgeable others, succeeded beyond their current level of development. In the ZPD, the focus was on the learning that took place, not between two equal peers, but between novices and more experienced others through collaborative problem solving activities.

Vygotsky (1987) termed this relationship *proximal* in that the more experienced other assisted in learning problems that were *proximal*, or close to, the current level. Vygotsky also noted that at some point, problems could become too difficult, too distant from the *proximal* level, for the learners to solve, even in collaboration with others. To Vygotsky, it was crucial for educators to understand the difference between the actual level and the level at which a learner can succeed in collaboration with others. As Vygotsky noted, the only instruction useful in learning was that which moved *ahead* [italics added] of, or lead, development."

While Vygotsky's work focused on learning and development in children, various scholars have related his theory of the ZPD to adult learning. As noted by Mahn and John-Steiner (2002), it was appropriate to expand the understanding of the ZPD because of the "realization that human beings come into existence, attain consciousness and develop throughout their lives in relationship to others" (p. 48). Mahn and John-Steiner found the notion of learning in collaboration with more experienced others was of value, especially in terms of building confidence among adult learners who are faced with learning new information in the form of a new language, theoretically complex concepts, or engaging in other creative endeavors.

Notion of Proximal Mentoring

Building from the notion that *proximal* relates to the near or next level of development, in this dissertation I proposed the notion of a *proximal other* as someone who was at the nearest level of development above or beyond the actual level of the learner. A mentor, in the traditional sense, was an expert who had years of experience in a discipline. While the mentor could be considered a *more experienced other* within the ZPD, the mentor's years of experience may have distanced them from the immediate experience of the novice. This experiential distance might have resulted in the creation of a gap in providing the *proximal* guidance a novice might have not even realized they needed. To distinguish between the two aspects of mentoring assistance used in this study, the traditional mentor was labeled *distal mentor* whereas the new construct was labeled *Proximal Mentor* (PM). The notion of *Proximal Mentoring* was first explored in a pilot study to determine the feasibility of conducting further research.

Exploring an Instructional Intervention - The Pilot Study

The beginnings of most ideas are never really concrete or delineated. They tend to come as a series of progressively closer actions and thoughts (John-Steiner, 1987). It was in this way that the idea of *Proximal Mentoring* began. I was looking for a doctoral program that would meet my needs as a technology teacher. A new doctoral degree in Learning & Technology had just been created. I met with the graduate coordinator who invited me to apply and suggested that in the interim I enroll in a particular course: History and Philosophy of Educational Psychology.

I enrolled in the course and found my self half-way through when I noticed I was totally overwhelmed with the content and the expectations. I changed to audit and reconsidered my doctoral program application. I was panicked about the idea of once graduated having to *be* the professor. I saw the depth and breadth of the professor's knowledge and knew that I was so far behind the curve; I felt I might never catch up. I submitted the application anyway, all the while ruminating over whether or not I was truly ready to pursue a doctorate. Even when I learned I was accepted to the program, I hesitated, waiting until the last day to pay without a late fee to enroll in my first semester as an actual doctoral student.

So, now I was taking classes, one of those being the class I had changed to audit the year before. When I arrived the first night of class, I noticed a couple of other people re-taking the course because they had not successfully completed it the year before either. I tried to warn the new students that the old "memorize, flush, and regurgitate" strategy would not work in the course; but, many did not listen and ultimately did not complete the course. I tried to get a study group together outside of class; but, most people were busy with work and beginning a doctoral program (as was I). I and most of the other repeat offenders managed to pass the course that semester, but it really was not good enough for me.

As I sat there watching the professor address quite challenging questions, I continued to reflect on the depth and breadth of the professor's content knowledge. I knew I did not have that depth of knowledge, nor would I have that depth of knowledge without multiple exposures to the material (now understanding the concepts in learning). Yet, I was not sure how to go about obtaining that depth by myself.

The professor told a story about how when he was a new doctoral student, he took a class similar to the one we were taking. He talked about how previous students would return to sit through the class year after year. Little did I know how much this statement would influence my view of education as I progressed through the doctoral program.

Luckily for me, the professor was an unusual person. He asked the students at the end of each semester what they thought he could do to improve the course. When he asked me, I told him I would get back to him after grades were posted, and I did. I met with him in the following January and we discussed ideas on how to better prepare the novice doctoral student for the depth of knowledge they needed to obtain. He was truly and genuinely interested in what I had to say. This began a relationship with the professor that continued as I progressed through the final steps of my doctoral journey.

In year 2, I participated in the course as a graduate research assistant wherein I was enrolled in an independent study and attended that very same course again. I worked on the presentations, digitized materials, created an interactive CD of the course materials, and helped revise the syllabus for the accreditation process under the guidance of the course professor and

other professors in the department. This was the year I took a class that met the qualitative research requirement for my degree program. It was also the year that I was introduced to the work of Lev Vygotsky. After reading Wink and Putney's (2002) *Vision of Vygotsky*, I understood intrinsically that this was the key for learning: help each other! I also realized that in order for knowledge to be meaningful, it needed to be shared with others.

In year 3, I talked a couple of the students from the previous year into sitting in the class again. While they participated in the groups, I expanded the digital nature of the course. To this end, students were able to submit and receive work electronically and participate in online discussion groups. I also repeated two of my statistics classes, the first, basic graduate statistics, as an observer and the second, inferential statistics, as a practicum student, teaching part of the material. Over the summer, I participated in an advanced qualitative research course as an observer.

In year 4, I participated in the course again as a paid graduate assistant. There were a few students from the previous year repeating their participation in the course again, but not as many as I thought there should have been for the amount of information packed into the course. I was also looking for a dissertation topic, having recently completed my comprehensive exam. I participated in an online qualitative research class as an observer while again being a practicum student in the inferential statistics course. In the fall, I performed a practicum in the online version of the basic graduate statistics course and taught a section of the online course in the second summer session.

As I participated in these courses at varying levels, my attention kept returning to the ideas that knowledge was meant to be shared, we needed to help each other learn, and we needed opportunities to sit through classes again. The person who ultimately became the primary co-chair on my dissertation mentored me through understanding the theoretical perspective of Vygotsky.

Finally, the light dawned! What was missing from all my interactions was a degree of mentoring that was not regular mentoring. Not only did I want that overall guidance that mentors provide, enabling me to see the *bigger* picture, per se, it was that *just past where I was*

guidance that understood where I was coming from and knew where I needed to get in the *here and now*. But, when I approached my mentors with the germ of the idea for *Proximal Mentoring*, neither of them was going to allow me to get off that easily. I had to provide a theoretical basis for my idea. I returned to Wink and Putney (2002) working my way backwards through the literature to find Vygotsky's (1962, 1978, 1987) theory of learning and development and more specifically Vygotsky's (1987) zone of proximal development (ZPD) was an appropriate theoretical framework. From there, the construct of *Proximal Mentor* fell right into place. And, I had been trying to do it all along as I taught, guided, and mentored the students coming into the program.

Nevertheless, it was not enough to be doing something like this informally. Many of the students enrolling in the doctoral programs were non-traditional students. Like me, they were older, had jobs, families, and responsibilities that would keep them from participating in their doctoral programs in the traditional ways such as being on campus all day, being graduate assistants, and being research assistants. Something more formal was needed for these students whose lives and responsibilities precluded the social aspect of doctoral student and faculty interactions. Thus began the process of defining and implementing the instructional practice of *Proximal Mentoring* into the courses in the graduate programs as well as making it a course unto itself.

In year 5, four doctoral students were selected to participate in the pilot study of *Proximal Mentoring*. I sat through the class again, this time in the role of researcher, observing, documenting, and listening. Although I knew the PMs as fellow students, I focused my efforts on remaining outside the ongoing definition of the construct that had been created (Glesne, 1999). I had private time with the PMs after each class. I guided the discussion but did not guide the responses. At the end of the pilot study, I interviewed each PM in depth about their experiences. Each of them emphatically stated they would be a PM again if the opportunity arose.

Armed with the pilot study, a theoretical perspective, and a construct, the proposal was crafted for this dissertation. My two primary mentors became my dissertation co-chairs. Together we invited three other professors to participate in the dissertation committee.

Purpose

The purpose of this study was to explore the construct of *Proximal Mentoring* as a unique way for mentoring graduate students to develop continuing expertise while providing an additional level of support to the educational process of the student-mentees based on Vygotsky's ZPD (1978, 1987). The goal was to obtain perceptions of *Proximal Mentoring* from all the participants in order to clarify and define the role of the *Proximal Mentor*, to form a "balanced understanding" (Edwards & Gordon, 2006, p. 2). In this dissertation, I examined the perceptions of the PM experience from the triangulated perspectives of distal mentors (professors), PMs (more experienced graduate students), mentees (novice graduate students).

Research Questions

This study addressed four main questions about the PM model covering perceptions, PM role, and PM outcomes. Participant perceptions were of primary interest in this research. Therefore, two of the four research questions addressed participant perceptions:

- What were the perceptions of the course professor regarding the role of the *Proximal Mentor*?
- What were the perceptions of the mentees regarding the role of the *Proximal Mentor*?

The third research question addresses the formation of the role of PM:

- How did the mentors come to negotiate, define, and express the *Proximal Mentoring* role?

The fourth question addresses outcomes for the PM:

- What outcomes were obtained by the PMs after having participated in *Proximal Mentoring*?

CHAPTER 2

LITERATURE REVIEW

This Chapter begins by setting the historical zeitgeist and a conceptual framework for this dissertation based on the research of Vygotsky. Next, Vygotsky's theory of learning and development is discussed as both a theory of cognition as well as a theory of education. Then, the literature review examines the current research on tutoring and mentoring leading to the construct of *Proximal Mentoring* proposed in this dissertation.

Historical Zeitgeist

Lev Semonovich Vygotsky was born on November 5, 1896 in the Russian town of Orscha. He was second eldest in a family of eight children. His father was an executive for a bank. His mother, a teacher by training, stayed home to raise the children.

Vygotsky: Student - Educator – Collaborative Researcher

Vygotsky excelled as a student in many subjects. To continue his education, he had to compete for one of the few available university seats allocated to Jewish people. He was chosen by lottery to attend Moscow University. He began studying medicine then switched to law, earning his law degree in 1917. He was concurrently enrolled at Shanyavsky Public University where he studied literature, psychology, and philosophy. The degrees he achieved in these disciplines were not recognized by the government because Shanyavsky Public University was a progressive institution accepting everyone who had interest (Vygodskaya, 1995).

After graduation, he returned to Gomel and taught provincial school literature as well as psychology at the Gomel Teacher's College from 1917 to 1924 where he began constructing lectures on teaching for his first book, *Pedagogical Psychology*. He married Roza Smekhova in

1924 and they had two daughters, Gita and Asya. Vygotsky finished his dissertation and was invited by K. N. Komilov to join him in reconstructing a new psychology at the Psychological Institute of Moscow in 1925 where he remained until his untimely death from tuberculosis in 1934 (Vygodskaya, 1995).

Between bouts of illness from the tuberculosis, Vygotsky, working in collaboration with two of his students, Alexander Luria (1902-1977) and Alexei Leont'ev (1904-1979), produced over 270 pieces of scientific work during his short 10 years of research at the Psychological Institute of Moscow University (Vygodskaya, 1995). Vygotsky, and his various collaborators, made reference to the research of their predecessors and contemporaries; however, while the research and findings are clearly presented, references to other researchers were not included in these original manuscripts. Subsequent scholars have attempted to link these other researchers to the vague references in Vygotsky's works to make them more accessible to contemporary scholars.

Cole and Cole (1979) discovered that Stalin, through the Central Committee on Communism, had banned all Vygotsky's work in 1936 in an effort to specifically ban Vygotsky's view of intelligence testing. Luria, along with Vygotsky's wife and two daughters, hid Vygotsky's original manuscripts so they would not be destroyed. In 1956, three years after Stalin's death, Vygotsky's works were finally allowed to be published by the government. The first English translation was published in America in 1962.

Conceptual Framework

Researchers in Vygotsky's time created theories and investigated hypotheses on a variety of topics within the general sphere of learning. Pavlov had researched stimulus and response, Wundt had researched introspection, and Piaget was researching child development while Vygotsky was creating a theory of learning and development. It was important to understand that the continuation of Pavlov's 1904 Nobel Prize winning work was the accepted paradigm at the time. As a relatively young scholar, Vygotsky acknowledged Pavlov's work, but then

explained how his own research moved beyond Pavlov's animal research into human learning and development.

Vygotsky directly challenged the stage theories of Piaget. Entire chapters of Vygotsky's work were devoted to his differences of opinion with Piaget's work (Vygotsky, 1962; 1978, 1987). By following Vygotsky's theoretical pursuits, one discovers a rich history of thought/thinking and speech/language revealed within the works of Humboldt, Heger, Protebnya, and Shpet as well as in the works of the theorists that came before them, such as, Plato, Socrates, Aristotle, and Kant.

Vygotsky (1962) approached learning in a way different from the behavioral theorists and researchers. Vygotsky addressed the schools of thought that placed speech independent of thought, such as Wundt's Theory of Introspection, with the relationship between the two as a mechanical, external connection, thereby precluding "any study of the intrinsic relations between language and thought" (p. 3).

Vygotsky (1962) noted that in historical, or generational, experiences humans have stores of information gathered and passed on through the generations in tangible form. These forms would include numeric systems and language represented in such artifacts as scrolls, cave drawings, books, records, tapes, and other storage media. Humans would interact with these historical artifacts and create learning situations through the use of them. In other words, through their historical experience, humans do not have to recreate forms of communication because they have been handed down, or reconstructed, through the cultures in which one participates over time.

In addition to the historical experiences, humans also have social experiences and can learn from each other without ever having experienced a particular situation. For example, we know that outer space has virtually no gravity, is colder than any cold we have ever experienced, and has no oxygen for breathing. Although we all *know* this, only a few humans have ever actually been in outer space. Vygotsky pointed out that the social environment provides novel experiences allowing for the complexity of interactions that give rise to the

variability of human behavior. As noted by Vygotsky (1962, 1978, 1987), humans are aware of their thoughts and actively interact with the thoughts in relation to reality.

Learning Was Social

To Vygotsky (1962) a learner without consciousness was a passive recipient of learning. The biological aspect of innate reactions required for existence becomes tempered by the social experiences and man's consciousness. Without the social environment, education cannot exist in any form (Vygotsky, 1997, p. 47).

Vygotsky (1962) began to reflect on the social aspect of education in order to examine learning. He noticed that language was a common denominator in all social interactions. He postulated that without language, a symbol system, active, conscious, self-directed learning could not happen. For Vygotsky, then, understanding the relationship between language in use and thinking was crucial for understanding higher mental functions.

Word Meaning

Vygotsky (1962) proposed using the composite word meaning as the unit of analysis for research. Word meaning represented the point where thought and speech united into verbal thought. The study of verbal thought then became a semantic analysis – "the study of the development, the functioning, and the structure of this unit, which contains thought and speech interrelated" (p. 5). Vygotsky saw speech as necessary for interaction:

> The primary function of speech, in both children and adults, was communication, social contact. The earliest speech of the child was therefore essentially social. (p. 19)

He developed and incorporated a unit level of analysis as the basis of scientific inquiry into thought and language. A unit would represent the basic components of the whole without reduction to essential elements wherein the relationship was categorically altered.

Using speech to generate communicative language

Speech, when uttered by humans, conveys much more than the simple emotions. Sounds lead to words. Words lead to sentences. Sentences lead to paragraphs. Paragraphs lead to manuscripts. One of Vygotsky's primary assumptions was the "primary function of speech was

communication, social contact" (1962, p. 19). He uses the semantic analysis process to explore the relation of word meaning to communicative speech.

This analysis was "the study of the development, the functioning, and the structure of this unit, which contains thought and speech interrelated" (Vygotsky, 1962, p. 5). The process of generating word meaning was complex and interactive. For children, this process beings simultaneously at the point their development where "thought becomes verbal and speech becomes rational" (Vygotsky, 1962, p. 44).

Another component in the creation of word meaning was the relation of reality to perceptions, sensations, thoughts, and generalizations. Reality was reflected through perceptions and sensations. If this were enough, there would be no more discussion on the matter. Obviously, since the discussion continues, there must be more to life than the experiences of perception and sensation. Vygotsky (1987) saw thought as being the result of a dialectic leap from sensations. To Vygotsky, thought was mediated by a generalized reflection of reality. When thought was expressed in speech, word meaning between the speaker and the listener was created. The resulting component was verbal thought, the communicative tool for language. Language, then, was based on the process of creating word meaning.

Social Interactions

Learners are not alone during these dynamic developmental and learning processes. They are supported, assisted, and guided by others: parents, siblings, extended family, and friends. Vygotsky (1962) proposed that we learn through our interpersonal interactions with others and then through internal processing of such interactions.

Home life, preschool, and formal schooling are all different environments; yet, each of these environments leads to learning for the learner. It was acknowledged that during the physical process of biological maturation, some intervention, in terms of food, water, and shelter, must be provided or the biological entity will not survive (Bjorkland, 2005). Likewise, it must be acknowledged that children are learning from the time they are born. Learners acquire much information informally in the home as well as in preschool and other social settings. To Vygotsky, the goal of formalized education in schools was "the creation of an adult who will look

beyond his own environment" (p. 51). In order for this to happen, he proclaimed that students needed to be actively involved in their learning.

This review of Vygotsky's research has been useful to illustrate how his theories developed and how they differed from theorists of his time. Understanding his views on the relationship of thinking and speech also helps us to understand the importance of the use of language in collaboration with more experience others. This leads to the construct of the zone of proximal development and its utility as a construct in this dissertation.

Zone of Proximal Development (ZPD)

When children are introduced to formal schooling, they are also introduced to a more formalized and systematic method of learning. According to Vygotsky, the formalization and systematic nature of the learning process was not quite sufficient in describing the process as to how we learn.

Palincsar (1998) claimed the ZPD was one of the most used and least understood constructs in the literature. Newman and Holzman (1993) asserted that the ZPD could be considered a proper unit of study for understanding uniquely human activity. On the other hand, Moll (1990) cautioned against the use of the ZPD simply as an instructional tool because he recognized the ZPD as a key theoretical construct from Vygotsky's work that allows us to view the individual within a concrete social situation of learning and development. The ZPD is a fluid concept that ebbs and flows with the processes of learning and development (Wink & Putney, 2002). Vygotsky (1997) proposed that the social environment of the learner and the internalization of the learning are both necessary and reciprocal. He postulated:

> Every function in the child's cultural development appears twice: first, on the social level, and later, on the individual level; first, between people (interpsychological), and then inside the child (intrapsychological). This applies equally to voluntary attention, to logical memory, and to the formation of concepts. (1978, p. 57)

The information was then taken back into the social setting where the process continues. This transformation process was dynamic and reciprocal.

As noted by John-Steiner (1997) when these collaborations are successful, novices develop fluency, and they learn how experienced others think and learn. However, not all such collaborations result in immediate success. Tudge (1990) noted that progression in the ZPD was not equal or smooth for all involved. Vygotsky himself noted that development was discontinuous.

Transforming external experiences into internal knowledge depends on the character of the information. Some forms of knowledge have a prolonged development timeline, other forms of knowledge transform automatically. From a mind point of view, the ZPD can be envisioned as the space where the social and mental environments merge. Knowledge exists in the social environment (inter-space) that the learner does not yet have. When the social environment changes such that the unknown knowledge enters the ZPD, the learner has access to the information. The learner can then process that information into the mental environment (intra-space) where the information was moved into memory.

For Vygotsky, this movement was conscious and intentional and the process of internalization was an active one. Furthermore, the processes of internalization do not take place in isolation. As noted by John-Steiner (1997), they are "embedded in apprenticeships with parents, mentors, and distant teachers" (p. xxiii). In other words, the Inter-space was the area in which the learner interacts with others. The Intra-space environment was where internal meaning-making happens (Putney, 2007).

Instructional Implications of The ZPD

The focus of the ZPD was not on what the learner already knows but what the learner can come to know in collaboration with more experienced others (Vygotsky, 1978). These *more experienced others* can be considered as anyone the learner comes in contact with in life who assists the learner to move beyond their actual development level in any way. In life, would include siblings, parents, guardians, and/or other adults. In a classroom, the learner comes in contact with peers, classmates, teachers, and experts. An idealized version of the ZPD from a

classroom perspective would have the *more experienced others* having the same experiences and background knowledge as the learner (Figure 2-1).

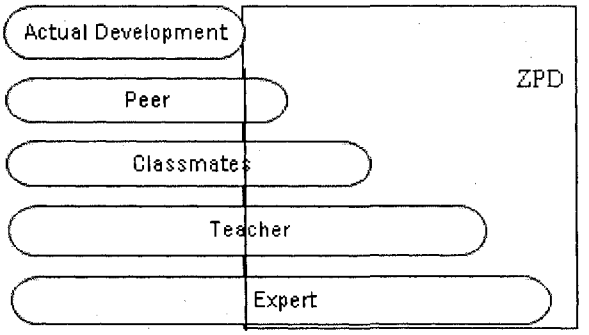

Figure 2-1 Ideal Concept of ZPD

Each of the more experienced others would be able to bring to the learner to ZPD levels commensurate with their own experience and knowledge. However, as noted by Putney, Green, Dixon, and Kelly (1999), learners do not lead standardized lives. Peers, classmates, teachers, and experts all have differing experiences and cumulative background knowledge. As such, their lives and learning are locally situated (Putney & Frank, 2008).

Part of what makes teachers *good* was the ability to reach back in their own memory and knowledge to approximate the actual developmental level of the learner (Chak, 2001). While most teachers are able to go back as far as most of their learners need, they still have students who fail. This might not necessarily be a fault that lies with the teacher. The fault may lie with society in that the experiences and background knowledge of the learner lies outside the teacher's own ZPD. It may be the relationship of peers or other students (i.e., tutors) *in conjunction with* the teacher that truly enables the learner to progress in their educational development. This may be one reason why peer interactions seem to be so popular in education.

Vygotsky (1987) and Wertsch (1985) both claimed the ZPD addresses only those developmental skills accessed through formal instruction in academics as opposed to motor

skills acquired in a typing class. More recent research has successfully extended the ZPD to the child's motor skills for block construction (Johnson-Pynn & Nisbet, 2002) and for management of children's behavior disorders (Tournaki & Criscitello, 2003).

Johnson-Pynn and Nisbet (2002) conducted a study of 28 pairs of 3 to 5 year old students as they worked in pairs to construct a picture of a house from parquetry blocks. First, 14 expert students, those who had experience with the block task, were randomly assigned to one of two conditions: same aged or mixed age. The second 14 students, those who had no experience with the block task, were randomly assigned within age to an expert. The same age group was within 3 months of age. The mixed age group was 12 to 18 months difference with the older student being the expert and the younger student being the novice. The gender was counterbalanced across conditions (age) and across roles (expert/novice). Only one of the 28 expert children, a female who was almost 5 years old, needed prompting to assist the paired novice. Even children as young as 3 years old spontaneously assisted the novice. Johnson-Pynn and Nisbet found age had no bearing on whether or not assistance was given.

Tournaki and Criscitello (2003) reversed the usual roles of tutor and tutee, assigning children with disabilities to tutors students who were not disabled to improve classroom behavior in first grade. The tutors were rated as functioning at grade levels. The tutees were rated as functioning below grade level. Students were deliberately matched on academic skills, pairing the highest scoring tutor with the highest scoring tutee, down to the lowest scoring of each being paired. Daily behaviors were determined and these behaviors were the basis of the frequency and duration data collected over 20 days. Students had a no tutoring period followed by a behavior tutoring period. Both frequency and duration of target behaviors were reduced in the tutoring period. Tournaki and Criscitello provide empirical data on the role-reversal tutoring technique in managing classroom behavior of both disabled and non-disabled students.

Johnson-Pynn and Nisbet (2002) demonstrated the social nature of assistance. Only one out of 28 children had to be prompted to assist another child. Even as 3 year olds, people want to assist others if it is something they know how to do. Tournaki and Criscitello (2003) demonstrated that one does not need to be the expert. As long as they know slightly more than

the person they are assisting, the assistance is useful. In both of these studies, the person assisting only had slightly more experience; however, in both cases, the assistance was helpful.

Extending Vygotsky: Adult Learning In The ZPD

Vygotsky's theory of learning and development focused primarily on the learning and developmental change of school-aged children. Current researchers have extended the construct of the ZPD into areas of which Vygotsky might have only dreamed. The ZPD has been used successfully as a framework by numerous scholars to explain the learning of language (Aljaafreh & Lantolf, 1994; Anton & DiCamilla, 1999; Borthick, Jones, & Wakai, 2003; Kinginger, 1998; Kuschnir & Machado, 2003; Lund, 2003; McCafferty, 2002). Other scholars have examined the ZPD in the course of training of teachers (Bayer, 1996; Bell, 2005; Bocharie, 2002; Fields, 1999; Itterly, 1998). The ZPD has been studied in the realm of cooperative education (Nyikos & Hashimoto, 1997), as well as in problem-based learning (Harland, 2003). A few studies have examined the ZPD in relation to testing (Kozulin & Falik, 1995), and as a means of school reform (Quate, 1997).

Aljaafreh and Lantolf (1994) initiated a study with three students from a larger study they had conducted. These three students volunteered to participate in one extra tutorial each week for the 5 weeks of the language course they were taking. These volunteers were told they were participating in a study of how language teachers can help learners. These three students were considered the ZPD group. They received feedback from the researcher in a one-on-one format lasting 30 to 45 minutes. Student compositions and requests for assistance were used as evidence of working with a ZPD. They found error correction and language learning is effectively mediated by feedback through the tutorial process within the learner's ZPD.

Nyikos and Hashimoto (1997) extended Aljaafreh and Lantolf's (1994) research by investigating the effect of the concept of a group ZPD as the members of a group interacted on a critical thinking task with 16 Foreign Language and Applied Linguistics program graduate students divided into 3 groups of 3 students as they practiced the teaching approach they were studying. Data evaluated were a dialog journal, a self-report on the group process, and a self-

report on the individual's role within the group. When the project was brought to the group as a collaborative problem-solving effort, the group was successful in completing the project.

McCafferty (2002) investigated the role of gesture in conjunction with speech within the ZPD with one English language learner who was the only remaining member of a larger group study. Videotapes were reviewed for the use of gesture within the ZPD of the learner. These gestures became part of the shared language of the student and teacher. McCafferty proposed that both the learner and teacher imitated the respective gestures as a part of the process of creating the shared understanding that converted the shared gesture to word meaning. In this way, the ZPD was a collaborative space for shared learning.

Harland (2003) described how experts used the ZPD to develop a problem-based learning curriculum for zoology over a three-year period. The goal in the project was to turn students into tutors for each other within their continually evolving ZPD. Harlan found that when teachers withdrew from direct teaching students would have to begin to learn outside of the linear transmission of information model (Topping, 1995). Harland found adult students resorted to assisting one another naturally in the less formal setting supporting Johnson-Pynn and Nisbet's findings of even three year old children naturally assisting one another in collaborative problem-solving activities. Harland concludes that even adult "students are not expected to be experienced teachers, but there is no reason why they should not start to develop a considered rationale for helping others learn as part of their own development" (p. 271).

Through these studies, the ZPD was demonstrated to be a viable construct for adult learning in these situations. The nature of the instruction is that of a collaborative mentoring process. Vygotsky's theory of learning and development includes components of collaboration, instruction, and dialogic discourse. As noted by Vygotsky's daughter, Gita:

> He suggested to me that I go and ask my classmate about what she didn't understand, and try to patiently explain it to her, and if I couldn't do it so she would understand perfectly, then he would be glad to help me. 'But here is the most important thing', he added, 'you must do all this so your friend be sure

[sic] you really want to help her, and really mean her well, and so it would not be unpleasant for her to accept your help'. (Vygodskaya, 1995, p. 115)

This quote from Gita Vygodskaya demonstrates the philosophy of her father, Lev Vygotsky, in terms of schooled learning. Vygotsky indicated that students could also be teachers for each other as long as they took on a mentorship stance of being helpful but not domineering or overbearing in terms of their assistance (Wink & Putney, 2002). From this perspective, Vygotsky's theory of learning and development was determined to be appropriate for providing the framework for the *proximal mentoring* study. In the literature review that follows, notions of mentoring and tutoring are examined as they relate to the *proximal mentoring* study.

Review of Relevant Literature

A literature search in the information age using the technological advances in database compilation and search engines can produce hundreds of thousands of titles and the literature search for this dissertation was no exception. Beginning with three seemingly simple words: tutoring, mentoring, and ZPD, thousands of articles were identified through the university's available on-line databases such as Eric, Dissertation Abstracts International, and EBSCO host. An immediate determination was made to increase the precision of the search terms as well as limit the time frame for publication of articles to the past ten years in order to reduce the number of potential articles for review. This limitation still produced many appropriate articles including a dissertation on mentoring in doctoral programs by Hager (2003).

From Hager's (2003) references, a search of author names was implemented, leading to the work of prominent researchers in the field of peer support such as Palincsar, Brown, O'Dell, Wang, and Greenwood. The articles procured were reviewed and categorized into empirical research, reviews, meta-analyses, opinions, and theoretical perspectives. Some articles had to be ordered through library services. Others were discovered by perusing the periodicals section of the university library.

The premises and the results of the data analyses for this dissertation were used to further refine and focus of the literature review (Marshall & Rossman, 1999). Based on the results of

the perceptions of all participants in the dissertation that the concept under exploration was not considered to be tutoring, a review of the mentoring literature was determined to be more informative for this review than the tutoring literature, even though the tutoring literature was more substantive in amount of articles available for review.

It was also determined that the review of the tutoring literature would be more helpful in informing this study if the review were done from a conceptual perspective focusing on perceptions of the participants. Therefore, the meta analyses, reviews, and recent empirical studies were evaluated based on whether there were reports of the perceptions of the participants. Two meta analyses (Topping, 1995; Cohen & Kulik, 1981) along with four substantive reviews (Townsend & Mohr, 2002; Ward & Lee, 2005; Kalkowski, 1995; and Baillie, 1998) were conceptually analyzed producing a thematic review of the tutoring literature. Six articles addressed problematic outcomes of tutoring (Walker & Avis, 1999; Topping, 1995; Beasley, 1997; Fox & MacKeogh, 2003; Houston & Lazenblatt, 1996; Griffin & Griffin, 1997). Two studies were selected for a more in-depth critique (Beasley, 1997; Magin & Churches, 1995) due to their design similarity to the current study.

Tutoring Literature Review

Tutoring has been an instructional practice since the time of the early Greeks (Topping, 1995). At that time, students who assisted other students were considered *surrogate teachers*. The focus of tutoring was transmission of academic content knowledge. Tutoring can be done by adults or other students. Tutoring performed by adults (especially those with teacher training) was more effective than tutoring done by other students regardless of the age or grade level differential. Tutoring has practical significance in the world of education: adding tutors to a classroom does not detract from learning and may, in fact, enhance learning for everyone involved. For the purpose of this study, the term *tutor* was operationally defined as "the process by which a competent pupil, with minimal training and with a teacher's guidance, helps one or more students . . . learn a particular skill or concept" (Thomas, 1993, p. 1).

In current research, a variety of terms to represent the various ways in which tutoring is implemented: peer tutoring, cross age tutoring, peer teaching, peer education, partner learning,

peer learning, child-teach-child, learning through teaching, peer resource programming, peer helping, peer mediation, peer leadership, cooperative learning, peer corporation, peer collaboration, mutual instruction (Kalkowski, 1995), surrogate teacher, peer assisted learning, cross-year small-group tutoring, personalized system of instruction, supplemental instruction (Topping); scaffolding, proctoring (Magin & Churches, 1995), peer instruction, reciprocal teaching, and peer mediation (Townsend & Mohr, 2002).

In the current educational paradigm, the role of tutor allows for some students to become a more active participant in the educational process while maintaining the integrity of the paradigm itself as the "linear model of the transmission of knowledge" (Topping, 1995, p. 1). Tutors are provided the benefit of the teacher's knowledge of pedagogy as well as more in-depth content knowledge enabling them to function as a partial expert, imparting knowledge to fellow students in a more active manner. Topping summarized the act of tutoring as "learning by teaching" where "to teach was to learn twice" (p. 3). In addition, he noted "just preparing to be a peer tutor has been proposed to enhance cognitive processing in the tutor" (p. 3).

Cohen and Kulik (1981) and Topping (1995) reviewed more than 300 unique studies on peer tutoring in their meta-analyses. The results of these meta-analyses showed the advantages for the tutee were vast. Beyond the expected improvement in test scores, tutees reported increases in: self-esteem; self-confidence, social skills; locus of control; positive attitudes; ability to form friendship bonds; lowered anxiety; higher self-disclosure; more engaged time on task; improved retention; transference of knowledge to other domains; ability to empathize with others; aspirations, and reduced social isolation.

The reported advantages for the tutor were impressive as well. Many experienced improved test scores along with: a better understanding of the subject they tutored, better higher order conceptual understanding, improved attitudes, and higher self concept. In addition, all three meta-reviews reported impressive gains for: low achieving, limited English speaking, learning disabled, behaviorally disordered, and other at-risk student populations who tutored in any subject.

The following studies were chosen for a more in-depth review due to their design similarity to the *proximal mentoring* study. In the first study, Beasley (1997) collected data over a two-semester period. In the second semester, tutors from the first semester volunteered to tutor again. In the second study, Magin and Churches (1995) used second-year students who were successful in the first-year course to tutor first-year students.

Beasley (1997) described the development and evaluation of a two-semester peer tutoring program for undergraduate courses in law and accounting. Tutors received two hours of training, on-going support, book vouchers, and attended a final de-briefing workshop. In the first semester of the program, twelve tutors were matched with 12 tutees. Tutoring commenced halfway through the semester. In the second semester, 23 peer tutors (6 returning from the previous semester) were matched with 38 tutees. Beasley defined the role of the tutor as "help develop the students' thinking and understanding of the course content, tasks, and lecturer's expectations, and . . . help students develop appropriate strategies" (p. 3). Tutor/tutee questionnaires were collected and analyzed. Beasley found that tutors perceived an increase in their academic achievement, had a greater sense of worth, increased their self-confidence, experienced enhanced communication skills, and had an improved perception of their teaching ability.

Magin and Churches (1995) described a case study in which they used peer tutoring in a mechanical engineering course. Sixty second-year students were required to tutor 120 first-year students in using the specialty computer software over the first four weeks of the semester. The Professional Development Centre of the university surveyed the participants at the end of the course with a response rate of 57%. Magin and Churches found that tutors experienced an increased understanding of the computer system, developed an empathetic understanding for the tutee, experienced enhanced communication skills, reported increased interaction with the course content, and experienced personal enjoyment through the process of tutoring.

From the teacher's perspective, tutoring was successful. Attributes contributing to the teacher's perceptions of student success from being tutored were: improved quality and quantity of student work (Medcalf, Glynn, & Moore, 2004); increased time to model, monitor, and

evaluate (Gut, Farmer, Bishop-Goforth, Hives, Aaron, & Jackson, 2004; Miller & Kohler, 1993; Lidren & Meier, 1991; Medcalf et al., 2004; Miller & Kohler, 1993; Smith, 1997; Thomas, 1993); reduced conference time (Medcalf et al., 2004; Dolton & Klein, 1994); and students took less time to learn (Magin & Churches, 1995).

In the K-12 setting students received tutoring in the classroom during the school day. Many adult students, on the other hand, were asked to participate in tutoring research conducted outside the classroom. A primary complaint of the adult student tutees was the need to use their outside-of-class time to participate in the tutoring. Adult tutees also complained about the lack of expertise on the part of the tutors and their perception of the tutors as having created confusion instead of clarification (Griffin & Griffin, 1997; Houston & Lazenblatt, 1996).

When lack of adult tutee gains were reported, the reasons cited by the researchers were: lack of participation by students (Beasley, 1997; Fox & MacKeogh, 2003); lack of monitoring (Houston & Lazenblatt, 1996); lack of training for the tutors (Beasley, 1997; Houston & Lazenblatt, 1996); difficulty in coordinating schedules (Beasley, 1997) and tutor/tutee mismatch (Beasley, 1997).

Even with these shortcomings, the overall results of tutoring in adult education were consistent with the meta-reviews: the advantages that accrue to the tutor by engaging in a tutoring intervention were impressive; pitfalls tended to be focused on the personal or social aspects of tutoring; and when tutored students performed equivalently with the control group (i.e., expected gains of tutoring were not realized), having incorporated tutoring into a class did not detract from the learning or cause harm to the students. Negative outcomes of adult tutoring were virtually non-existent with tutor-tutee incompatibility as the most frequently cited negative outcome of tutoring.

Adding a tutoring component to a course will usually provide improved or enhanced abilities, skills, and knowledge to both tutees and tutors. In general, the more highly structured the component, the higher the achievement of the tutees. Although each study was designed differently and investigated different aspects of the instructional practice of tutoring, when combined all of these studies and meta-analyses show a clear and evident pattern of successful

outcomes on behalf of tutees and tutors. Even when there was no statistically significant difference in performance, students who were tutored "overwhelmingly perceived" that they benefited from the tutoring (Rittschof & Griffin, 2004, p. 325).

Tutoring Research That Uses Vygotsky's Theory As A Framework

Of the studies that included a theoretical framework, many were based on Vygotsky's theory of learning and development (explicated earlier in this Chapter). Rittschof & Griffin (2001) found their results supported both Vygotsky's cognitive development theory as well as the theory of self-regulation (Winne, Jamieson-Noel, & Muis, 2001).

In the theory of self-regulation (Winne, Jamieson-Noel, & Muis, 2001), the learner monitors and responds to the learning environment in an active way using a *metacognitive control* process. This process is active even when the learning appears to be externally or automatically regulated. The mechanisms though which this occurs are internal. This internal process cannot be observed, even when the concept is operationalized. Therefore, self-regulated learning research relies heavily on introspection and participant self-report. Ladyshewsky (2002) found his results supported the theoretical framework of the ZPD (Vygotsky, 1978, 1987) whereas Rittschof & Griffin (2001) found their results supported both Vygotsky's cognitive development theory as well as the theory of self-regulation. Both studies focused on the tutee whereas the *proximal mentoring* study places more emphasis on the PMs.

Collaboration models (Wells, 1999), such as peer-tutoring, are frequently found in the educational literature especially within an elementary school setting. In these models, students are arranged into smaller learning communities of varying skill levels. While the collaboration model is in some respect similar to the premises of the *proximal mentoring* study, as learners progress through the educational process, the focus shifts from the collaborative model in elementary school to an individualized, content-knowledge learning model by the time the student moves into graduate studies.

In addition, the need for tutoring declines as the academic knowledge and learning strategies of the learner develop and improve. By graduate school, most learners are highly

adept at reading, writing, and math as evidenced by the criterion used to offer acceptance to such students into the varied programs available to adult learners.

Reciprocal Teaching

In a series of studies, Palincsar and Brown (1984) initiated a strategy of peer tutoring called reciprocal teaching in which students improve comprehension under an adult's guidance. The comprehension strategy consisted of four key activities: summarizing, asking questions, clarifying, and predicting. After being taught the key activities of summarizing, questioning, clarifying, and predicting, each student took a turn at performing the key activities in small groups. Students were more able to answer comprehension questions on new passages after training and practice with the key activities. The study was extended to 37 seventh-grade students, 24 of whom had reading problems. There were two control groups. The first had six students seen in groups of two who received no intervention and took the same test. The second control group did not take the reading test. The third group was the reciprocal teaching group. The fourth group received training in locating information. All groups took the baseline, maintenance, and pre- and post-tests. Reciprocal teaching showed steady improvement over all other methods studied.

Based on the statistical success of the model, Palincsar and Brown (1984) replicated the study in a natural school setting with 4 classes of seventh- and eighth-graders. Two were regular classrooms and two were resource classrooms. All students in these groups met decoding requirements for reading comprehension. As in the first two studies in the series, the reciprocal teaching group showed significant gains.

Palincsar, Brown, and Martin (1987) conducted similar studies in which they measured process outcomes as well as product outcomes. In terms of process measures they found that peer tutors were effective in modeling for their peers, in giving practice as well as specific feedback, and in adjusting the amount of support needed by the tutees.

While the construct of reciprocal teaching is in some respect similar to the premises of the *proximal mentoring* study, the focus on reciprocal teaching has been on comprehension of the classroom content at the K-12 level. The *proximal mentoring* study placed more emphasis on

the role of the mentors and the mentoring aspect of guiding graduate students into the culture of graduate school.

Tutoring Summary

Tutoring is an instructional intervention where the tutor acts as surrogate teacher (Thomas, 1993). There are three main participants in the tutoring paradigm: teacher, tutor, and student/tutee. The focus of tutoring is transmission of academic content knowledge. Adults or other students can do tutoring. Tutoring performed by adults is more effective than tutoring done by other students. Tutoring has practical significance in the world of education: adding tutors to a classroom does not detract from learning and may, in fact, enhance learning for everyone involved.

In current educational theory students are expected to work collaboratively. Research related to collaboration has generally viewed student-to-student interactions in terms of peer-tutoring.

In the reviews that explained results in terms of an overall theoretical framework, Self-Regulated Learning and Vygotsky's theory of learning and development were there most cited frameworks. Within Vygotsky's theory of learning and development, components of the ZPD, reciprocal teaching, and collaboration models were used to frame the results.

Adding a tutoring component to a course will usually provide improved or enhanced abilities, skills, and knowledge to both tutees and tutors. In general, the more highly structured the component, the higher the achievement of the tutees. Although each study was designed differently and investigated different aspects of the instructional practice of tutoring, when combined all of these studies and meta-analyses show a clear and evident pattern of successful outcomes on behalf of tutees and tutors. Even when there was no statistically significant difference in performance, students who were tutored overwhelmingly perceived that they benefited from the tutoring (Rittschof & Griffin, 2004). Therefore, tutors and tutees are not harmed if the tutoring does not provide the anticipated gains.

Tutoring takes place primarily in an educational setting in which the tutor provides academic content knowledge to the tutee. Unfortunately, this additional level of support in the academic

realm does not fulfill the needs of all learners. As suggested by Sobral (2002) a next step in the acquisition of knowledge for the learner can be mentoring.

Mentoring Literature Review

Mentoring is a more complex construct than tutoring. Whereas tutoring is relegated to the educational realm, mentoring expands beyond education into a wide variety of domains. This review begins with a brief history and definition of the role of mentoring. Research on mentoring in business domains is then discussed, followed by a discussion of research on mentoring in educational domains. Finally, pitfalls identified by these researchers will be explicated.

The mentoring literature was comprised of empirical studies, philosophies, theories, program evaluations, and opinions within a variety of settings from business to graduate studies. The main focus of the research in mentoring was mentee outcomes. The number of articles available from the mentoring literature using doctoral students as the focus of study was expectedly sparse. Therefore, the search of the mentoring literature was expanded to include empirical studies of mentoring for adults as well as mentoring for K-12 students. A conceptual review of these articles for reports of participant perceptions was conducted.

Noddings (2001) posed the idea that mentoring needed to come from a tradition of caring in which the benefit of the mentees was of primary importance. In this respect, mentors would provide encouragement, assistance, guidance, wisdom, chiding, scolding, and peacemaking, all while expecting mentees to be independent and bold during their quests. As such, mentors would attempt to provide a support system to help mentees become successful. Vygotsky (1978, 1987, 1997), in his model of the ZPD, suggested support from peers through the use of collaboration might be implemented in such a way as to promote individual success.

The term *Mentor* was operationally defined as a person with many years of experience within a discipline who can *guide, counsel, and sponsor the mentee* (Milner & Bossers, 2004), or novice, in *learning the ropes* of the profession (Hager, 2003). Although mentoring can occur in any setting, Milner and Bossers (2004) found strong agreement by both mentor and mentee on the role of the mentor: guide, counsel, and sponsor the mentee. Through the process of being mentored, mentees can build self-confidence while assimilating the professional

environment and navigating situations native to their domain. In the current paradigm of mentoring, the mentor accomplishes these feats through knowledge and experience in and of the field along with personal and empathetic connections with the mentee.

Mentoring in non-educational settings. In the discipline of Nursing, Milner and Bossers (2004) reported on a structured mentoring program utilized by an occupational therapy program in Canada. Information on the structure and assignment of students to groups and mentors were not discussed. Groups met bi-weekly for their entire 2- or 4-year programs and mentors rated students as pass or fail for each course. This report approached mentoring from an instructional intervention focus because the students were formally assigned to a mentoring group as part of their required coursework. No theoretical framework was addressed. The research findings are based entirely on participant self-selection survey responses. Of the 124 mentees reported as participating in the study, only 14 mentees responded to the post-graduation survey. Approximately half of these reported experience and knowledge as desired attributes in a mentor. A little less than half of these mentioned guidance and support as desired attributes in a mentor. Milner and Bossers' found that there was strong agreement by both mentor and mentee on the role of the mentor. This role was to

> . . . facilitate professional development through guidance and counsel . . . sponsorship, helping the mentee to identify the professional environment, navigate difficult situations, and to build self-confidence and well as creative and independent thinking. (Milner & Bossers, 2004, p. 107)

Milner and Bossers (2004) identified a component of peer mentoring within the questionnaire responses. No mention was made of the mentor's supervisory role of providing pass or fail ratings for each course in the student's program. This power relationship may have had an undue effect on the results for the first phase of the study. Students may have provided responses they felt were more in line with the investigator's goals because of this power disparity. In addition, because of the need to track respondents over time on multiple questionnaires, students may have felt true anonymity was not possible thereby providing

another source of report bias in the results. No mention was made of outcomes for the mentors in this study.

In the general business setting, Withers and Stringer (1999) addressed the experiences of women in business who participated in a peer-mentoring program for women only. In this program, women were provided 10 hours of training. In return, they agree to give 3 hours of mentoring time per month. In addition, mentors were required to attend monthly meetings. The program was described as an intensive, highly structured story telling session in a 'non-judgmental, confidential, and non-advice-giving environment" (p.59). In this model, each participant was a peer and each participant was a mentor. Withers and Stringer identified benefits of this program as bonds of intimacy built on mutual respect and trust, freedom to discuss any issues of importance to an individual, assistance, validation of feelings, validate issues, access to a range of experiences, and solve problems. Withers and Stringer reported only their perceptions of the phenomena and did not attempt to provide a theoretical framework or empirical data to warrant their findings.

In the real estate sales setting, Pullins and Fine (2002) surveyed 6.2% of 3,500 professional real estate agents about their experience with mentoring. Of these 215 surveys, 138 were classified as being mentors. They defined the peer relationship as "both salespeople occupy similar positions in the organizational hierarchy" (p. 259). Peer mentoring was defined as "when a more experienced salesperson (the mentor) takes responsibility for the development and guidance of a less experienced salesperson" (p. 259). This research investigated the benefits of mentoring to the mentor. Pullins and Fine found "it appears that teaching selling skills to a protégé benefits the mentor's performance in every way. Attention to this level of detail may result in improvements in all areas" (p. 268). Pullins and Fine noted "the mentor gains a form of cultural capital, too, in developing an understanding of the realities of the experiences of another person" (p. 268).

Pullins and Fine (2002) found the coaching and counseling aspects of mentoring did not seem to be of much perceived benefit to the mentors. They delineated the benefits of mentoring in real estate sales as: increase spheres of influence; demonstrate managerial skills; show

teamwork; pay back support he or she received earlier in his or her career; gain friends in the business; improved satisfaction; rejuvenation; better performance; improved attitude; refresh and improve skills related to succeeding; provides a way to develop expertise; update skills; regenerate motivation; and increase satisfaction (p. 269). Pullins and Fine reported that a major limitation of this research was the self-report nature of the surveys. Mentors may have over- or down-played their perceptions of benefit to themselves. In addition, mentors may not have recognized received benefit. Although Pullins and Fine propose to "test all possible relationships" (p. 260) they noted inherent problems in their survey methodology and scales.

Rymer (2002) proposed a model of co-mentoring within the Association for Business Communication and the collegial environment based on personal reflection. Rymer listed her perceptions of what the co-mentor did in the relationship as close friends, nurturing, engage in dialog, communicate, network; and highly motivated to help. Rymer listed her perceptions of the potential benefits of co-mentoring as: enhance career development; give job feedback; give advice on manuscripts; provide quality information; fulfill the need for academic companionship; alleviate the sense of isolation, enable scholarly projects, and provide "counsel and support we need to become more productive scholars" (p. 354). Rymer listed what she perceived as essential principles for co-mentoring as: establish trust, create emotional bonds, contribute altruistically, and communicate regularly and fully. Rymer presented the theoretical framework of Kram and colleagues' social network theory for her model of co-mentoring.

Although mentoring was used extensively in the business world, empirical, peer-reviewed research in mentoring was educational in nature. It may be that in business, the *bottom line*, otherwise known as *profits*, depended on the successful implementation of strategies that improved the success of the business (profits, product, people) without having increased the cost of doing business. Strategies that were not successful were dropped as quickly as they were determined to be unsuccessful. Strategies that were successful were continued and expanded. These implementation cycles occurred in as little time as a couple hours or as long as a few years.

Mentoring in Educational Domains

The *bottom line* in education is learner knowledge. In the accountability era of the No Child Left Behind Act of 2001 (NCLB), standardized test scores provide the *bottom line* measure of learner knowledge. Implementation and documentation of strategies and outcomes of strategies implemented in education was dependent on many personal, instructional, and/or institutional factors. Documenting implementations can take as little time as a few hours or as long as generations. Both successful and unsuccessful strategies continue to be used in educational settings for decades past the point at which they are empirically determined to be ineffective. Hager (2003) found "mentoring has quickly come to be seen as a preventive measure or intervention for academic deficiencies and a proactive measure in the growth of successful academic careers" (p. 3).

Mentoring students in the k-12 setting. Barton-Arwood, Jolivette, and Massey (2000) reported elementary school mentors help mentees with learning and practicing new skills, modeling behaviors, and social interactions. Barton-Arwood et al. noted mentors stand to gain improved self-esteem and varied social opportunities. They further proposed creation of mentoring dyads between students with disabilities and students without disabilities. They cautioned that at the elementary school level, those peer mentoring programs that were most successful are highly structured and organized. Although Barton-Arwood et al. noted that both mentor and mentee benefit from one another, the article lacked empirical evidence for benefits and gains of peer mentoring.

Pyatt (2002) implemented a cross-school mentoring program for middle school girls by girls approximately five years older utilizing older pupils to provide a supportive framework for younger peers. Pyatt noted the reciprocal nature of the cross-school mentoring program in that older students desired realistic experiences and younger students needed personal time for a variety of special circumstances ranging from dyspraxicia to attention seeking behaviors. Mentors received ongoing training in which they were encouraged to share their experiences of mentoring. Pyatt reported that reciprocal benefits were experienced. Mentees gained confidence and mentors gained experience and training. In addition, the ongoing training

assisted the mentors in converting from a "controlling to contributing" focus (p. 176) focus. However, no empirical evidence was provided to support these claims. This article approached mentoring as an instructional intervention.

Dopp and Block (2004) investigated peer mentoring in high school. The study focused on the ability of all students to become role models for others. Training in leadership, creativity, problem solving, sharing of ideas, and implementation of shared ideas was accomplished over a one day period. Benefits of peer support included improved social skills by peer teachers, improvement in school climate, mentors facilitated learning in a variety of groups, immediate reinforcement, and acceptance by peers of tutoring by the identified mentors. A major weakness of this study was the looseness of the definition of peer mentor for this study. Dopp and Block switched between calling the participants peer mentors and peer leaders. The activities described by this study are more suitable for peer tutoring and peer mediation activities as opposed to peer mentoring in the tradition of mentoring. As with most of the studies in this genre, Dopp and Block's study was an instructional intervention.

It was difficult to determine the difference between tutoring and mentoring in not only these representative studies, but within the K-12 literature as well. At the elementary and middle school levels, the description of the relationship between students was described as reciprocal. Each of these studies provided organized training for the student-mentor followed by close supervision. It is difficult to determine the extent this close supervision had on the outcomes of the mentoring relationship.

Mentoring teachers in the k-12 setting. In an extensive critical review of mentoring literature on teacher mentoring, Wang and Odell (2002) analyzed over 135 studies, position papers, and documents on reform. However, their review was deemed beyond the scope of this study as they did not address educational contexts in general. As noted, "...instead, we deal specifically with mentoring support for preservice and beginning teachers in learning standards-based teaching" (Wang & Odell, 2002, p. 481).

Mtetwa and Kwari (2003) investigated the potential of resource teachers to become mentors to other teachers within the school setting. Mentoring was defined as dispensing

information, organizing workshops, and demonstrating instructional strategies. They further identified 11 aspects of mentoring exemplified within their 9 case studies: information and resource provision; teacher/coach; leader; feedback provider; emotional support; role model; networking; moral support; career advisor; provider of induction; and personal qualities of professionalism, service culture, willingness to share, valuing learning and knowledge, development of expertise, commitment, humility, and resourcefulness.

Mtetwa and Kwari (2003) further noted that the mentor's primary role was peer tutoring with a one-to-many relationship (rather than the typical one-to-one mentoring relationship). As in Hager's (2003) study, time was listed as a major constraint to the mentoring role. The focus was entirely on what the mentors gave to the mentees; there was no mention of what benefit the mentors perceived as coming from the mentoring, if, indeed the mentors perceived any personal benefit.

Boreen and Niday (2000) investigated a dyadic mentoring relationship between first year teachers and teachers with at least 15 years of experience as well as the relationship between dyads of first year teachers. Boreen and Niday mentioned a social constructivist theory of learning based on the works of Bakhtin, Vygotsky, and Wertsch as the framework for this study.

Boreen and Niday (2000) enlisted the students in a pre-service English education course, assigned them mentors, manipulated the assignment of mentors and mentees to require electronic communication as well as face-to-face meetings, structured the mentor-mentee communication requirements, and assigned pre-service teachers to peer dyad groups with assignments for the groups to complete. In addition, mentor-mentee relations were highly structured wherein each dyad was instructed on how many times during which phases of the project they needed to be in contact. Although 60 pre-service students participated, only data from two pre-service teachers and one mentor were provided in this study because, according to Boreen and Niday, they resulted in the most productive dyads that best illustrated assurance and trust.

It was interesting to note that the two pre-service teachers who were in the same peer dyad had the same mentor for the mentor dyad. Boreen and Niday (2000), in their reflection on this

instructional practice, make an important finding that "we may have been imposing an artificial relationship on some preservice teachers that did not meet their needs" (p. 162). However, no analysis was provided on the quality or quantity of the communications in which these students did partake. This observation could have been easily confirmed or disconfirmed with evidence provided by the students as course requirements.

Boreen and Niday (2000) are in agreement with Hager's (2003) assessment of the one-to-many mentoring dyads reaching a point where the number of mentees exceeds the limits of the mentor's capabilities. Boreen and Niday note that they observed noticeable benefits; however, they provided no empirical data to substantiate this observation.

Mentoring In Higher Education Settings. Treston (1999) discussed an eight-year-old peer mentoring program at a university in Australia from an instructional intervention focus. First year university students were matched with 2nd and 3rd year volunteers based on their program of study. Mentors were required to contact mentees in weeks 3, 6, and 9. Contact could be made by phone, email, or in-person meetings consisting of one-on-one or small group. The mentor then reported to a paid advisor. No data were provided as to the extent of mentor contact with students. While Treston provided a list of benefits for mentors of satisfaction and self-worth, no empirical data were provided to warrant the conclusions made.

Treston (1999) claimed that 77 students were mentors in 1999 and that these mentors reported to an appointed study skills advisor; however, none of this data was addressed in the program evaluation. Treston makes statements such as "mentors report great personal satisfaction" (pp. 239-240) but does not indicate, at a minimum, what percentage of the mentors expressed this sentiment. Treston mentioned receiving requests from mentees for a peer tutoring component to the mentoring program. Treston reported on mentoring as an instructional intervention.

Chan (2000) and Murray (1999) both addressed the issue of mentoring in higher education. Unfortunately, neither of these studies contains empirical evidence of peer mentoring. Murray's study relegates mentors to the position of tutors. Chan's article makes assumptions that both

mentor and mentee receive benefit from a mentoring relationship but provides no empirical evidence to support this claim. Neither study addresses a theoretical framework for mentoring.

Hager (2003) interviewed 10 exemplary faculty mentors and 24 of their doctoral students about their mentoring experiences. Each participant was interviewed twice. The first interview elicited emic knowledge of mentoring from the participants. The interviews were transcribed, and then analyzed for recurring themes and relationships. This thematic analysis then was used to inform the process of the second interviews. Participants member-checked the thematic analysis at the beginning of the second interview, then the interviewer used guided questions to discover how each participant understood their mentoring relationships.

Hager (2003) found mentors and mentees agreed that mismatched research interests and demands on mentor time were the most challenging aspects of faculty mentoring doctoral students. Mentees noted their faculty mentor's lack of skill and/or ability to fully mentor them in their chosen discipline. This mismatch forced the mentee to seek out other faculty with expertise in the skill and/or ability that was lacking in their assigned mentor. Mentees also noted a power disparity in their mentoring relationships where the faculty mentor held power over their progress and success in their program.

Hager (2003) used Lave and Wenger's (1991) LPP as the framework for his investigation of faculty mentoring doctoral students. These findings suggested that vocational career orientations of some earlier models appropriated from business into higher education could be replaced with a theoretical framework based in learning. However, he found LPP did not address the "inability of mentors to be masters of the practices of the community" (p. 151). In addition, Hager's findings recognize that "others were sometimes better qualified or suited to fulfill students' needs" (p. 152) with the suggestion from one mentor that doctoral students associate with assistant professors because that mentor had not been at that level in a very long time. This suggested that the idea of a mentor being *proximal* to where the mentee is may be as appropriate as having a mentor who is the expert.

Pitfalls Identified from the Research on Mentoring

Pullins and Fine (2002) noted that a major limitation of their research was the self-report nature of the surveys used. They noted that mentors may have over-exaggerated or under-exaggerated their perceptions of benefit to themselves. In addition, mentors may not have recognized received benefit or recognized benefit that was not received.

Boreen and Niday (2000) noted the resistance of mentees to having an assigned mentor. There appeared to be an expectation on the part of the mentee of either choosing the mentor themselves or having a serendipitous introduction to the chosen mentor as the appropriate method of mentor assignment. Barton-Arwood et al. (2000) cautioned that at the elementary school level, those peer mentoring programs that are most successful are highly structured and organized. Pyatt (2002) noted the reciprocal nature of the cross-school mentoring program in that older students desired realistic experiences and younger students needed *personal time* for a variety of special circumstances ranging from dyspraxicia to attention seeking behaviors. Barton-Arwood et al. noted a reciprocal aspect to mentoring wherein mentor and mentee provide benefit to each other. Pyatt (2002) also noted the ongoing mentor training assisted the mentors in converting from a controlling to contributing focus.

Mtetwa and Kwari (2003) noted that the mentor's primary role was peer tutoring with a one-to-many relationship (rather than the typical one-to-one mentoring relationship). As in Hager's (2003) study, time was listed as a major constraint to the mentoring role. Rymer (2002) presented the theoretical framework of Kram and colleagues' social network theory as a model of co-mentoring. Although Boreen and Niday (2000) mention a social constructivist theory of learning based on the works of Bakhtin, Vygotsky, and Wertsch as the framework for this study, the study itself was approached as an instructional practice and the results were presented from this point of view.

Treston (1999) mentioned having received requests from mentees for a peer tutoring component to the mentoring program. Milner and Bossers (2004) identified, but did not expound upon, a component of peers mentoring each other within the questionnaire responses. Withers and Stringer (1999) identified benefits of the women-only "mentors as peers" program as bonds

of intimacy built on mutual respect and trust, freedom to discuss any issues of importance to an individual, assistance, validation of feelings, validate issues, access to a range of experiences, and problem solving.

Pullins and Fine (2002) defined the peer relationship as "both salespeople occupy similar positions in the organizational hierarchy" (p. 259). Peer mentoring was defined as "when a more experienced salesperson (the mentor) takes responsibility for the development and guidance of a less experienced salesperson" (p. 259). This research investigated the benefits of mentoring to the mentor. Pullins and Fine found "it appears that teaching selling skills to a protégé benefits the mentor's performance in every way. Attention to this level of detail may result in improvements in all areas" (p. 268). They noted "the mentor gains a form of cultural capital, too, in developing an understanding of the realities of the experiences of another person" (p. 268). They found the coaching and counseling domains of mentoring did not seem to be of much perceived benefit to the mentors.

Current Theoretical Frameworks for Mentoring

Theoretical frameworks such as Dorn and Papalewis' (1997) social model of peer-mentoring (SPMM) and Lave and Wenger's (1991) legitimate peripheral participation theory (LPP) have been utilized for interpreting the phenomena of mentoring. This dissertation suggested another: Vygotsky's ZPD related to his theory of learning and development.

Social Peer Mentoring Model (SPMM). Dorn and Papalewis (1997) proposed a model of peer-mentoring they called a Social Peer Mentoring Model (SPMM). New graduate students were assigned to an existing graduate student for mentoring. The mentoring relationship was social and collaborative in nature. Dorn and Papalewis found evidence for social and collaborative influences on the performance on graduate students within their programs of study. They recommended graduate programs include an emphasis on group dynamics and peer mentoring (p. 6). Their model includes only those mentoring relationships that are social or collaborative in a setting outside of the classroom.

Legitimate Peripheral Participation (LPP). Lave and Wenger (1991) developed the theory of LPP as a way to "speak about the relations between newcomers and old-timers, and about

activities, identifies, artifacts, and communities of knowledge and practice" (p. 29). LPP evolved as a response to notions of apprenticeship and situated learning and advanced as a way to explain:

> How apprentices might engage in a common, structured pattern of learning experiences without being taught, examined, or reduced to mechanical copiers of everyday tailoring tasks, and of how they become, with remarkably few exceptions, skilled and respected master tailors. (Lave & Wenger, 1991, p. 30)

Lave and Wenger noted when apprentices interact with one another knowledge was shared in a rapid and efficient manner. From this, Lave and Wenger suggested that "engaging in practice, rather than being its object, may well be a condition for the effectiveness of learning" (p. 93). Lave and Wenger noted that the current paradigm of schooling in the U. S. might not allow for apprentice-style communication and learning. Beyond noting that apprentice-to-apprentice communication was quick and efficient, interactions beyond the traditional master-apprentice dyad are not central to this theory.

Lave and Wenger's (1991) proposed that apprenticeship was a form of membership that was constantly evolving within the community of practice. They continued

> Legitimate peripheral participation refers both to the development of knowledgeably skilled identities in practice and to the reproduction and transformation of communities of practice. It concerns the latter insofar as communities of practice consist of and depend on a membership, including its characteristic biographies/trajectories, relationships, and practices. (p. 55)

Hager (2003) used LPP theory to analyze the mentor/mentee relationship through extensive interviews of exemplar mentors and their mentees. While Hager found that mentors provide professional socialization, collaborative participation in practices, professional communication, and guidance in becoming a successful member of the community; LPP theory did not account for the difficulties experienced by the participants in the mentoring program (p. 134).

Gap in the Literature

As noted by Pullins and Fine (2002), the current mentoring paradigm does not elucidate the benefits of mentoring to the mentor. Mentors may be receiving benefits from the mentoring process that they do not acknowledge or perceive. It may be that the mentor was so focused on the success of the mentee, any benefits are over (or under) looked.

Mentoring Summary

In mentoring, the mentee can be a student, learner, or novice of either education or an occupation. When the mentee was a novice, mentoring did not:

> . . . take place in isolation. They are embedded in apprenticeships with parents, mentors, and distant teachers. . . . When these collaborations are successful, novices develop fluency, and learn how experienced artists and scientists think. At the same time, such collaborations offer renewal for the experienced individual and the use of shared knowledge for the novice's development of self. From a Vygotskian point of view, these interactions are central to the transformation of the novice into an experienced thinker. (John-Steiner, 1997, p. xxiii)

Mentoring has been implemented as an intervention without a solidifying theoretical foundation for the phenomena. This review of the research indicated that mentoring had beneficial outcomes for mentees.

As Topping (1995) pointed out, students who assist other students are considered tutors. Indeed, using the current operational definition of mentoring as the *expert with many years of experience*, peers may be excluded from being seen as able to hold a mentoring role.

Current learning paradigms include the *learner* (*mentee* or *tutee/student*), the *expert* (*mentor/teacher*), and a *tutor*. There seemed to be an element missing between the mentor and mentee that would complement the teacher/tutor/tutee paradigm. That element may be the construct of *Proximal Mentoring*.

New Construct - Proximal Mentoring

As the literature review indicated, many terms have been used to describe the process of assisting novice learners. This research proposes the construct *Proximal Mentoring* to place the position within the theoretical framework of the ZPD as well as to more clearly identify the role of the more knowledgeable or more experienced other as opposed to the teacher, tutor, or distal (traditional or expert) mentor.

For the purpose of this dissertation, a PM was defined as someone who was slightly more advanced, or knowledgeable, than the novice learner and was invested in the novice's learning needs. A PM was not a peer in the traditional sense. A PM could be older, younger, or the same age as the novice learner. A PM could hold the same job title or position as the novice learner. What separated the PM from the novice learner was recent knowledge or experience in the discipline.

The role of the PM was one who would be serving as mentor providing both content-based and program-based guidance to students new to the course and/or the program. As John-Steiner (1987) noted, "the strength required to face opposition and to tolerate anxiety was sustained by support from mentors and peers" (p. 67). The PM construct might be easily placed into the current mentoring paradigm in a position 2complimentary to that of the tutor component in the education paradigm.

A pilot study was conducted where more knowledgeable and more experienced doctoral students assisted the novice doctoral students throughout the course. Student feedback was solicited through a questionnaire on the instructional practice at the end of the semester. When asked if the instructional practice of adding student mentors should continue, 100% of the 14 respondents recommended this form of mentoring continue for the course they were currently taking.

The review of the literature showed mentees benefitted from mentor intervention. Therefore, improvement or lack thereof, on the part of the students receiving the mentoring intervention was not addressed in this research. The focus of this research was the perception of the *Proximal Mentoring* experience as perceived by the all participants.

CHAPTER 3

METHODOLOGY AND DATA DESCRIPTION

Design

"There are times when all researchers are going to be interpretive, holistic, naturalistic, and uninterested in cause, and then, by definition, they will be qualitative inquirers" (Stake, 1995, p. 46). This study employed an exploratory two-case, cross-case qualitative methodology framework espoused primarily by Yin (1989, 2003a, b). The works of Creswell (1998, 2003), Stake (1995), Merriam (1998), Glesne (1999), Spradley (1980), and Marshall and Rossman (1999) were used to further enhance the rationale framing the design. The rationale of designing this dissertation as a qualitative study was exemplified by Creswell (1998) when he noted that philosophical assumptions are inherent in the use of qualitative design for research (p. 19). Creswell identified these assumptions as:

> Knowledge was within the meanings people make of it; knowledge was gained through people talking about their meanings; knowledge was laced with personal biases and values; knowledge was written in a personal, up-close way; and knowledge evolves, emerges, and was inextricably tied to the context in which it was studied. (p. 19).

Merriam (1998) further refined qualitative research to one key assumption: ." . . reality was constructed by individuals interacting with their social worlds. Qualitative researchers are interested in understanding the meaning people have constructed" (p. 6). In this dissertation, the researcher first obtained emic (insider's perspective) knowledge of *Proximal Mentoring* from each participant to adequately answer the four research questions: *(1) What were the perceptions of the course professor regarding the role of the Proximal Mentor? (2) What were the perceptions of the mentees regarding the role of the Proximal Mentor? (3) How did the*

mentors come to negotiate, define, and express the Proximal Mentoring role? and (4) What outcomes were obtained by the PMs after having participated in Proximal Mentoring? Then the researcher compared and contrasted emic knowledge of each participant with each of the other participants through the process of triangulation. The most efficient method of accomplishing this task was to use a multiple-case, case-study design (Yin, 2003a; Creswell, 1998, 2003; Merriam, 1998).

Case study methodology was identified by Merriam (1998) as useful when the topic of study was an educational innovation that could "affect and perhaps even improve" educational practices (p. 41). A case study was a unique method of qualitative inquiry in that it was a bounded system (Creswell, 1998, p. 37). First, this case study was bounded by time: participants were involved in *Proximal Mentoring* over one semester. Second, it was bounded by place: participants *Proximal Mentore*d in only one course for the semester. Third, it was bounded by participants: PMs, course professor, and student-mentees. Merriam added a fourth dimension of *particularistic* meaning ." . . case studies focus on a particular situation, event, program, or phenomenon" (p. 29): the focus for this research project was the experience of the phenomenon of *Proximal Mentoring* from the perspective of the participants. Marshall and Rossman (1999) reminded us "systematic inquiry must occur in a natural setting" (p. 7). The term *participants,* as opposed to *subjects*, was used because it reflected the "connotations of inclusion and willing cooperation" (Merriam, p. 132).

Given the choice of multiple-case or single-case designs, Yin (2003a) advocated using more cases as "your chances of producing robust results will be better" (p. 135). According to Yin (1989) multiple-cases "should be considered like multiple experiments" (p. 38) wherein replication could be claimed if two or more cases support the same theory. Yin (2003a) pointed out generalizations "are rarely based on single experiments; they are usually based on a multiple set of experiments that have replicated the same phenomenon under different conditions" (p. 10). The grouping of participants in each semester course represented one case in this design. The experiences of the cases converged facilitating the exploration of the *Proximal Mentoring* role.

Marshall and Rossman (1999) cautioned "design flexibility was a crucial feature of qualitative inquiry" (p. 17); however, this in no way inferred that sound methodology and planning be ignored. On the contrary, it was sound methodology and planning that allowed for flexibility in the design, allowing for the inclusion of events, themes, and issues not anticipated in the original design. Due to the need to protect the anonymity of the PMs, the data were aggregated. Data aggregation allowed for the expression of the findings without contributing to the ability to identify individual participants. Multiple cases, when triangulated, comprised a more complete picture of the construct of *Proximal Mentoring*, thereby enriching the findings of the study while leveraging the flexibility of the design inherent in the methodology.

Selection of Participants

Two courses were selected as cases in this study. The first was an Adolescent Development Master's level course offered in spring semester. The second was a History and Philosophy of Educational Psychology offered in fall semester. The cases for this study were purposefully selected because of their uniqueness (Merriam, 1998; Glesne, 1999) in that the each course was easily adapted for the inclusion of PMs and the professors were willing to incorporate *Proximal Mentoring* into their respective courses. Each case was bounded by time in that each semester became one case. Each case had three types of participants: professor of the course, PMs, and student-mentees.

The first participants to be selected were the course professors. In Case 1, a professor who had many years of experience in instructional design, a vested interest in student success within the programs offered by the department, and an ongoing involvement in research projects was approached about joining the research project. The Case 1 professor was provided with a copy of the proposal and asked to be the course professor for the project. The Case 1 professor accepted and volunteered an Adolescent Development class for participation in the project. In Case 2, the same professor who participated in the pilot study the previous fall was approached. The Case 2 professor whole heartedly agreed to continue with the project.

In collaboration with the course professors and the dissertation committee co-chairs, three initial selection criteria, based on the outcomes of the pilot study, were identified to assist in

selecting PMs. First, participants needed to have experience with the course content in which they *Proximal Mentor*ed. Second, PMs needed to be accepted by the course professor. Third, all participants needed to sign an informed consent form acknowledging their willingness to participate. Upon acceptance, PMs were required to enroll in three graduate credits of either independent study or independent research.

Ten potential PMs were identified and their names provided to the Case 1 professor. The Case 1 professor approved inviting all ten potential PMs. The potential PMs included five people who were *Proximal Mentor*ed during the pilot study in fall semester and five people who were not involved in *Proximal Mentoring*. An email was sent to each person inviting them to participate in this research (see Appendix 1). The *Proximal Mentoring* course was described as a three-credit independent study course. These credits would qualify as elective credits towards their degree program. To achieve credit, PMs would (a) moderate in-class discussion groups; (b) present 15 minutes of lecture on one to three course topic(s) with approval of the course professor; and (c) meet with the course professor each week (outside of the course times). The meetings with the course professor each week were described as assisting with design, administration, and review of in-class assignments, homework assignments, and course assessments.

In addition, participants were made aware that this offering was part of a research project and they would be asked to (a) participate in face-to-face research meetings; (b) participate in online discussions with the other mentoring research participants; (c) answer short questions each week online about their mentoring experiences; and (d) complete the pre- and post-mentoring surveys.

After exchanging emails with each potential participant, three were identified as having (a) interest in the research project; (b) interest in the course content; and (c) ability to rearrange their schedules to accommodate both the independent study course and the implementation course meetings. Two of the potential PMs had participated as mentees in the pilot study. The third had experience as both a graduate assistant and a teaching assistant. It was interesting to note at this point that all five of the potential participants who were mentored during the pilot

study in the fall wanted to participate in the research, but some could not due to scheduling conflicts. Only one of the five potential participants who had not been mentored showed an interest in participating. The other four declined participation because they needed to focus on their own studies.

Access

I had prior involvement and contact with the participants through my participation in various courses within the graduate program. As I progressed through my program, I met some of the selected PMs in different capacities: fellow student, graduate assistant (GA), research assistant (RA), practicum student, and teaching assistant.

While it was generally undesirable to do research in an area in which you were intimately involved (Creswell, 2003, p. 184; Glesne, 1999, p. 26), in this case, being a member of the group was helpful. My relationship to the participants was one of fellow researcher and peer. I was not in a supervisory position over them. They were more than acquaintances in that we had emailed each other in addition to participating in lunch, department social events, conferences, and other courses together. However, they were not close personal friends in that we did not discuss or participate in much of anything outside the realm of graduate student work. All participants in this research were adults ranging in age from 21 to approximately 70 years of age.

A major difficulty with doing research in an area in which one was intimately involved was having multiple roles within the setting. Glesne (1999) suggested that one "participate but in a way that does not get you inextricably incorporated in a setting's ongoing affairs. . . ." (p. 62). However, Glesne continued that by not becoming involved one must:

> Realize . . . in some situations you may alienate . . . participants by choosing to remain marginal . . . as participation increases, marginality decreases, and you begin to experience what others see, think, and feel. (pp. 63-64)

Role of the Case Study Researcher

Merriam (1998) advocated "the researcher was the primary instrument for data collection and analysis" (p. 7). My role in the research was one of observer as participant wherein my primary role was information gatherer and data analyst.

Setting

The setting for this research project consisted of two courses offered by the Department of Educational Psychology within the College of Education at a research university in the desert southwest of the United States. The two courses were a spring semester Adolescent Development course with 17 Master's students enrolled (case 1) and a fall semester History and Philosophy of Educational Psychology course with 18 first-semester doctoral students enrolled (case 2).

The Case 1 PM Independent Study course met in the College of Education building within the main office of the Center for Evaluation and Assessment after normal business hours. The Case 2 *Proximal Mentor* independent study course met in the offices of the Case 2 professor one and one-half hours before the course was scheduled to meet.

The Case 1 professor noted that although small group activities were traditionally used in the course, they could be eliminated on any given class night depending on class progress through the course materials. For this study, she modified the structure of the course to ensure small group meetings were included for every class meeting while noting the PMs would serve as the group leaders. In addition, the groups would meet in different locations (one in the classroom, one at the library, and one in another classroom) to reduce the effect of interactions between the groups during group time. The PMs would return and discuss the exams during student's group time. The professor noted that all students were able to "discuss it individually with me" should the group discussion not meet the student's individual needs concerning the exams. This planned procedure represented a deviation from the usual procedure of handing back the exams followed by going over the exams as an entire class.

Participants

The Case 1 professor was an associate professor in the Department of Educational Psychology. She received her Ph. D. in Instructional Design and Development under the guidance of Dr. Robert M. Gagné. She had extensive experience in instructional design. Her research interests were program development and evaluation, assessment, and applications of learning principles to the design, and delivery of instruction. The Case 2 professor was a professor in the Department of Educational Psychology. He received his Ph. D. in Psychology under the guidance of Dr. Richard C. Anderson. He had extensive experience in graduate instruction. His research interests were background knowledge, reading comprehension, learning theory, philosophical foundations of learning, selective allocation of attention while reading, and comprehending figurative language in text.

The Case 1 PMs were doctoral students in the Department of Educational Psychology. Two of the PMs were employed by the local school district full time and participated in the *Proximal Mentoring* pilot study as student-mentees. A third *Proximal Mentor* was a full-time graduate student who had recently completed her master's degree and continued straight into the doctoral program. During her time in the master's program, she held positions as graduate assistant, and teaching assistant within the Department of Educational Psychology and research intern for the local school district through the Center for Evaluation and Assessment. The Case 2 PMs were also doctoral students in the Department of Educational Psychology. All three were Graduate Assistants (GA's) in addition to their PM role.

Students selected to take on the PM role were selected, not because they understood everything from the course, but because they did NOT understand or because they indicated they wanted more in-depth knowledge of the material. One of the PMs from the pilot study was shocked at being offered an opportunity to become a mentor sharing with the researcher "but I only made a B" in the course. Only one person, who was asked to be a PM, had a very high grade in the novice doctoral course.

The student-mentees were from a variety of backgrounds. They enrolled in the course for a variety of reasons. The usual reason *it was required for my program* was the least reason given

for being in the course. Some of the more interesting reasons included: interest in the topic of adolescent development; the student had heard the course was good; the student had heard the professor was an excellent instructor; and some were parents whose children were getting ready to become adolescents so they wanted a *heads up* on what to expect. All student-mentees readily agreed to participate in the study. Two declined to be videotaped on the informed consent protocol.

Data Collection

"A case study involves the widest array of data collection as the researcher attempts to build an in-depth picture of the case" (Creswell, 1998, p. 123). Merriam (1998) cautioned that "no single source of information can be trusted to provide a comprehensive perspective" (p. 137). Yin (2003a) identified six commonly used categories of data collection: "documentation, archival records, interviews, direct observations, participant-observation, and physical artifacts" (p. 85).

Glesne (1999) reminded us that secondary data should "provide both historical and contextual dimensions to your observations and interviews" (p. 59). Merriam (1998) noted that secondary data provides measures of actual behavior that can be analyzed for incidences and frequencies without modifying the behaviors of the participants as the measuring occurs after the data was collected. Marshall and Rossman (1999) pointed out that secondary data "provides another perspective on the phenomenon, elaborating its complexity" (p. 129). Therefore, historical artifacts from the mentoring course were used to augment the creditability, dependability, and confirmability of the analysis. Table 3-1 provides a matrix of the data categories and sources of data for this study.

Table 3-1 Types of Data Collected

Data Source	Data Category					
	Documentation	Archival records	Interviews	Direct observation	Participant-observation	Physical artifact
Primary data						
Informed Consent				X		X
Mentor meetings				X	X	X
Mentor meetings with professor				X	X	X
Pre-mentoring Survey	X			X	X	X
Post-Mentoring Survey	X			X	X	X
Classroom Observation	X			X	X	X
Interview			X	X	X	X
Secondary data						
Online Discussion Questions	X	X				X
Email	X	X			X	X

Both primary and secondary data were collected. Primary data consisted of observations, interviews, focus groups, and surveys. Secondary data were online discussion questions and email. The online discussion questions were available to the PMs twenty-four hours a day, seven days a week over the entire semester.

There were structural differences between the two cases (illustrated in Table 3-2). Although Case 1 ended the discussion groups by the 8th week of the semester, the PMs continued to attend the course. They listened to and cheered on their student-mentees as the student-mentees gave their assigned presentations to the class.

Table 3-2 Structural Differences Between Case 1 and Case 2.

Differences	Case 1	Case 2
PM Experience	1st time PMs	2nd time PMs
Time with PMs in group	8 weeks	14 weeks
Assessments	3 tests of multiple choice and short answer essay 1 group presentation	Final culminating paper
Content	Read 1 chapter per class meeting	3-5 Empirical articles per week plus 1 page critique on each article
Nature of Course	Lecture	Seminar
Level of mentees	Master's students	Novice Doctoral Students

In Case 2, two of the PMs who participated in the pilot study eagerly accepted being included in the dissertation research. In addition, one of the student-mentees from the pilot study also volunteered to be a PM. These three students stated they were looking forward to working with me again; however, there was a major difference. I did not attend the regular course meetings. We also did not have the after course PM meetings, as the PMs decided they no longer needed that level of support. After all, as they stated, they had "already successfully completed one semester of being a PM" in the same course. They focused their time on

meeting with the professor to discuss the course materials prior to discussing the materials with the student-mentees following that meeting. In addition, the Case 2 mentors met with the professor at a time when the researcher could not be in attendance.

This dissertation relied heavily on participant introspection and participant self-report. Steps such as triangulation and member checking were taken to mitigate the reliance on introspection and self-report. In addition, multiple sources of information were collected (Creswell, 1998, Merriam, 1998, Yin 2003a) including both primary and secondary sources (Glesne, 1999; Merriam, 1998; Marshall & Rossman 1999) which were used to augment the triangulation and member checking.

Mentor Face-to-Face Sessions

In the mentor meetings the researcher was "creating a supportive environment, asking focused questions, to encourage discussion and the expression of differing opinions and points of view" (Marshall & Rossman, 1999, p.114). Although the PMs were forthcoming with their experience, guiding questions were available as talking points during the mentor meetings.

Guiding questions for the interviews included 1) what has been the most/least challenging activity for *Proximal Mentoring* to date; 2) what has been the most/least rewarding activity; 3) what has been the most/least expected finding; and 4) what do you wish you had known about *Proximal Mentoring*? In addition, collegial socializing was encouraged. Only the researcher and the PMs were present for these sessions. The sessions were videotaped.

Pre- and Post-Mentoring Surveys

"Researchers administer questionnaires to some sample of a population to learn about the distribution of characteristics, attitudes, or beliefs" (Marshall & Rossman, 1999, p. 129). Pre-mentoring and post-mentoring surveys (see Appendices 2 and 3) were administered to the PMs and their student-mentees. The surveys were specifically developed for *Proximal Mentoring* and refined in the pilot study. The pre-mentoring survey was administered within the first two weeks of the semester. The post-mentoring surveys were administered within the last two weeks of the semester. Administration of the surveys depended on the professor's schedule for the course.

Observations

"Observation entails the systematic noting and recoding of events, behaviors, and artifacts (objects) in the social setting chosen for study" (Marshall & Rossman, 1999, p. 107). Systematic observations of the PMs were videotaped, field notes were taken and reviewed against the videotapes as a form of triangulation. Observations included PM meetings, meetings with the course professor, in-class interactions, and group interactions with the mentees.

Interviews

Yin (2003a) espoused interviews as "an essential source of case study evidence because most case studies are about human affairs" (p. 92). Stake (1995) noted that interviewing "seldom proceeds as a survey with the same questions asked of each respondent; rather, each interviewee was expected to have had unique experiences, special stories to tell" (p. 65). "Interviews will appear to be guided conversations rather than structured queries. . . . although you will be pursuing a consistent line of inquiry, your actual stream of questions in a case study interview was likely to be fluid rather than rigid" (Yin, 2003a, p. 89).The purpose of each interview was to elicit the professors' perceptions of *Proximal Mentoring*. Each interview was videotaped and transcribed.

Historical artifacts

Email, online discussion threads, and surveys administered during each semester were collected and analyzed both during and after the study.

> Researchers supplement participant observation, interviewing, and observation with gathering and analyzing documents produced in the course of everyday events . . . the review of documents was an unobtrusive method, rich in portraying the values and beliefs of participants in the setting. (Marshall & Rossman, 1999, p. 116)

Although these documents were analyzed during the data collection process, a review of the historical documents was "conducted without disturbing the setting in any way" (Marshall & Rossman, 1999, p. 117). This allowed for auditing and triangulation of the analyzed perspectives without altering the perceptions of the participants themselves.

Analysis

Lincoln and Guba (1985) note that sources of qualitative data consisted of "interviews, observations, documents, unobtrusive measures, nonverbal cues, or any other qualitative or quantitative information pools" (p. 202). The analysis of this information was an inductive process of "'making sense' of the data" (p. 202). Data were coded, categorized, sorted, compared, and contrasted through an inductive analysis process to produce an analyzed account of participants' experiences, feelings, and actions.

Cross-Case

After each case was analyzed, cross-case analyses were performed. Cross-case analyses "bring together the findings from individual case studies and were the most critical parts of a multiple-case study" (Yin, 2003b, p. 145). Cross-case analyses were performed to elicit an understanding of the *Proximal Mentoring* construct (Merriam, 1998, p. 38; Miles & Huberman, 1994). Attention was paid to differences as well as similarities between and among participants (Spradley, 1980, p. 125).

Research question 1. What were the perceptions of the course professor regarding the role of the *Proximal Mentor*? To answer this question, ethnographic interviews with the course professors were held to elicit the perceptions of the professors. Domains and taxonomies of the ideas and themes present for each case were produced. Then, a cross-case analysis was conducted on the domains. Attention was paid to differences as well as similarities between participants (Spradley, 1980).

Research question 2. What were the perceptions of the mentees regarding the role of the *Proximal Mentor*? To answer this question, student mentee surveys were analyzed. The mentoring survey was administered at the beginning of the semester, prior to the addition of PMs. The same mentoring survey was administered at the end of the semester. The pre- and post-mentoring surveys were subjected to domain and taxonomic analysis. A second post-survey was administered to elicit student perceptions of the instructional practice of including PMs as a source of student support in the course. Domains and taxonomies of the ideas and themes present for each case were produced. Then, a cross-case analysis was conducted on

the domains. Attention was paid to differences as well as similarities between participants (Spradley, 1980).

Research question 3. How did the mentors come to negotiate, define, and express the *Proximal Mentoring* role? To answer this research question, data was analyzed first by case, then by multiple-case using cross-case analysis. Domains and taxonomies of the ideas and themes present for each case were produced. Then, a cross-case analysis was conducted on the taxonomies where attention was paid to differences as well as similarities between participants (Spradley, 1980).

Research question 4. What outcomes were obtained by the PMs after having participated in *Proximal Mentoring*? Shadish, Cook, and Campbell (2002) stated:

> Adding design features to case studies, such as . . . pretreatment observations, clearly improves causal inference. . . . by melding case-study data collection methods with experimental design. (p. 501)

Domain and taxonomic analyses were performed using the online discussion questions and the pre- and post-mentoring surveys (Lincoln & Guba, 1985; Miles & Huberman, 1994; Merriam, 1998; Spradley, 1980; Creswell, 2003 & 1998; Yin, 2003a). In addition to the taxonomic analysis, historical artifacts for each mentor were examined to assist in analyzing the data collected as it pertained to this research question.

Domain analysis

The search for patterns begins with categories of meaning (Spradley, 1980) where semantic relationships were identified. Spradley (1980) stated:

> Analysis . . . refers to the systematic examination of something to determine its parts, the relationship among parts, and their relationship to the whole. Analysis was a search for patterns. (p. 85)

Taxonomic analysis

Following the revealing of the semantic relationships, a taxonomic analysis provided the relationships between the identified categories. Spradley (1980) stated:

> A taxonomy was a set of categories organized on the basis of a single semantic relationship. . . . a taxonomy shows more of the relationship among the things inside the cultural domain. (p. 112)

Spradley reminded us "to recognize that taxonomies always approximate the cultural patterns you have observed" (p. 119). Glesne (1999) augments Spradley's definition of taxonomy noting that "the data was organized by central themes or topics" (p. 166). This was a process whereby the researcher "generates a typology of concepts, gives them names or uses 'native' labels, and then discusses them one by one, illustrating with descriptive detail" (Glesne, p. 166). Glesne continued by noting that concepts and processes were stable descriptors whereas people and their actions/reactions were dynamic. Taxonomies were developed to analyze and display the data gathered from the data. Data for this research were displayed in conventional taxonomy and tabular formats (Spradley, 1980; Miles & Huberman, 1994).

Trustworthiness -- issues of validity or verification

Shadish et al. (2002) stated that in all research the researchers must take into account issues of validity (internal, external, reliability, and objectivity). Lincoln and Guba (1985) transformed these issues of validity into a new term: trustworthiness (p. 218). Creswell (1998) advocated for the use of "verification instead of validity because verification underscores qualitative research as a distinct approach, a legitimate mode of inquiry" (p. 201). I chose to combined these three approaches into one cohesive test of trustworthiness with four components: Credibility (internal validity), Transferability (external validity), Dependability (reliability), and Confirmability (objectivity).

Establishing Credibility (Internal Validity)

Lincoln and Guba (1985) transformed the quantitative terminology into terms they propose have a better fit with naturalistic epistemology. The four transformations were (a) internal validity to credibility; (b) external validity to transferability; (c) reliability to dependability; and (d) objectivity to confirmability. Lincoln and Guba provided nine verification procedures to enhance validity in qualitative research: (a) prolonged engagement and persistent observation; (b)

triangulation; (c) peer debriefing; (d) negative case analysis; (e) clarifying researcher bias; (f) member checking; (g) rich, thick description; (h) external audits; and (i) referential adequacy. Creswell (1998) modified peer debriefing, to include peer review and debriefing. Miles and Huberman (1994) included multiple cases as a method to enhance the confidence of a study wherein each case met the credibility, transferability, dependability, and confirmability requirements on its own merits. The combined cases would then "strengthen the precision, the validity, and the stability of the findings" (p. 29).

Prolonged engagement and persistent observation. Merriam (1998) also recommended "gathering data over a period of time in order to increase the validity of the findings" (p. 204). The data for this research project was collected over a one-year period beginning in January and concluding in December.

Triangulation. Stake (2006) defined triangulation as "a process of using multiple perceptions to clarify meaning, but it was also verifying the repeatability of an observation or interpretation" (p. 37). Stake recommended that each primary finding have at least three confirmatory points supported by the data and readily seen by readers as belonging to the primary finding (p. 33). Glesne (1999) suggested that one "attempt to relate them [the data] so as to counteract the threats to validity identified in each" (p. 31). For this dissertation, analyses of the mentor meetings, mentoring surveys, online discussions, interviews with the course professor, and classroom observations all served as triangulation points. In addition, the cross-case analyses of the course professors, the student-mentees, and the PMs were triangulated that provided a more complete assessment of the construct of *Proximal Mentoring*.

Peer review or debriefing. Merriam (1998) suggested "asking colleagues to comment on the findings as they emerge" (p. 204). Because this research was a doctoral dissertation, the doctoral committee of five professors (two co-chairs and three members) served in place of asking colleagues to ensure the quality of the analysis. According to Lincoln and Guba (1985), the peer debriefing process enables the researcher to examine their own biases as well as to clarify meanings and interpretations of the data by the researcher (p. 308). In addition, Lincoln and Guba mentioned that the debriefing process allows the researcher a sense of "catharsis,

thereby clearing the mind of emotions and feelings that may be clouding good judgment or preventing emergence of sensible next steps" (p. 308).

Negative case analysis. Lincoln and Guba (1985) stated that the negative case analysis process allows the researcher to continually refine the qualitative hypothesis "until it *accounts for all known cases without exception*" (p. 309) so that no outliers exist and all cases fit the hypothesis. Care was taken to ensure that non-corroborating evidence was included in the analysis.

Referential adequacy. Lincoln and Guba (1985) used referential adequacy as the method of verifying the qualitative analysis with video and audio records of the original data for accuracy (p. 313). Lincoln and Guba continued with the idea that referential adequacy was not limited to electronic recordings – any representative, archived, and/or raw data could be used to verify the accuracy of the analysis. Researcher interactions with participants were videotaped and retained as digital files. These files were used for review and verification of findings as needed.

Clarifying researcher bias. As Glesne (1999) pointed out, one must be careful not to have "reached my conclusions before I began my research" (p. 19). Merriam (1998) advocated for "clarifying the researcher's assumptions, worldview, and theoretical orientation" at the beginning of the research (p. 205). Throughout the writing of the proposal, I, as researcher, committed my assumptions, views, and theoretical orientation to paper. In addition, a permanent record of interactions among participants and between participants and the researcher in the form of videotapes and written responses were collected. Through member-checking and auditing using the permanent artifacts, researcher's bias was held in check.

Member checking. Merriam (1998) added participant collaboration using the term "collaborative modes of research" as another method of ensuring validity of a qualitative study by recommending involvement "in all phases of research from conceptualizing the study to writing up the findings" (p. 205). Because this study was conducted with graduate students who were interested in the research process, a part of their expectations were to be included in the tentative interpretation of the data collected from each of them. Wolcott (1990) regarded member checking as "an integral element of fieldwork" (p. 45). Member checks were utilized to

ensure that the analysis was accurate and plausible from the participant's perspective (Merriam, 1998, p. 204). The participants in this study were apprised of the research study progression. It was important to note that "informants and participants may still disagree with an investigator's conclusions and interpretations, but these reviewers should not disagree over the actual facts of the case" (Yin, 2003a, p. 159).

Establishing Transferability (External Validity)

Lincoln and Guba (1985) anticipated the dissonance between the qualitative and quantitative views of external validity. Shadish et al. (2002) used external validity as the degree of generalizability of the research. However, statistical generalizability was not appropriate for qualitative research. Merriam (1998) argued that qualitative research, by its very nature, was not meant to generalize to other populations. Instead "working hypotheses, concrete universals, naturalistic generalization, and user or reader generalizability" (Merriam, 1998, p. 219) were used to convey external validity. Lincoln and Guba (1985) maintained that it was the rich, thick description that allows the reader to determine if their own setting will allow an attempt to replicate the research.

Rich, thick description. Merriam (1998) reiterated that one of the benefits of qualitative research was the ability to provide the reader with the ability to experience the research setting vicariously as well as to assess the analysis of the data. Merriam reminded us that "case studies allow us to experience situations and individuals in our own settings that we would not normally have access to" (p. 238).

Rich, thick description. Merriam (1998) reiterated that one of the benefits of qualitative research was the ability to provide the reader with the ability to experience the research setting vicariously as well as to assess the analysis of the data. Merriam reminded us that "case studies allow us to experience situations and individuals in our own settings that we would not normally have access to" (p. 238).

Establishing Dependability (Reliability) and Confirmability (Objectivity)

Lincoln and Guba (1985) tasked researchers to establish the dependability and confirmability by using people not involved in the project at hand as auditors. The auditors

would review the process (dependability) and the product (confirmability) of the research. To review the process, auditors would review how the records and data were handled and kept to reduce the possibility of fraud. To review the product, the auditors would review the data, findings, interpretations, and recommendations of the research to establish coherence between the raw data and the analysis performed on that data. Auditors for this research project were the dissertation committee members.

External audits. Graduate students who were not involved in this study and who had completed or were nearing completion of their comprehensive exams were asked to review the dissertation for dependability and confirmability. They provided grammatical editing and asked clarifying questions about the findings which assisted in solidifying the rational for the analytic results.

Reliability of email. Merriam (1998) pointed out a number of issues with using participants' email records as data (pp. 128-129). First, the researcher had no way of knowing that the emails provided by the participants represented all of the email correspondence generated. Some of the correspondence may have been deleted (purposefully, habitually, or in error). Email lacked humanistic features (voice tone, inflection, and strength; emotional overtones; and body language). Email was not a synchronous activity, each responds in their own time frame. This effected the ability of the email data to reflect the participant's feelings and actions of the moment. In addition, Merriam reminded us that skill in writing, computer applications, and keyboarding influence a participant's usage of the computer as a method of communication. For this research project, email was used in conjunction with other sources of data, increasing the reliability of the email source.

Procedures

The PMs met before entering the course to discuss what to expect later that evening when they were introduced to the student-mentees. This was an informal discussion with the PMs asking and discussing questions related to the *Proximal Mentoring* role.

In Case 1, three business-sized cards were placed in a container. One card had the number one, one card had the number two, and the third card had the number three. The PMs reached in, one at a time, and drew a card to represent their *Proximal Mentor* group number for the student-mentees.

In Case 2, two of the three PMs were in the pilot study in the role of PM and readily agreed to return to work with the same professor in the same course. Group number assignments were not necessary. The two PMs kept their same anonymous designation and a third was agreed upon for the new PM.

After the brief *Proximal Mentor* meeting, the PMs and I entered the classroom. The course professor introduced me to the class. I passed out the *Proximal Mentoring* consent form protocol, read the protocol, answered questions, and reassured the student-mentees that the focus of the research was *not them*, the focus was the PMs with whom they would be interacting. Students asked about obtaining a copy of the final manuscript. They were told that there would be a sign-up form available at the end of the course if they wanted to receive a copy of the final manuscript. Consent forms were then signed by participants and collected by the researcher.

Plain 3 x 5 index cards and letter-sized, self-sealing, security envelopes were passed out. Student-mentees were asked to select a 4 to 8 character code to use on the surveys. This was explained as necessary to assure their anonymity for the research project. Once they wrote their code on the 3 x 5 card, they were instructed to place the card inside the security envelope, remove the tape strip from the glued flap, seal the envelope, and sign their name across the seal. They were told that they would receive the envelopes back at the end of the semester. This process enabled them to ensure they remembered the code they had selected and make sure no one else knew their code because the card and envelope would be theirs to keep or destroy at the end of the semester. The pre-mentoring survey was then passed out. Student-mentees were given approximately 15 minutes to respond to the survey. Most student-mentees were finished in less than 10 minutes. Students were then instructed to pass all the paperwork to the end of their row. I collected the paperwork from each row.

The student mentee envelopes were placed in a container. In a second container, I had placed business-sized cards. Six of the cards had the number one printed on them, six had the number two, and six had the number three. The number on the card represented the *Proximal Mentor* to whom they would be randomly assigned for mentoring over the semester. After mixing the contents of each container, a student mentee name was pulled along with a *Proximal Mentor* number and called out to the class. This procedure was followed until all student-mentees were randomly assigned to a *Proximal Mentor*. The course professor then instructed the students to meet in groups for introductions. Groups were given 15 minutes to make introductions. Then the course professor called the class to order and continued regular class instruction.

On the final night of data collection in the classroom, the security envelopes were handed back to the student-mentees. The two post-mentoring surveys were passed out. Students were asked to use their code on the post-mentoring surveys to ensure the proper matching of the pre- and post-survey results. Students were given 20 minutes of time to finish the two surveys. Most took less than 15 minutes. The participants were thanked for their part in the research study.

Classroom Observations

Classroom observations began with the researcher surreptitiously entering the location of each group's chosen meeting place. If addressed, the researcher responded with an "ignore my presence" comment. The researcher observed the interactions of the group members for 5 to 10 minutes per group. At the conclusion of the observation time, the researcher quietly left the room.

PM Online Discussion Questions

During the semester, an online discussion forum was available to PMs online. There were five domains of "most/least" questions asked of the mentors for each week of class. These five domains were challenges, rewards, expectations, knowledge, and ways of mentoring. A generic "comment" area was designated for PMs to include any other items they thought necessary to the data collection. If the PM neglected to complete the PM questions within 48 hours of

completion of that week's attendance in the implementation course, a gentle reminder was sent along with a direct link to the questions.

Professor Interviews

Each of the interviews began with a greeting to the course professor. This was followed by asking the course professor probing questions about the *Proximal Mentoring* experience. The questions continued until the course professor indicated they had said everything they intended to say during the interview. At the conclusion of the interview, the course professor was thanked for their continued participation.

PM Meetings With Processor

Each of the mentor meetings with the professor began with an organization of materials and greetings among participants. This was followed by negotiation of course structure, timing, and assignments between the course professor and the PMs. At the conclusion of the meeting, participants stated their good-byes to one another.

PM Meetings With The Researcher

Each of the mentor meetings began with greetings among the participants. This was followed by the researcher asking probing questions about the *Proximal Mentoring* experience. Participants shared their experiences corroborating each other's perceptions and discussing similarities and differences among their mentoring groups. The meeting concluded with good wishes and participants departed.

CHAPTER 4

DATA ANALYSIS

In this Chapter, cross-case analyses of the data from Case 1 and Case 2 are presented. The purpose of this cross-case analysis was to elicit themes common to, as well as divergent from, the participant's perceptions of the role of the *Proximal Mentor*. This analysis can be conceptualized pictorially as a Venn diagram as illustrated in Figure 4-1. The analyses are presented first in research question order then by common themes followed by divergent themes.

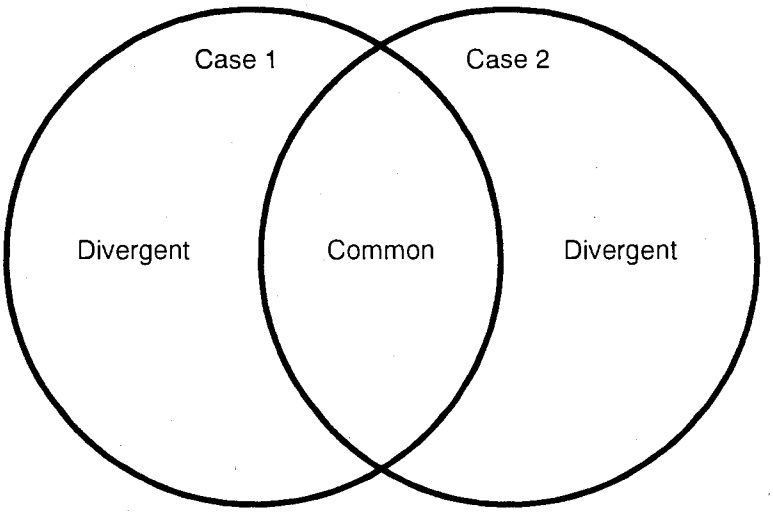

Figure 4-1 Cross-Case Venn Diagram

Research Question 1

What are the perceptions of the course professor regarding the role of the *Proximal Mentor*? Case 1 and Case 2 interviews were subjected to a cross-case domain analysis (Figure 4-2). The common theme across cases was *achievement*. The divergent themes were *enrichment* and *role*.

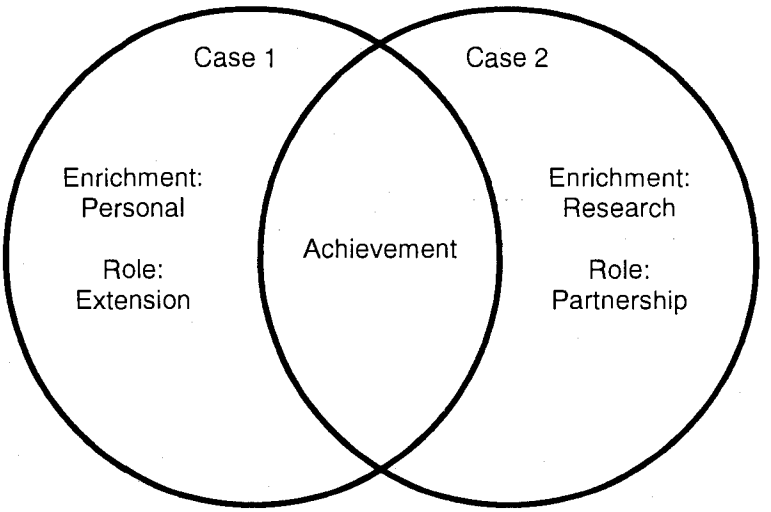

Figure 4-2 Research Question 1 Cross-Case Venn Diagram

Common Theme: Achievement

While it was common for any instructor to be concerned about the achievement of the students in their course, the professors participating in this research were more aware of student achievement by reflecting on the impact of the instructional intervention of *Proximal Mentoring* in their courses over the semester. Both professors thought that all participants (professors, student-mentees, and PMs) benefitted from the inclusion of *Proximal Mentoring* in their respective courses. The Case 2 professor commented "It's a great socialization package for a first year doctoral student to be able to talk at length with people in their second or third year. They are going to give them information that faculty never think of giving them."

Achievement of students. Student-mentees in both cases outperformed the previous semesters of the course as evidenced by scores on the exams and the professors' perceptions of the quality of student writing. The Case 1 professor solicited student perceptions of the first exam noting the students gave the exam the "thumbs up" of approval. For the second exam, the professor explained that due to the timing of this exam with other events occurring within the department, she "ended up grading exam two" by herself. As she explained:

> What I had initially in mind was that we would do it like we did exam number one. Each one would take their own groups' test and score them. Then I would go over each one of them. But this way, I got a clean impression without someone else giving their input. In other words, it wasn't me reading an already scored test. It was me, starting from scratch, reading a fresh test, so to speak. So that helped me.

When asked to compare the exam results from this year with previous sections of the same course, the Case 1 professor stated:

> I was really pleased. And, I would write comments to that effect: how well organized it was, how well they supported it with examples, what good points they had made. And, I was sharing sort of a range of points they had made in one of the responses. They were all essays; total essays. And they did very, very well. I think it was along the same lines at first in terms of grade wise mostly A's. If I deducted points it was related to something that wasn't so much as missing the target, it was perhaps they didn't support well enough or it wasn't thorough enough or they just might have mentioned it and then didn't turn around and support it. So it was lack of support. But it was a very rare exception that the students ended up having deducted very many points at all. They did such a fine job. Previous classes I can actually remember thinking they are not taking this seriously, maybe they are in a rush, and they are sketchy responses. These were very well expressed and thorough. I guess that was just a good descriptor, they were so thorough. And in the past, I haven't

had that. That became more the exception. This time it was the rule that it was thorough.

In Case 2, there was only one assessment: the culminating final paper. When asked to compare the papers from this semester to the work of students in the previous courses, the Case 2 professor noted:

> The good papers were as good as I have ever gotten. So, at the top end of the scale, the students did very well. And there were certainly more students who I would have classified as doing very well in this group. I don't think they were on the whole any smarter. I think the mode of instruction helped and I think the students who bought into it I think did very well. Also, there were fewer horrible papers. So, on the other end, the people who didn't do well on the paper this time were simply the people who didn't do the work. 'Lack of understanding' was not as big of an issue. They simply didn't do the reading. And in fact the people that I've talked to, of the people I gave 'incompletes,' three of them have already admitted they just didn't do the reading. . . . I just really haven't talked in depth to the fourth one. But they just said, 'You know, I just skimmed it to get it done' or 'I didn't read it at all.' So if everybody else was doing okay except the people who didn't do the reading, that's a pretty good outcome in a class from my perspective.

The Case 2 professor found PMs were able to identify and provide feedback for students who were having difficulty writing: "and two of those people have taken writing classes; so, even through they didn't do well in the class, they've improved their chances of doing well in the program." The Case 2 professor discussed the fact that discovering the writing difficulties of the student-mentees would not have been possible without the PMs because the course was designed such that the professor would have one final paper to review at the end of the semester.

The Case 1 professor found the student-mentees "can't hide" and having the PMs was "a much more enriching experience for the students." She also found the students were more likely

to ask questions and share examples with their PMs in small group. The Case 2 professor found the PMs were "establishing relationships with the students probably in ways that I can't as the instructor."

Achievement of PMs. Both professors perceived the PMs as having increased their own content knowledge by participating in the course as a PM as well as participating in the independent study. The Case 1 professor noted that while the information presented in the master's course may not have significantly increased the PMs' knowledge base, it did provide:

> More of a connecting and an opportunity to apply, think of how to relate material that they already knew and experiences that perhaps having the students in their school settings to teach other teachers some ideas some techniques some suggestions and I think more of an applied they may have strengthened their knowledge in an applied way.

The Case 2 professor noted that the PMs "clearly improved their knowledge" and "understood a little bit more about what it takes to be a doctoral student."

Both professors perceived the PMs as receiving unique skills not available in other programs or courses of study. The Case 1 professor noted "while many programs graduate students with strong research skills and strong skills in teaching large groups" *Proximal Mentoring* offers additional, unique skills such as "working with small groups and working one-on-one." The Case 2 professor observed the PMs as learning more about themselves as instructors and noted that PMs learned that "dealing with doctoral students was not the same as dealing with high school students or middle school students." In addition, the Case 2 professor noted that PMs "saw some of the ups and downs of being a professor" and PMs "got a good understanding of what the job is, at least the teaching part of it."

Achievement of professors. Both professors found they became more prepared for their teaching. For example, the Case 1 professor stated: "I'm thinking ahead further than I ordinarily might have" and "I am really just making sure that I have all my ducks in a row and everything was lined up." One of the responsibilities of the professor was to meet with the PMs for at least an hour each week as part of the PM independent study course. During this time, the professors

clarified the topics that would be addressed in the class, and gave guidance and ideas for group interactions.

Both professors agree that no additional time was necessary to accommodate PMs; although both agree that they used their time differently. Having hour to an hour and a half weekly meetings with the PMs on a regular basis turned out to have served a dual purpose. First, it replaced the professors' usual preparation time. Second, it served as instruction for the PMs. Both professors would continue the practice of meeting with the PMs every week before the each regularly scheduled class.

Divergent Theme: Enrichment

While both professors saw enrichment for the student-mentees, their perceptions of what constituted enrichment were divergent. The professor from Case 1 perceived student-mentees receiving personal enrichment from interacting with the PMs. The professor from Case 2 perceived student-mentees receiving research enrichment from interacting with the PMs.

Case 1 personal enrichment. The Case 1 professor saw the student-mentees as having a more enriching experience through the PMs. She saw students sharing more personal information with the PMs in group. Groups became more cohesive. In her weekly meetings with the PMs she perceived the PMs as providing enrichment to the course content through their interactions within the groups. The groups flowed more smoothly and were able to accomplish more with the content than in previous courses. She stated:

> They are serving as a teaching assistant. They are learning to work with larger groups. When they are given the opportunity to be a mentor - that was something that most of us don't have an opportunity to practice, to experience in our advanced studies. And, yet, immediately, in a sense you are thrown into mentoring as a professor as a new assistant professor. So I see them as really not only leaving with strong research skills and strong skills in teaching large groups but also something unique that most graduate students don't leave with, leave a program with, and that was how do you work with small groups, even how do you work one-on-one; how do you work with that one master's student

> or that one doctoral student or that small group in a seminar? I think that was going to be something brand new.

Case 2 research enrichment. The Case 2 professor commented that the student-mentees were introduced to research at a much earlier stage in their program. He noted that there was "a research group in existence" that would not have been created during the first semester of their program had the PMs not been in the course.

> I think that was one of the biggest pluses that hearing that all of these mentors were doing research. I think that really drove that point home and so a number of these folks got onto research teams.

Divergent Theme: Role

Neither professor saw the role of the PM as a tutor. While they agreed that the PMs performed some aspects of the role of teaching assistant (such as grading papers and working directly with the student on the course content), the PMs also performed tasks outside the realm of the tutor. For example, PMs showed genuine caring for the well being and progress of the student-mentees as they interacted with the professor during the PM independent study course.

Both professors agreed that the PMs would run small group instruction and participate in the grading process; the PMs had different levels of responsibilities for these tasks. The Case 1 professor saw the role of the PM as an extension of the professor. The PMs were the teacher of the group. They extended and/or built upon the content discussed in the PM independent study course. The Case 2 professor saw the role as a partnership with the professor. The PMs were solicited for their perceptions and changes were made to the course based on PM feedback.

Case 1 extension of professor. One phenomena occurring, as the Case 1 professor was interviewed about her perceptions of the role of the PM over time, was noting the change in terminology the professor uses when describing the PM role. In the first two interviews, the professor used the term *lead groups* to identify the function of the PM within the group. By the third interview; however, the professor began using the term *mentoring groups* to describe the function of the PMs' role. This change in terminology suggested a shift in the professor's perceptions of the PM from *group leader* to *mentor*.

The Case 1 professor started the semester perceiving the PMs having a *partnership with the professor* for *student support* in learning. At the second interview, the professor perceptions of the PMs as providing grading and student feedback to the students in the course remained unchanged. At the third interview, the professor noted that the lines of *communication* were more open between the students, between the students and the PMs, between the students and the professor, and between the professor and the PMs. She saw more on-task dialogue happening in the groups, fewer group problems, higher scores on exams, more thoughtful short and long answer essay responses, and, in general, more cohesiveness in the classroom. By the final interview, the professor perceived the PM role as an *extension of professor* where both students and PMs were noted as achieving a higher level of knowledge of the course content as evidenced in their exam scores, written essay responses, and over all ability to interact with the content.

The Case 1 professor's anticipated 6:1 ratio of students to PMs "was different in terms of what I was kind of used to thinking about if someone was coming into to assist students in a classroom." She was looking forward to PMs providing:

> Far more interaction with the students in the classroom . . . than even a teaching assistant . . . a TA might get almost a hit and miss, whoever the students might seek out, whenever the students might seek out help, they would go to the teaching assistant; but not on a consistent basis. They are there for their office hours. They are there by invitation. They are there by, perhaps, study groups; but nothing on a regular basis, nothing on an anticipated and allocated time. So, in a sense, that was reserved for the classroom students. So, to me, I see it as being far more accessible and also being very, very consistent.

The Case 1 professor saw the role of the PMs as providing an additional level of instructional support:

> I hope I was successful in including them more in the decision making process. I actually felt hesitant at times that I wasn't doing, or actually regretful at times

> that I wasn't allowing them more input. . . . I would get the mentors more involved in planning for the upcoming class mentoring groups. Not to say that I wouldn't offer some suggestions or maybe even the first couple of sessions, until they build [sic] had a little bit more opportunity to build rapport. I would, perhaps, give them some direct guidelines.

Case 2 partnership with processor. The Case 2 professor saw the role of the PMs as being a partnership wherein the PMs were full participants in all aspects of the course with the exception of evaluating the final culminating paper as that process occurred after the semester was completed for the students. Each PM presented one full course night of instruction on the topic of their choice. In addition, the PMs were encouraged to provide input on the structure and content of the course. The Case 2 professor encouraged outside reading and inclusion of those articles that would enhance the course for the student-mentees.

Each week, the Case 2 professor and the PMs engaged in dialog about the course. Decisions and direction for the course were jointly decided. Although he noted the meetings were "wonderful" he would extend the amount of time he spent interacting with the PMs. At the end of the meeting, the professor and the PMs would walk together to the classroom building. The Case 2 professor noted: "we really had the type of intellectual interchange that you hope for in a doctoral program." He volunteered that he: "would probably structure their interaction with the students a little better because some of them picked up on it right away and others seemed kind of lost as to what to do."

Summary of Professors' Perceptions

Both professors were concerned with the achievement of the students as identified in the literature review of tutoring. In addition, the professors found implementing *Proximal Mentoring,* including adding the requirement of meeting with the PMs weekly for the PM independent study course, did not increase their teaching workload; however, they did allocate their course preparation time differently.

Both professors noted using the independent study course for the PMs to facilitate their role of professor in the regular course. While the professors were reflexive in their view of the role of

the PM, however, they did not indicate having been stimulated or rejuvenated by the process of mentoring. This suggested that the professors did not view themselves as mentors to either the PMs or the student-mentees. This perception was evident in the following quote from the Case 2 professor:

> The mentors get to strengthen their knowledge. The students get peers to talk to form relationships with that are more sophisticated and can help them get things done. The mentors and students created research partnerships with other faculty, with themselves. Those are huge things for a first year doctoral student. It's a great socialization package for a first year doctoral student to be able to talk at length with people in their second or third year. They are going to give them information that faculty never think of giving them.

Even though the professors did not perceive a change in their personal role as teacher, they did not perceive the PMs as tutors. However, it was not known how much of an effect having intimate knowledge of the study biased their perceptions.

Both professors stated that they would continue with PMs in their courses: "Absolutely, even more eagerly next time" (case 1 professor) and "I'm certainly looking forward to doing it again" (case 2 professor). The Case 1 professor also noted "it actually seems better to think in terms of more rather than less" when considering the number of PMs to have in a class.

The Case 1 professor addressed the interactive and reciprocal nature of the *mentor* aspect of the PM role as she reflected on the entire semester of experience:

> I actually enjoyed having them so much. I was concerned in the beginning in terms of how would I use them not only to benefit my students but to give them an opportunity to learn from it and to experience working as a mentor. I could not have been more pleased.

Research Question 2

What are the perceptions of the student-mentees regarding the role of the *Proximal Mentor*? Case 1 and Case 2 data were subjected to a cross-case domain analysis (Figure 4-3). The common themes across cases were *role of tutor, role of mentor, perceptions of graduate program,* and *variability of responses.* The divergent themes were *research study, perceptions of knowledge* and *fear.*

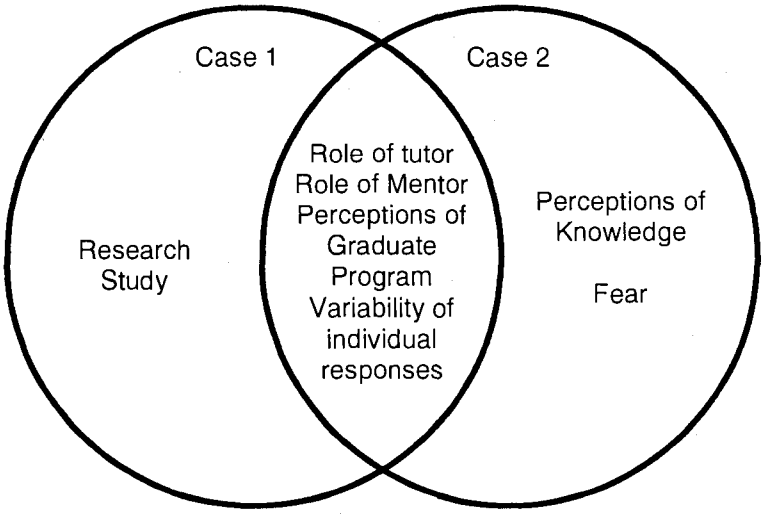

Figure 4-3 Research Question 2 Cross-Case Venn Diagram

Common Themes: Role, Program, And Variability

The common themes evident in the cross-case analyses were agreement of student-mentees in their perception of the role of a tutor, the role of the PM, their perceptions of the graduate program in which they were enrolled, and in the variability of individual responses.

Role of tutor. Tutoring was operationally defined by the participants as being a content-based activity for remediation of knowledge by someone more knowledgeable, usually for a fee. All students in both cases acknowledged that what they experienced in the instructional

intervention was NOT tutoring. More students in Case 1 had experienced tutoring prior to receiving the *Proximal Mentoring* intervention (as illustrated in Table 4-1).

Table 4-1 Pre-Post Tutoring Experiences

Survey	Yes	No	No Answer	Total Responses
		Case 1		
Pre – no post	2	0	1	3
Pre	4	8	2	14
Post	6	8	0	14
		Case 2		
Pre – no post	1	5	2	8
Pre	2	6	1	9
Post	1	6	2	9
Post – no pre	0	1	0	1

In Case 1, one student shifted from no answer to yes and two students shifted from no to yes in response to having worked with a tutor, all three gave non-course related explanations of the tutoring they had received during the semester (chemistry, writing center, and subject specific). In Case 2, only 1 person acknowledged having been tutored prior to being in the course. By the end of the semester, none of the student-mentees in Case 2 claimed to have received tutoring during the semester although one student did acknowledge receiving tutoring prior to the semester in a different course.

Role of PM. The student-mentees saw the role of the PM as a person who was there to guide (role model, provide feedback, provide clarification) and nurture (encourage, reinforce) the student mentee in the course. Where the students started the semester with less than 45%

of the student-mentees stating they had received mentoring on the pre-PM survey, over 66% stated they had received mentoring at the post-PM survey (as illustrated in Table 4-2).

Table 4-2 Pre-Post Mentoring Experiences

Survey	Yes	No	No Answer	Total Responses
		Case 1		
Pre – no post	0	3	0	3
Pre	5	8	1	14
Post	9	4	1	14
		Case 2		
Pre – no post	3	4	1	8
Pre	4	4	0	8
Post	6	3	0	9
Post – no pre	1	0	0	1

In Case 1, nine students claimed to have been mentored. Two of these gave course-specific examples of their having been mentored: "we discussed topical issues and debated in a library setting" and "very positive experience, but more group than individual." In Case 2, six students claimed to have been mentored. One student gave course-specific examples of their having been mentored: "only in this class." One students commented that "per the definition" of mentor, "only one came close to really being a mentor." Another student lamented that "time, ability to interact, and choice" prevented a "true mentor experience." Time and choice are two issues of doctoral mentoring noted by Hager (2003).

Perceptions of graduate program. An unanticipated finding was the number of student-mentees in both cases stating that their perception of the entire graduate program in which they were enrolled changed due to this one instructional intervention. They no longer felt anonymous

within the program. In addition, the inclusion of the instructional intervention was perceived as the faculty caring about whether or not students succeeded in the program. One student-mentee response summed the Case 1 view of the students: "The graduate program would be more effective if we were provided mentors throughout - I would say it excited me to be a part of this experience and therefore made my perceptions more positive." The Case 2 view was "doing it, regardless of outcome, engenders trust in the thought and care behind the scenes."

Variability of individual responses. Both cases were remarkably consistent in their perceptions of the role of the PM in the course, even in their inconsistencies. Even though the two cases are similar for many of the domains, many of the comments student-mentees made about their perceptions of the *Proximal Mentoring* instructional practice are in direct opposition with comments made by other student-mentees. Where some students commented that they wanted more time with the PMs, others stated they thought participation should be optional.

In general, group activities are a source of consternation for many students and these two cases were no exception. Every student either liked or disliked the groups, with no middle ground. The students who disliked working in groups were the same students whose answers to the rest of the survey questions were in favor of the *sage on the stage* model of learning, where the professor lectures the entire class period. Where some wanted more group time, others wanted groups discontinued entirely stating groups were wasted time and the lecture was the more valuable time in the course. However, other student-mentees thought their time was wasted by having group meetings. Yet each individual who stated this also said they wanted to spend more time with the mentors. While student-mentees noted they liked hearing what the PMs had to say, others would have preferred to work on their own.

The student-mentees in both cases were also clear that they wanted groups, PMs, or both to rotate. Some specifically stated that they wanted to experience group with the other PMs. Some of the student-mentees in both cases wrote that they should be allowed to choose their mentor.

Case 1 student-mentees who acknowledged having been mentored disagreed with each other about the role of the PMs. Items liked by some were disliked by others. For example,

some students disliked working in groups and thought it was a waste of time. Other students thought groups were the best part of the class and appreciated the willingness of PMs to stay after class to continue discussions. Only 14% of the students thought the PMs should not be incorporated into additional courses. Of those, one felt the PMs were unnecessary in the course in which the mentee was enrolled; however, the mentee stated that more difficult courses, such as statistics, would benefit greatly with the addition of PMs. Overall, student-mentees perceived the role of the PMs as helpful to them academically and advocated including PMs in the course.

While the overall Case 2 student mentee perceptions of the role of the PMs were positive, with 70% of the student-mentees advocating the continuation of PMs as an instructional intervention, individual responses to the surveys were varied, inconsistent, and contradictory. The attitude of *I am a doctorate candidate and I do not need the assistance from a mere student who was only 1 or 2 years ahead of me in the program* was evident on the surveys by some of the students in the course. Comments such as "total waste of time," "it didn't influence my ability to perform" and that the student "did not need any assistance" from someone other than the professor exemplify the attitude expressed by some of the student-mentees. This effect was mediated in the analysis by the presentation of the aggregate analysis for each survey question; but it was markedly present for 100% of the students who would *NOT* recommend the practice of incorporating PMs into the course be continued. In addition, students in both cases who stated that the PM role should NOT be continued were the same students whose pre- and post-PM surveys indicated they did not want to participate in collaborative group activities.

Divergent Themes: Perception Of Knowledge And Fear

In the cross-case analyses, three themes emerged that were unique to the individual cases: request for more information about the research study itself (case 1), perceptions of knowledge (case 2), and fear (case 2).

Case 1 research study. Case 1 student-mentees focused on wanting to know more about the research project itself while advocating for fewer forms to fill out. Even though it was explained by the professor that groups were an integral part of the structure of the course, the Case 1 student-mentees thought some group meetings were specifically for the research

project. One student even commented directly, stating: "Some days seemed like 'busy work' for purposes of mentor study."

Case 2 perceptions of knowledge. The Case 2 student-mentees noted the PMs were not experts on the subject matter. They commented that PMs "seemed unprepared sometimes," were "not fully aware about the materials," and "sometimes the mentor did not have sufficient knowledge of the content." This was an important finding because the PMs have returned to the course for that very reason – the PMs recognized they needed to build their expertise in the subject area.

The student-mentees in Case 2 who were most vocal about not having PMs were also the students who indicated they viewed knowledge as being held by the professor and distributed to the student through lecture. For example, one student wrote "it didn't influence my ability to perform because I had much background knowledge on the readings" and another claimed "not at all – total waste of time" when asked if the PMs influenced the student-mentee's ability.

Some student-mentees stated that they viewed the PMs as peers who had nothing to offer the student in relation to what the student could gain from the professor. For example, one student wrote "make it optional – outside of precious class time." Indeed, these same students stated that group activities were responsible for their own lack of knowledge because the group time was time that they were not receiving direct knowledge, in the form of lecture, from the professor. Illustrative comments from students were: "no defined goals or purpose for 1/3 of class" and to "stop allowing mentors to provide feedback on response papers."

In addition, the student-mentees in Case 2 seemed to have difficulty separating the role of the PM from the structure and content of the course with some students mentioning that others "privately voiced their frustrations" with the course structure. This was particularly evident in the dislike of group activities with many advocating "rotate mentors and/or members of the groups" and "maybe mix groups" so they could have "3 mentors, not 1."

Case 2 fear. An unanticipated finding was a fear on the part of the student-mentees in Case 2 who thought that the instructional intervention of *Proximal Mentoring* might replace traditional interactions with the professor of the course. For example, one student expressed concern that

the traditional faculty interactions might be replaced with PMs: "do not replace the interaction and exchange with the faculty with that of the [*proximal*] mentor." However, all of the students indicated that the PMs augmented their course interactions. Indeed, many of them claimed interacting with the PMs enabled them to get to know their classmates better and to interact with the professor more comfortably.

Summary of Student Mentee Perceptions

Overall the Case 1 student-mentees found interacting with the PMs a positive experience, enabling them to achieve knowledge at a greater depth while feeling "there are actual warm blooded humans behind the scenes" where the role of the PMs shows the people running the graduate program show "an interest in our success."

The student-mentees' perceptions of the role of the PMs changed over the course of the semester as well. Less than half of the mentees stated they had experienced a mentor relationship at the beginning of the research. By the end of the semester, more than half stated they had been mentored. There was no change in the pre/post perceptions of having been tutored. Three mentees who mentioned having been tutored during the semester but noted their tutoring was not related to the current course.

At the end of the semester, none of the students perceived the PMs role as being a tutor. The role of the PM was described by some as working like "a counseling group experience" where open communication, debate, and experiences occurred. Mentees suggested that PMs rotate through the groups. In addition, some mentees suggested either smaller groups or more frequent changes of all group members.

While the aggregate responses were in agreement, individual students varied greatly in their perceptions of the role of the PMs. Those students who disliked group activities were the same students who would not recommend continuation of the instructional intervention. The student-mentees in Case 2 were more varied when reflecting on their experiences in the semester. Some mentioned that the PMs enabled the students to collaborate in their own education. The student-mentees in Case 1 focused on the social aspects of *Proximal Mentoring*

whereas Case 2 student-mentees focused on the collegiality and collaborative aspects of *Proximal Mentoring*.

Overall, the student-mentees agreed that the instructional intervention was NOT tutoring. Some students perceived the instructional intervention as a type of mentoring rather than as traditional mentoring in the sense that the student-mentees noticed the PMs were lacking in content expertise whereas a traditional mentor would have depth and breadth of content expertise.

Research Question 3

How do the mentors come to negotiate, define, and express the *Proximal Mentoring* role? The Case 1 and Case 2 PM analyses were subjected to a cross-case domain analysis (Figure 4-4). The common themes between the cases were *negotiation* and *definition*. The divergent theme was *expression*.

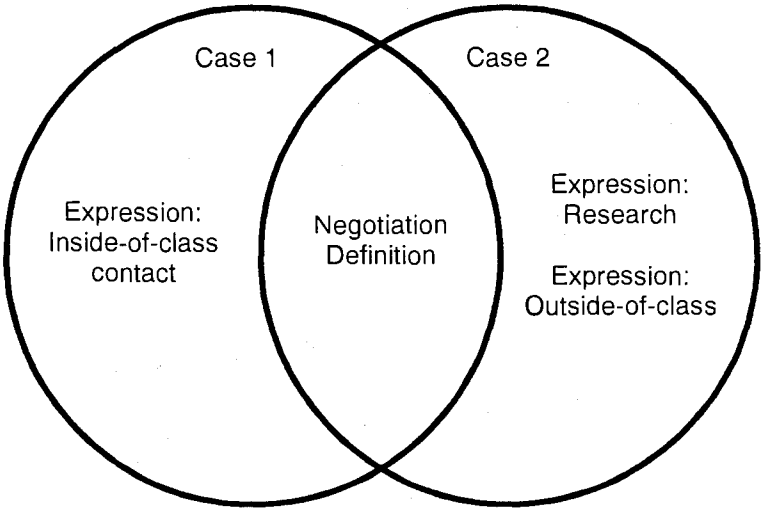

Figure 4-4 Research Question 3 Cross-Case Venn Diagram

Common Themes: Negotiation and Definition

The common themes evident in the cross-case analyses were agreement of PMs in the *negotiation* and *definition* of their role.

Negotiation. Negotiation occurred within the first ten minutes of the first class meeting in the independent study course for both cases. After negotiating the composition of a final grade for the independent study, the PMs negotiated their PM meeting times. The Case 1 PMs negotiated for meeting prior to their weekly group meeting. The Case 2 PMs negotiated to suspend PM meetings entirely for the semester, unless something came up in which case they would request to hold a PM meeting. Both groups readily agreed to answer a weekly online survey about their experiences as PMs. By the second PM meeting in Case 1, PMs noted negotiation on the PM role was a non-issue "because I've been a teacher so long, that it just feels very natural" and "it's like teaching."

Definition. Even though none of the PMs from Case 1 had been a PM, the two who received *Proximal Mentoring* in the pilot study quickly explained the process to the third PM who was new to the entire study: "facilitate group, advocate for the student-mentee, and provide feedback, direction, guidance, and reassurance."

Two of the Case 2 PMs were returning to the PM role. The third had received *Proximal Mentoring* from both PMs in the pilot study.

PMs in both cases define a peer as an equal; a mentor as one who has additional experience, wisdom, or knowledge who guides you through. They defined a tutor as one who teaches specific content. As with the student-mentees, the PMs did NOT see their role as a tutor.

Divergent Theme: Expression

The two cases were similar but differed in the depth of the expression of the PM role. Case 1 PMs led or facilitated the groups, provided resources, provided some graduate school advice to a couple students, and responded to student questions. They acknowledged supplementing "what the students are learning in class with information that I am aware of from other classes and/or readings that I have done." The Case 2 PMs led discussions and provided resources;

however, they also consciously held themselves as a role model. For example, in one weekly log, a Case 2 mentor stated "I hope the students will look up to me as a role model for them." Another stated "I modeled active engagement."

Case 2 PMs guided, counseled, assisted in the navigation of coursework and graduate school, and worked with student-mentees to set goals. Case 2 PMs shared their personal experiences and provided feedback like the Case 1 PMs did. However, they also acknowledged actively listened, as well as providing feedback in the form of praise, reinforcement, encouragement, and affirmation of student knowledge. For example, PMs "encouraged students to raise the issues they presented in their response papers;" PMs "encouraged them to present their ideas" to the instructor directly; and PMs "also encouraged students to challenge" the fall professor during seminar.

Case 2 PMs also contacted student-mentees by email, phone, and in-person meetings – not only their own mentees but those student-mentees of other PMs who shared similar interests. Case 2 PMs indicated that some of their student mentee contacts outside of class were for the purpose of initiating research in areas of common interest. In addition, Case 2 PMs noted having a calming influence over their student-mentees.

The Case 2 PMs also noted where their own personal knowledge of the content was lacking then approaching the course professor with questions to gain clarity on the content. The Case 2 PMs acknowledged "n this regard I was genuine with my understanding or lack thereof" with both the professor and the student-mentees. While both cases noted the use of questioning with their student-mentees, the Case 1 PMs noted questioning as a way to direct the group discussion whereas the Case 2 PMs noted questioning as a way to assist the student-mentees in understanding the course materials.

Summary of PM Negotiation, Definition, and Expression

PMs successfully negotiated for their assignments in the independent study course within the first ten minutes of meeting. In Case 2, the PMs negotiated with the researcher to eliminate the weekly PM Meetings in favor of completing weekly online surveys, supplemented by email communication if necessary.

The PMs did NOT see their role as tutor. The PMs were unanimous in their perceptions of their role as a *Proximal Mentor*. They acknowledged they did not have the expertise or experience with the content of the courses. Because of this, they would NOT describe themselves as true mentors within the traditional definition of mentor.

While the PMs in both cases were consistent in their expression of the role by having lead, advised, and responded to the mentees; the depth of expression was greater in Case 2 PMs. In addition, PMs in Case 2 were aware of their own lack of content-knowledge expertise, and sought clarity from the professor. Finally, Case 2 PMs interacted with the student-mentees outside the class meeting times in collaborative and collegial ways.

Research Question 4

What outcomes will be obtained by the PMs after having participated in *Proximal Mentoring*? The Case 1 and Case 2 PM analyses were subjected to a cross-case domain analysis (Figure 4-5). The common themes between the cases were *groups* and *learning*. The divergent theme was *depth of experience*.

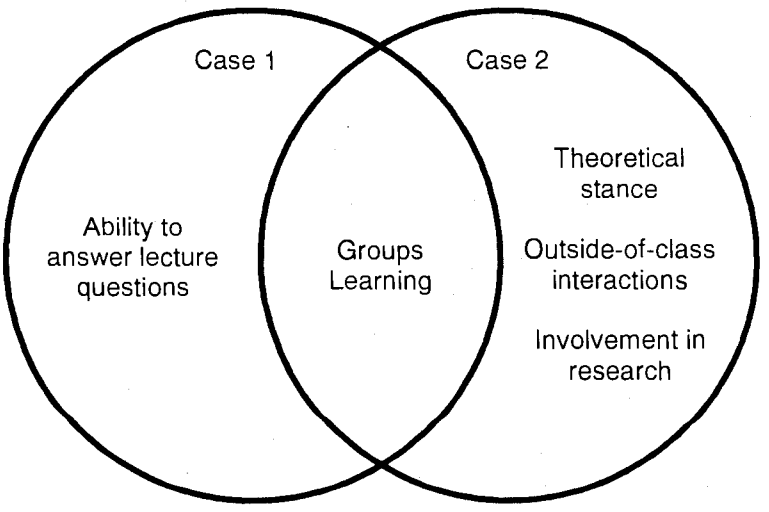

Figure 4-5 Research Question 4 Cross-Case Venn Diagram

Common Themes: Groups and Learning

The common themes evident in the cross-case analyses were agreement of PMs in their perception of having received the most reward in the experience from the groups while ignoring their own learning outcomes in favor of recognizing mentee achievement.

Groups. In the beginning, PMs expressed concern over mentee lack of participation, effort, responsiveness, and critical thinking. For example, PMs in Case 1 wrote "it was disappointing that two of the group members were not present" whereas PMs in Case 2 wrote "watching as most of the students sat back and listened to the lecture without challenging some of the Case 1 professor's ideas or explanations" and "my weakest student is not participating." By the end of the semester, the PMs enjoyed having all members of their group participate, stay engaged, and contribute to the learning of the group. PMs agreed that student-mentee's attributes of friendliness, cooperation, interaction, and participation were personally rewarding to them.

In both cases, the PMs commented on feeling personally rewarded as a PM by receiving validation/compliments from the professors and from the student-mentees. These were seen as indications that the PMs were appreciated and necessary to the success of the students in the course.

Even though groups were stable and the PMs were able to establish a long-term relationship with each of the student-mentees assigned to them, all the PMs noted that groups should be switched every few weeks. They cited new personalities, new ideas, new thoughts and new challenges as potential benefits of reassigning groups. In addition, it would provide the PMs an opportunity to interact with all the students in the course providing an enrichment for both PMs and student-mentees.

Learning. All the PMs overlooked acknowledging their personal benefit in favor of acknowledging mentee outcomes. Even when specifically asked *what did you learn*. They were pleased when the student-mentees achieved, learned, and participated. There were even comments such as "I think my group is doing better than the others" and "I think my group is coming together and discussing some of the concepts analytically" along with "our discussions are energetic, relevant, and insightful."

Case 1 PMs thought what they already knew was simply reinforced by the PM role, stating: "I think that this class is a big refresher for me," and "I don't think that I am learning anything much." Case 2 PMs also commented on their knowledge being reinforced: "having the opportunity to reread some of the course material and consider it in a new light" and "listening to students accounts and summaries of the readings, especially Stanovich, was enlightening." However, Case 1 PMs did acknowledge that "my knowledge of the cognitive development of adolescents is definitely increasing" and "I want to do a little low-key research because it was in opposition to what I had previously thought." Case 2 PMs went beyond just increasing their learning and became excited about being able to include their knowledge within the course "I may do a summary of the course and sneak in my 3 part model of the learner."

Divergent Theme: Depth Of Experience

One striking divergence between the two cases was how the depth of the experience was perceived. The Case 1 mentees commented on their ability to answer "questions that the students had on the lecture" whereas the Case 2 PMs were more likely to address the course materials and theoretical stances in addition to recognizing "I still have so much to learn."

The Case 2 PMs were more likely to interact with the students outside of the classroom group setting. Case 2 PMs participated in the classroom lecture, both as students themselves and as providers of content knowledge. The Case 1 PMs were new to *Proximal Mentoring* so their role evolved over time. The Case 2 PMs were stable in their PM role with two of the three PMs having *Proximal Mentor*ed the year before. In addition, the Case 2 PMs included collaboration as a rewarding component of the PM role. They liked being able to make suggestions for modifying the course as well as having opportunities to work with expert professors in content areas of interest to the PM.

Summary Of PM Outcomes

The Case 1 PMs were very clear in what they considered to be their personal outcomes of having *Proximal Mentor*ed. They were unanimous in their agreement that there was no least rewarding aspect of *Proximal Mentoring*. While there were intermittent items that individual PMs

regarded as not personally rewarding, over the entire semester the PMs found they gained knowledge, experience, and identified being validated by both the professor and the students.

The Case 2 PMs already knew what to expect as they participated in the instructional intervention of adding PMs to an existing course in the pilot study. The Case 2 PMs worked well together, coming to terms with the requirements for the PMs to successfully complete the independent study course in which they were enrolled. The new PM was quickly *Proximal Mentor*ed into the PM role by the experienced PMs. The roles of the professor and the PMs were stable for the entire semester.

Emic View of The Researcher

At this point, it was appropriate to return to Chapter 3, the methodology of this research, to incorporate the emic perspective of the researcher. My relationship to the research and the participants was varied and long-term. My relationship with the professors began with the traditional teacher-student relationship and has progressed to one of doctoral-mentee as both professors ultimately became a part of my dissertation committee. My relationship with the PMs was one of doctoral-student, peer, and fellow researcher as well as friend. While I did not have a relationship per se with the student-mentees, I did know quite a number of students enrolled in the Case 2 course through my day-job as a teacher in the local school district.

One thing that really surprised me was the different reactions of the student-mentees. For the most part, the student-mentees began the process a bit apprehensive about the experience level of their *mentor.* By the end, most of the student-mentees were pleased to have participated in the process. Their personal grades reflected the more in-depth learning that they gained by the addition of the PMs. However, the experience for a few was less than exemplary. What I found common amongst those student-mentees who had less than an exemplary interaction with the PMs was the student mentee's own idea about the source of knowledge. Every student who had a less than exemplary experience with the PMs also had a view of knowledge as being within the professor and given to the student through the lecture process.

These few students were certain their 'peers' had nothing to offer that would not be provided by the professor through lecture.

I also note that while this research did culminate with answering the questions about the perceptions of the role of the PMs, it also documented the beginning of a progression of the PMs from students to junior professors as perceived by the course professors. The PMs in this study moved from being unsure about their role to commanding the role. By the time the Case 2 PMs accepted a challenge to "do it again" they were at ease in their role enabling them to interact with more confidence in themselves. This was heartening because it speaks to the sustainability of the PM construct. PMs were able to increase their depth and breadth of knowledge while working within the ZPD of new learners to bring those learners to knowledge at a faster rate than the actual developmental level of those learners would normally allow through caring and sharing of themselves along with the sharing of their growing knowledge base.

Summary of Cross-Case Analysis

It was a rare situation in which the primary goal was obtained with few of the participants objectively acknowledging the fact. The focus of the professor was the learning of the student-mentees. The focus of the PMs was the learning of the student-mentees. The focus of the student-mentees was their own learning. Student-mentees did not acknowledge that the PMs were in a learning situation. In fact, a few student-mentees in Case 2 mentioned about the PMs lack of expert knowledge. The professor mentioned PM learning a few times, but mostly in relationship to how they were facilitating the learning of the student-mentees. Even the PMs themselves did not openly acknowledge their own role as learner in the process of incorporating the PM instructional practice in the course. Appendix 4 provides a summary of the cross-case componential analysis.

The professors and the PMs recognized that more in-depth learning was accomplished on the part of the PMs as evidenced in their Independent Study assignments and interactions during the meetings with the case professor. The professors and the PMs noted that more students performed well in the respective courses. The professors enjoyed the small group, in-

depth time they spent each week with the PMs in the independent study course. The PMs relished being validated and complimented in the role of *Proximal Mentor* by both the professor and the student-mentees.

None of the participants in this study perceived the role of the PM as a tutor. However, they did not see the role as an expert mentor either. The participants in the research study perceived the role of the PMs as providers of content and feedback, models for collaboration, clarifiers of course objectives, guides, and role models.

CHAPTER 5

CONCLUSION AND RECOMMENDATIONS

A More Complete Picture

This dissertation introduced the construct of *Proximal Mentoring* to the current educational paradigm enabling a more complete picture of the roles of the participants in the learning process to emerge. The PM role brought a sympathetic understanding to the learner as mentee. In addition, the PM incorporated a component of teaching in the mentoring process. Finally, the PM developed a greater mastery of the learning content through the process of being a PM.

Purpose and Research Questions

As noted in Chapter 1, the purpose of this research project was to investigate adding the construct of *Proximal Mentoring* as a unique way for students to develop continuing expertise while providing an additional level of support to the educational process based on Vygotsky's ZPD (1978, 1987). The goal was to obtain perceptions of *Proximal Mentoring* from all the participants in order to clarify and define the role of the *Proximal Mentor*.

This research addressed four research questions:

- What were the perceptions of the course professor regarding the role of the *Proximal Mentor*?
- What were the perceptions of the mentees regarding the role of the *Proximal Mentor*?
- How did the mentors come to negotiate, define, and express the *Proximal Mentoring* role?
- What outcomes were obtained by the PMs after having participated in *Proximal Mentoring*?

In this Chapter, findings are summarized. This summary is followed by the conclusions evident about this study, implications of these conclusions, and recommendations for implementation and future research.

Summary of The Findings

This research introduced the construct of *Proximal Mentoring* within the ZPD as an opportunity for the PMs to re-experience course materials at a more in-depth level while providing mentoring guidance and assistance to novice students in the course. Two cases were examined. Case 1 involved first-year doctoral students re-experiencing a master's level course in Adolescent Development. Case 2 involved second- and third-year doctoral students re-experiencing a doctorate-level course in History and Philosophy of Educational Psychology.

Tutoring

While overlap existed between this study and the tutoring literature, all the participants in this research study did NOT perceive the role of *Proximal Mentor* as being a tutor. Indeed, this study brought the component of *teaching pedagogy* experienced by tutors into the experience of *Proximal Mentoring* for adult learning. In addition, this study showed the participants perceived reaping all the benefits normally associated with tutoring while their focus was on having received mentoring instead of tutoring.

Adult tutoring, as currently conceived, may be replaced by introducing PMs to the courses in which adults find a need for tutoring. The PMs provided a level of support at least equivalent to a tutor for content knowledge, and provided *proximal* guidance to the students which appeared to encourage the students to continue in their program of study. This additional support might have reduced the need of the adult learner to seek remediation on the course content.

Research Question 1

What are the perceptions of the course professor regarding the role of the *Proximal Mentor*? The course professors perceived a three-way benefit from *Proximal Mentoring*. The professors benefited by becoming more prepared for teaching; having the joy of meeting with a

small group of highly interested, motivated students; and seeing their students perform at a higher level through the incorporation of PMs' assistance. The course professors also noted that it was important to make sure the PMs were prepared and understood the materials being presented. The Case 2 professor noted:

> I think this was invaluable experience if these folks intend to get positions at universities. I think they get a good taste of what it was like to be a professor and the problems plus the things you feel really good about. Several of the mentors commented to me that they really felt like they helped some students and that felt really good. They also became aware of the people that weren't giving them the kind of effort that the others were. So they saw some of the ups and downs of being a professor. I think they got a good understanding of what the job is, at least the teaching part of it. I should be clear about it.

An ancillary finding was the report of reaction of the other professors on the faculty by the Case 2 professor:

> At first everybody thought I was trying to get away with something. Why are all these students working with [case 2 professor]? So they figured I was pulling a fast one. So, it took some time to explain to them what was going on and that each student was indeed taking an independent study, and I would read their papers, and it wasn't just like a gift. So there was initially some jealousy or whatever. But then people became kind of intrigued with it. Now you always get some sort of faculty who say, 'That sounds like more work. I'd just rather do it myself regardless of the positive outcomes.' And I did hear some of that. But I did hear from other folks that 'Boy that really sounds interesting. I'd really like to take a shot at that.' And, by the way, the people who were most interested were the people who pride themselves on their teaching.

The case professors were pleased with the level of interactions they had with the PMs. By implementing PMs in their course, they noted the student-mentees were more on-task, more prepared, participated more, and seemed to be enjoying their time with the PMs in groups. In

addition, the students in the implementation course exceeded professor expectations of achievement in both courses. In fact, the Case 2 professor noted lack of understanding was NOT a reason why students did not complete the class in the two years the PMs were involved. And, the Case 1 professor noted that NO student achieved a final grade of less than an A- in the course. In the past, grades of B and C were common in the course. What teacher does NOT want these outcomes and attributes expressed by the students in their classes?

In addition, the graduate students participating in these courses thought that the professors involved in the program of study they had chosen to pursue *cared* about whether they, as individual students, succeeded in their program. The implication was that by providing PMs, students may be more likely to continue in their program thereby reducing the greater than 50% non-completion rates noted by Dorn and Papalewis (1997).

Future Research About Professors Of Graduate Education

Investigation of the professor's role in the implementation of *Proximal Mentoring* may provide more insight into the differences between teaching and mentoring. Neither professor in this study saw their small-group involvement with the *Proximal Mentor*s as a professor providing mentoring to potential junior professors. Wang and O'Dell (2002) in a review of mentoring novice teachers found that mentors needed to be reflective of their own practices in order to effectively mentor. In this study, both professors still saw their role as teacher. Insight into how teaching and mentoring are different may assist professors in moving from the authoritative teaching role to the more collegial role of mentor in the classroom. In addition, if professors move to a more collegial role of mentor, will this shift slow the non-completion rate of future doctoral students?

Research Question 2

What were the perceptions of the mentees regarding the role of the *Proximal Mentor*? While student-mentees perceived the instructional practice of adding PMs to their course as generally beneficial, some confusion remained on the part of the student-mentees on the construct of *Proximal Mentoring*. However, this was anticipated due to the fact that this research project was conducted to elucidate the construct of *Proximal Mentoring*. The Case 1 student-mentees

expressed more positive responses to questions about the practice whereas the Case 2 student-mentees were more negative about the practice. This may have been due to both the nature of the course as well as the level of the course. The Case 1 students were enrolled in a master's level course whereas the Case 2 students were enrolled in a doctorate level course. The Case 1 student-mentees perceived the PMs as generally helpful to their success in the course. However, only 17% of the student-mentees who participated in *Proximal Mentoring* this year recommended the practice be discontinued whereas 74% of the student-mentees recommended the practice be continued.

The student-mentees were appropriately confused as to the use of mentor to describe the PMs. While the student-mentees progressed in their view of the PMs with most finally accepting the idea of PMs as mentors, they knew the PMs were not true mentors as exemplified by expert mentors. However, none of the student-mentees saw the PMs as tutors.

Future Research About Adult Graduate Education

Future implementation of *Proximal Mentoring* should begin with an explanation of the role of the PM. This might make the difference for those student-mentees who had less than an exemplary experience with the PMs. Investigation of the relationship between a person's view of knowledge and their ability to accept assistance in learning might provide insight into those students who had less than an exemplary experience with *Proximal Mentoring*. In addition, data from following students through their graduate program might allow for an investigation on the conceptual change process involved in moving from student to doctorate.

Research Question 3

How did the mentors come to negotiate, define, and express the *Proximal Mentoring* role?

Negotiation. Little evidence of negotiation of the *Proximal Mentoring* role itself was evident in this study. The Case 1 PMs negotiated meeting times. The Case 2 PMs negotiated for their independent study assignments. One PM, who was a student mentee in the pilot study, commented: "the 'doc on doc' last time at first seems like 'why are they reading our papers, they're not above us' the masters' students actually think we have something on them although we may not feel that way." Future implementations of *Proximal Mentoring* could benefit from

participation in a *Proximal Mentoring* course online, negating the need to hold formal in-person meetings. Future PMs would come to the role with the role having been defined by this *research.*

Future research about the pm negotiation of the role. Studies of the impact of prior knowledge on the future PMs ability to act independently within the course may be useful in determining the most beneficial way of gaining the acceptance of student-mentees for the addition of PMs.

Definition. All participants were in agreement that the definition of the role of *Proximal Mentoring* was: "provider of content and feedback, model for collaboration, clarifier of course objectives, guide, and role model."

Qualitative studies, such as this dissertation, are not meant to generalize to other populations (Merriam, 1998) in the same manner as quantitative research (Shadish et al., 2002). Readers should use the detailed description of the study to guide them in their attempt to replicate the research in their own setting (Lincoln & Guba, 1985). Future implementations of the *Proximal Mentoring* construct could begin with all parties understanding the role of the PM as described in this dissertation. Because of their familiarity with both tutoring and mentoring, *Proximal Mentoring*, as defined above, provides an almost intuitive understanding by adults being newly introduced to the concept.

Future research about the definition of proximal mentoring. Research on the level of understanding of the role of the PM by the student-mentees would provide insight into the best way to introduce student-mentees to the construct. In addition, it would also provide insight into the most minimal may to explain the incorporation of the PMs thereby reducing the number of class minutes devoted to an explanation of the construct.

Expression. It was in the expression of the role where a more clear delineation between Case 1 and Case 2 PMs emerged. While both cases showed evidence of the domains of leading, advising, and responding to mentees; Case 2 PM responses were much more detailed, thoughtful, and expressive. Case 1 PMs expressed their *Proximal Mentoring* role as facilitators and group leaders. Case 2 PMs expressed their *Proximal Mentoring* role as role models and

guides. Implementation of the *Proximal Mentoring* construct in additional courses within graduate programs of study would enable the role to be studied more fully.

One contributing reason to this difference was most likely influenced by the contexts of the courses. The PMs in the Case 1 course had approximately half the amount of time the Case 2 course devoted to activities for the PM. In addition, fewer demands were made on the master's students regarding course materials. In Case 1, the master's students were to read the material for one chapter and come to class prepared to discuss it in group. In Case 2, students were to read three to five empirical articles per week each week, read two books, access a variety of supplementary materials, write one-page responses for each article, and come to class prepared to discuss the readings both as the whole class as well as in group. This level of greater involvement for the student-mentees of Case 2 and may have led to the greater involvement of the PMs interactions with both the student-mentees and the course content.

Future research about the pm expression of their role. Future research on *Proximal Mentoring* may include: examination of the optimal length of time for PM intervention in the classroom; whether detailed responses of the PMs to the online surveys were a function of the expression of the role or a characteristic of a particular PM; and how *Proximal Mentoring* was implemented when PMs are implemented in courses where group work was not a part of the structure of the course.

A Note on the Use of Technology

It was interesting to note that the PMs preferred the online collection of data over holding face-to-face PM meetings. The PMs stated they liked using the online response form with one PM who described using the online discussion as: "makes me feel like a secret agent." In addition, the online discussion threads were available to the PMs 24 hours a day, 7 days a week whereas face-to-face PM meetings would require setting aside a particular time each week.

In a world where asynchronous, online courses are available, students can enroll in courses that meet their program needs at other institutions of higher education. Education in *Proximal Mentoring* could be one of those courses. It might be that responding to reflective questioning

online allowed the responder to reflect, review, and ponder their experience more deeply thereby enriching their overall experience. The asynchronous manner of data collection allowed the responder to feel as though the responder was in control of when and where they responded.

Research Question 4

What outcomes would be obtained by the PMs after having participated in *Proximal Mentoring*? Both cases had both positive and negative outcomes. On the negative side, Case 1 PMs noted that some weeks they were concerned that they may not have contributed to student learning and disinterest in presentations made by students who were not in their mentee group. Case 2 PMs noted time constraints, group performance, lack of time to have groups meet each week as planned, and staying with the same group the entire semester as negative outcomes. On the positive side, Case 1 PMs noted group activities, student comprehension, learning some new information from the course, reinforcement of the information they already knew, and validation through group participation. The Case 2 PMs cited an increase in their own personal knowledge; receiving compliments from both the professor and the students; acceptance by the professor of their contributions to the structure of the course; collaboration with each other, the students, and the professor; and the performance of the groups as positive outcomes.

Both cases agreed that the student-mentees were the source of both positive and negative outcomes. On the negative side, PMs commented that some student-mentees might not have participated fully or put forth effort. The Case 2 PMs also noted that some students were focused on getting a grade rather than understanding the course content. On the positive side, PMs commented that some student-mentees performed better on assignments, were thinking about and discussing the assignments, were actively engaged in the group activity, and established outside-of-class learning groups. In addition, the Case 2 PMs also noted that they developed collegial and collaborative relationships with students who were not in their PM group.

All the PMs overlooked acknowledging their personal benefit in favor of acknowledging mentee outcomes. This overlooking of personal benefit was consistent in mentoring studies that

included a mentor perception component (Pullins & Fine, 2002). With the idea of mentors having gained an empathetic understanding of the realities of the mentee, Pullins and Fine guided us back to the idea of a thought community (John-Steiner, 1987) where both parties were expected to receive benefit from the interactive exchange of ideas and knowledge.

All six of the PMs in this study stated they would gladly be a PM again. As a matter of fact, two of the pilot PMs performed the role of PM again in Case 2. The outcomes for the PMs were beyond expectations. First, they received three-on-one time *each* week with the professor in a course that was of interest to the PM. They improved the depth and clarity of their own knowledge. They met new people with similar interests. Finally, *Proximal Mentoring* may be a key to completion of doctoral programs.

Future Research About The Outcomes of Proximal Mentoring

Longitudinal studies of the long-term benefits of having *Proximal Mentored* might show increased completion of programs of study, increased knowledge of the subject matter, increased ability to interact in collegial and collaborative ways, and effects of long-term relationships with the student-mentees and the professors.

Zone Of Proximal Development

The Case 1 PMs identified their role as more of teacher than as peer or mentor. The Case 1 student-mentees focused on gains in learning of the course materials and the social aspect of having the PMs lead their group. Based on the definition of the ZPD, these findings indicated that the PMs acted within the ZPD of the student-mentees for this course. According to the case professors these student-mentees performed better with the assistance of the PM than prior students without assistance. While the Case 1 PMs commented that they had some new learning and some reinforcement of knowledge, the majority of the Case 1 PMs comments focused on the outcomes for their student-mentees. The PMs acted as a *more experienced other* within the ZPD of their student-mentees.

Case 2 PMs identified their role as more mentor than peer or teacher. While student mentee performance was one focus, the Case 2 PMs noted gaining clarity and greater

understanding of the topics of the course themselves. Case 2 PMs also noted providing more traditional mentoring activities, such as program guidance, advice, and collaboration, as part of their PM role. In this case, the PMs acted as a more experienced other within the ZPD of their student-mentees.

A Case 2 PM wrote:

> It was different being on the mentor side of the fence. We are placed in a different role; as a result we see things differently. Now I can see the difference between the strong student who views the course content as something more than just another class where you try for the A. The strong student was in it for something more valuable, more rewarding – the pursuit of knowledge and understanding. . . . The course provides the foundation for creating a lens through which you can evaluate all educational research. However, this was lost on some. They do not recognize the value.

ZPD For The Researcher

As I concluded this writing endeavor, I noted that my own participation in the ZPD was both recursive and progressive. My own knowledge base increased with each analysis of the data and each revision of the dissertation. Even as I was PM to the first- and second-year PMs, my primary advisor was PM to me, bringing me into the doctorate academy one agonizing word after another. And now I, with this experience fresh in my mind, pass this knowledge on to those who follow me so they can step into the journey a little more prepared than I was.

Implications

This dissertation introduced a new construct of *Proximal Mentoring* within the theoretical framework of Vygotsky's (1978) ZPD. The construct was investigated from three perspectives: course professor, *Proximal Mentor*s, and student-mentees. The outcomes for all parties were noted as beneficial even in light of some issues in implementation.

A determination about the distance between *Proximal Mentor*s and the student-mentees as well as between the *Proximal Mentor*s and the distal/distant/expert/traditional mentor was

beyond the scope of this study. However, by placing each component on a continuum, we began a discussion of how future research could address the issue of experiential distance between the participants (Figure 5-1).

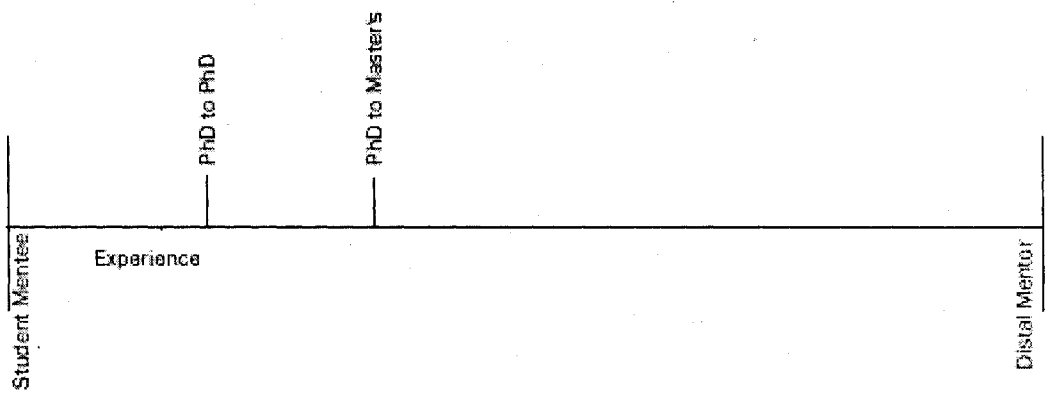

Figure 5-1 *Proximal Mentoring* Continuum

A continuum would place the student/mentee/novice at one end and the distal/distant/expert mentor at the other end with experience being the continuum. In this view, the term *proximal* appeared to have two components. The first was experiential distance from the mentees to the PMs. The second was experiential distance between the PMs and the distal (expert) mentor.

At the doctorate level, PMs more fully expressed the PM role within the ZPD for themselves as well as the student-mentees. The major point of contention for the student-mentees was the idea of the traditional role mentors as knowledge experts. In future research, student-mentees need to be told the nature of the PM role to include their desire to obtain more exposure to the content as part of the process of becoming an expert. A secondary point of contention for student-mentees was their lack of understanding of their role as a doctoral student and the collegiate and collaborative expectations in doctoral work. Many of the negative comments from the Case 2 student-mentees concerned PMs providing content feedback, PMs review of student

mentee course assignment submissions, and having to work in groups. PMs and the course professor noted a propensity of some students to do only what was required for the grade, accepting lecture and content without critical reflection, and the perceived lack of effort and lack of participation in class as well as within the group by student-mentees.

By participating in this research, the students acting as PMs not only experienced the course materials at a deeper level, they also began the process of training for teaching positions within higher education, received an opportunity to participate in a collaborative-teaching relationship with the professor; and had an opportunity to engage in scholarly discourse on a topic of interest with a small group of like-minded others in addition to receiving three graduate credits to applicable as electives in their overall doctoral program.

Although not directly addressed by professors, the professors experienced the 'traditional' doctoral student seminar format classes. The professors were able to interact one-on-three or one-on-four seminar interactions with doctoral students who had read the work, researched outside of the assigned reading, written on the subject, and came to the seminar ready to hold verbal discourse on a topic of mutual interest. This *proximal mentoring* study provided an opportunity for the professors and PMs to create a true *community of thought* (John-Steiner, 1987) between the professor and the PMs. Within this community of thought, PMs were encouraged to "bolster, to highlight, and to sharpen our understanding of the ways in which we think (p. 9).

Future Research on the Proximal Mentoring Within the ZPD

The *Proximal Mentoring* role within the theoretical framework of the ZPD needs to be more fully investigated. As indicated by this dissertation, *Proximal Mentoring* was more effective for the *Proximal Mentor* when second or third year doctoral students *Proximal Mentor* first or second year doctoral students – regardless of how the novice doctoral students perceived the PMs. When first or second year doctoral students attempted to *Proximal Mentor* in a master's level course, the PMs were seen more as an extension of the instructor rather than as a *Proximal Mentor*. Indeed, this research indicated their role was more instructional and facilitative than it was mentoring into the *ways of being* in graduate school. This could have been because

the PMs were first time PMs or it could have been the experiential difference between second-semester doctoral students and master's students.

Potential Significance

Proximal Mentoring has potential significance to all instruction. For example, programs of learning in education should consider ZPD *proximal mentoring* between levels, grades, and/or years as appropriate. The results of this study suggest that new teachers might benefit from a *proximal mentoring* relationship with both a practicum student and a second- or third-year teacher in addition to the mentoring guidance from an expert teacher. Children might also benefit from receiving *proximal mentoring* from the next higher year or level while also benefiting from being *proximal mentors* to the next lower year or level.

At the same time, these collaborations offer renewal for the experienced individual and the use of shared knowledge for the novice's development of self. From a Vygotskian point of view, these interactions are central to the transformation of the novice into an experienced thinker. (John-Steiner, 1987, p. xxiii).

Finally, but certainly not least in importance, this research could enable doctoral programs to reach out to the non-traditional community of learners. These students might not feel forced to participate in social events that take valuable time from family and work responsibilities if they can take a course that enables them to interact in a scholarly manner; thus fulfilling both a course requirement and the social interaction necessary for the deeper learning needed for expertise. Perhaps the 50% non-completion rate in the non-traditional programs of study can be partially alleviated with the introduction of PMs to the program.

Recommendations

When incorporating *Proximal Mentoring* into a course, it was recommended that the professor, the PMs and the student-mentees understand that the PMs are still learners. Using the theoretical framework of the ZPD and the PM construct, it could be more appropriate to call the traditional expert mentor a distal mentor (R. E. Reynolds, Personal Communication,

December 2004) to distinguish them from the *Proximal Mentor*. The most negative common remark from the student-mentees revolved around the idea of mentor as expert. Letting student-mentees know the exact nature of a *Proximal Mentor* could enable smoother interactions between PMs and student-mentees.

Future Research About the Construct of Proximal Mentoring

The scope of this dissertation was the perceptions of the people who implemented, received, or performed *Proximal Mentoring*, how the role was expressed, and what the PMs gained by having *Proximal Mentored*. Future research of the construct will need to include a more detailed definition of the term *proximal* as it pertains to mentoring.

While not addressed in this study, the role of individual differences of the PMs and/or the groupings of the three to four individuals as PMs, may have had an influence on the apparent success of the intervention. The PMs in this study were volunteers that were purposefully selected. Future research might investigate the outcomes of random assignment of PMs to the role. In addition, PMs might be both matched and mismatched on a variety of characteristics and/or interests congruent with the goals of individual programs to determine which pairings of PMs with student-mentees would be most successful.

Beyond graduate education, the PM construct might be implemented in undergraduate courses. For example, a longitudinal study of students in teacher-education programs being matched with students both ahead and behind them in their program of teacher-education could determine the impact of *Proximal Mentoring* on the future retention of new teachers.

Conclusion

As these participants took on the role of *Proximal Mentoring* other students, they did so with all the gravity one would expect from a seasoned mentor. They were professional, pleasant, kind, caring, sharing, concerned, and most other positive adjectives one might think of concerning distal mentors, as they interacted with the student-mentees. Even the most difficult of student-mentees were a source of positive, solution oriented discussion in the PM meetings.

According to all participants, the *Proximal Mentoring* construct was successful in improving content-based knowledge for the PMs, improved over-all student-mentee performance in the course, and assisted the professors in being more prepared for the courses they were teaching. Student-mentees volunteered to be future PMs and the PMs who participated in the study for the first time volunteered to be PMs again. However, the fact that *Proximal Mentoring* within the two courses did not continue was troubling.

Even though both professors stated they wanted to continue the practice, the PMs were willing to participate again; and the student-mentees were in agreement that they received benefit from participating in this study, implementation did not continue. This leads me to think that, at least in the beginning, implementing *Proximal Mentoring* requires a liaison. The role of the liaison would be to make all the arrangements, track who was supposed to be where doing what, and be available to interface with both professors and PMs. That liaison could be the person assigned the *instructor* position for the *Proximal Mentoring* course.

APPENDIX 1

EMAIL TO POTENTIAL PARTICIPANTS

Subject: Research Opportunity

Hi (name of advanced graduate student),

I would like to offer you the opportunity to participate in research I am doing for my dissertation on mentoring. I am investigating the outcomes of having more experienced students mentor less experienced students. In this case, graduate students mentoring master's students. Dr. Perkins, Dr. Putney, and Dr. Reynolds have identified you as a potential mentor for this study because you might have an interest in the topic area (adolescent development and/or human growth and development) and you might enjoy working closely with a professor of renown. In addition, you have progressed in your program, communicate well in writing, and might receive personal benefit from being a mentor to the master's students.

To further entice you to consider participating in this research; this opportunity comes with 3 credits of EPY 782 or EPY 780 which can apply to your overall program – so you will not lose any credits by rearranging your spring schedule to participate. I would also like to offer to share with you the dissertation process as we go through this study so that you might be better prepared when the time to do your dissertation comes.

Dr. Peggy G. Perkins has offered to accept mentors into her two courses for spring semester. You would be able to select either EPY 707 – Adolescent Development (Thursdays at 4pm) or EPY 711 – Human Growth & Development (Tuesdays at 4pm) in which to do the mentoring.

If you accept, you would be expected to:

Sign and return the attached consent form;

Enroll in EPY 782 for 3 credits (Dr. Perkins is your professor for the course);

Then:

For course credit:

Select a username/login for the Mentoring WebCT course

1. Create a pseudonym for the online materials
2. Complete the mentoring course assessments:
    1. Epistemological Beliefs Survey
    2. Need for Cognition Scale

Attend the course of your choice (707 or 711) each week

1. Moderate in-class discussion groups
2. Present 15 minutes of lecture on one to three course topic(s) of your choice with approval of the course professor

Meet with the course professor each week (outside of the course times above)

1. Assist with design, administration, and review of in-class assignments
2. Assist with design, administration, and review of homework assignments
3. Assist with design, administration, and review of course assessments

For the research:

1. Participate in 4 face-to-face research meetings (food will be provided - dates and times to be determined by availability of all mentoring participants)
2. Participate in WebCT discussions with the other mentoring research participants
3. Answer short questions each week on WebCT about your mentoring experiences
4. Participate in one 60- to 90-minute focus group after course grades are recorded
5. Complete the pre- and post-mentoring surveys

I sincerely hope that you are able to rearrange your course schedule for spring so that you can participate in this research project. If you have any questions about this offer, please feel free to contact me, Dr. Perkins, or Dr. Putney.

Please let me know if you will be able to make time in your schedule to participate.

Thank you,

APPENDIX 2

PRE- AND POST-MENTORING SURVEY

In this course, you will be assigned a mentor. Prior to assignment, we would like to ask you about your mentoring, peer, and tutoring relationships and ideas. There are no wrong answers to this survey. Please be entirely honest with your responses. Every effort will be made to ensure your privacy and anonymity. To this end, please use the identification code you selected in class when answering this survey.

CODE:

Describe a peer:

Describe a mentor:

Describe a tutor:

Describe the difference between a mentor and a tutor:

Describe your ideal mentoring experience:

Have you ever worked with a tutor?

If yes, please describe the experience you had with the tutor:

Have you ever worked with a mentor?

If yes, please describe the experience you had with the mentor:

What do you expect from a mentoring experience?

What do you expect the mentor to do?

What do you think mentors expect of you?

What percentage (out of 100) of the mentoring process is (please provide examples):

Knowledge based? _____

Socially based? _____

Instructionally based? _____

What characteristics would you want in a mentor?

Create a concept map of mentoring: What are some things that come to mind when you think of mentoring?

APPENDIX 3

POST-MENTORING SURVEY

In this course, we implemented a new instructional practice wherein you were assigned a mentor for the course. Now we would like to ask you about your mentoring, peer, and tutoring relationships and ideas. There are no wrong answers to this survey. Please be honest with your responses. Every effort will be made to ensure your privacy and anonymity. To this end, please use the identification code you selected in class when answering this survey.

CODE: _____

What percentage (out of 100) of the mentoring process was (please provide examples):

Knowledge based? _____ Socially based? _____ Instructionally based? _____

How did the instructional practice of assigning mentors influence your ability to perform the tasks required of you in this course?

How did the instructional practice of assigning mentors influence your perceptions of the graduate program?

Thinking back to the beginning of the semester, how did this mentoring experience meet your expectations?

Thinking back to the beginning of the semester, how did this mentoring experience NOT meet your expectations?

Would you recommend we continue this instructional practice of incorporating mentors in this course? Circle one: YES or NO

List 2 things you liked about the mentoring practice:

List 2 things you disliked about the mentoring practice:

How can we make this instructional practice better?

APPENDIX 4

CROSS-CASE COMPONENTIAL ANALYSIS SUMMARY

Table A-1 Cross-Case Componential Analysis Summary

	Professor		Student-Mentee		PM	
	Case 1	Case 2	Case 1	Case 2	Case 1	Case 2
Research Question 1						
Achievement	X	X				
Enrichment - Personal	X					
Enrichment - Research		X				
Role - Extension	X					
Role - Partnership		X				
Research Question 2						
Role of tutor			X	X		
Role of Mentor				X		
Perceptions of Graduate Program			X	X		
Variability of Individual Responses			X	X		
Research Study			X			
Perceptions of Knowledge				X		
Fear				X		
Research Question 3						
Negotiation					X	X
Definition					X	X
Lead					X	X
Advise						X
Respond					X	X
Participate in Research						X
Outside-of-Class Contact						X
Research Question 4						
Groups					X	X
Learning					X	X
Answer Lecture Questions					X	
Theoretical Stance						X
Outside-of-Class Contact						X
Involvement in Research Projects						X

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