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The content of electronic mentoring: A study of special educators participating in an online mentoring program

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THE CONTENT OF ELECTRONIC MENTORING: A STUDY OF SPECIAL EDUCATORS PARTICIPATING IN AN ONLINE MENTORING PROGRAM

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy

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DEDICATION

I dedicate this dissertation to the people that have remained by my side as I experienced my trials and tribulations along the way as I progressed from GED to Ph.D.

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ABSTRACT

THE CONTENT OF ELECTRONIC MENTORING: A STUDY OF SPECIAL EDUCATORS PARTICIPATING IN AN ONLINE MENTORING PROGRAM

By Roberta Gentry, Ph.D.

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy at Virginia Commonwealth University.

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Major Director: Evelyn Reed, Ph.D., Associate Professor
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The purpose of this study was to describe the content and frequency of interactions that occurred in an electronic mentoring program involving beginning special educators and their mentors. In addition, the characteristics of mentors' and mentees' and perceived outcomes of mentees' were provided. This study sought to address questions about the types of support that new special educators seek and receive. A mixed method research design was utilized to explore the archived transcripts of mentors' and mentees' discourse as well as mentees' and mentors' post-surveys. Data were analyzed through the use of quantitative and qualitative methods and interpreted through the use of Interstate Teacher Assessment and Support Consortium standards, How People Learn framework, and documented needs and concerns of beginning special educators based on a review of literature. Surveys responses included

descriptive information and perceptions of beginning teachers concerning their levels of preparedness at the completion of the pilot program. This study provides an understanding of electronic mentoring within one program in order to inform efforts for mentoring and induction of beginning special educators.

Keywords: mentoring, induction, electronic mentoring, special education teachers

CHAPTER 1. INTRODUCTION

The goal of public school systems is to provide high quality education to students; and parents send their children to school fully expecting that well-trained, dedicated teachers will provide a quality educational experience. In many sectors of our society these expectations are not being met (Rosenberg & Sindelar, 2001). Anticipated retirements, increasing student enrollments, and teacher attrition have converged to create a national demand for thousands of new special educators (Kelly, 2004). The quantity, quality, and stability of special educators are essential to ensure appropriate educational services for students with disabilities, but this has been a critical concern for decades (Guarino, Santibanez, & Daley, 2004). Although there are numerous factors that contribute to this problem, a primary concern is teacher attrition. The Teacher Attrition and Mobility results from the 2008-2009 Teacher Follow-up Study revealed that total special educator attrition was 20.3%, with 10.5% leaving the profession altogether, while 9.8% moved to another school or to general education (Keigher, 2010).

To reduce attrition of all teachers, mentoring and induction programs have been implemented and increased support is correlated with intent to stay in teaching (Gersten, Keating, Yavanoff, & Harniss, 2001) and retention (Smith & Ingersoll, 2004). Keigher (2010), based on the Teacher Follow-up study results from 2008-2009, that 74% of beginning teachers reported participating in an induction program and 80% reported having a mentor; both figures reflect substantial increases from the previous year (Keigher, 2010). Despite increased

induction and mentoring programs for new teachers, attrition continues at higher rates for special education teachers, which results in increased numbers of first-year special education teachers (Carroll & Foster, 2010; Goldrick, 2011). A contributing factor may be that mentoring and induction programs vary widely (Ingersoll & Kralik, 2004) "from no support to access to well-developed mentoring and induction programs" (Bay & Parker-Katz, 2009, p. 22). To address this critical need, factors that reduce attrition and contribute to special educator retention need to be examined.

Within the field of special education, teacher attrition is the major contributing factor to the inadequate supply of special education teachers with estimates of 30% leaving within their first 3 years and 50% leaving within 5 years (Brill & McCartney, 2008; Darling-Hammond, 1997; Ingersoll, 2001; Ingersoll & Smith, 2003). Butler (2008) reported that special education teachers were two and a half times more likely to leave their positions than teachers in other disciplines. Retaining a stable special education teaching force is critical to the quality of student learning, especially in light of persistent achievement gaps between students with disabilities and their peers (Pugach, Blanton, Correa, McLeskey, & Langley, 2009).

Boe, Cook, and Sunderland (2008) concluded that teacher retention is unlikely to increase without dramatic improvements in the organization and management of public schools; until this occurs, an increased supply of qualified teachers is needed to reduce teacher shortages. In addition, the quality of our nation's schools depends on the quality of the nation's teachers. Darling-Hammond (1995) declared that the knowledge, skills, abilities, and commitments of teachers today will shape and inform what is possible for the future generation of students. Rivikin, Hanushek, and Kain (2005) stated that the most important

school-based factor determining how much a child learns is based on the quality of the teacher, and Saunders and Rivers (1996) provided convincing evidence that students taught by effective teachers perform significantly better than those assigned to ineffective teachers.

"Assisting beginning teachers in their development towards becoming competent professionals is critically important" to strengthen the educational system (Reynolds, 1990, p. ii). Darling-Hammond states, "If there is anything that we could do and should do to improve the quality of teaching and ensure the stability of the workforce, it is to provide better, more substantive support for our newest teachers" (Darling-Hammond, Berry, Haselkorn, & Fideler, 1999, p. 185). Providing responsive support systems during the beginning years will not only reduce teacher attrition, but also support the quality of services that students receive (Athanases et al., 2008; Billingsley, Carlson, & Klein, 2004).

New teacher support is a critical component of a comprehensive solution to achieving excellence in teaching quality, but there is variability in the focus of support programs for beginning teachers. Currently, they range from buddy systems which provide social support to comprehensive, systematic induction programs with trained mentors providing structured support focused on improving new teachers' instructional skills (New Teacher Center [NTC], 2007). Many induction programs are based on improvised models of support focused on psychological well-being and providing district and school level information to beginning teachers. However increased emphasis on student achievement requires induction programs that focus on improving teaching practice and raising student achievement.

Strong and colleagues conducted two studies to examine student achievement gains in classrooms where teachers had participated in a comprehensive induction and mentoring

program focused on standards-based formative assessments during novice's first 2 years of teaching. In the first study, Strong (2006) found that students of beginning teachers who received comprehensive, multiyear induction support achieved reading gains at rates not significantly different than those of more experienced teachers in the same district. In the second study, Villar and Strong (2007) demonstrated induction's potential for improving student learning, and "performed a cost-benefit analysis to determine whether comprehensive mentoring for beginning teachers makes financial sense" (p. 1). Using reading achievement data collected over a 4-year period, benefits were estimated by measuring teacher effectiveness in terms of the gains their students made in annual achievement tests scores as a class. Aggregated class achievement of new teachers in the mentoring program was compared to students' achievement of more experienced teachers.

> Classes taught by the new teachers in the comprehensive mentoring program realized reading gains that were equivalent to the gains of classes taught by more experienced teachers despite being assigned to classrooms that had lower initial achievement and higher representation of English Language learners (Villar & Strong, 2007, p. 10).

The first year of teaching influences teachers' development and their decisions about continuing to teach (Borko, 1996; McDonald, 1980; Nemser, 1983). The transition from the familiar and comfortable role as a student and learner to a teacher working in a classroom can result in a re-evaluation of expectations, changes in belief systems, and disillusionment about teaching (Blasé, 1985; Lortie, 1975; Veeman, 1984). Beginning teachers need support if they are to become competent professionals (Reynolds, 1990); however, working conditions are frequently not conducive to their professional development or success. Promoting the

continuity of the learning process and the developmental stages in becoming a professional teacher, induction programs are the critical link between theory learned at the university and application of theory in the school setting. Transition into teaching has been described as sudden, particularly without systematic induction programs. While beginning teachers are still learning to teach, they are also expected to fulfill the roles for which they were hired (Wildman, Niles, Magliaro, & McLaughlin, 1989). The beginning teacher, with limited practical knowledge and experience (Feiman-Nemser, Schwille, Carver, Yusko, 1999), must demonstrate skills and abilities that are still developing (Schon, 1987). Wildman et al. (1989) pointed out that, "We often ignore the fact that beginners have much to learn about teaching and little knowledge related to this new role" (p. 472). This transition is difficult for beginning teachers because much of what they need to know is learned in their current positions, however, their coworkers and administrators may expect that new teachers are already knowledgeable. New teachers may be afraid to ask substantive questions about pedagogy, and often rely on their mentors for emotional support and district level information (Feiman-Nemser, 2001a). Research on teacher development and induction purports that beginning teachers need frequent opportunities to share their pedagogical concerns and solve problems with experienced teachers (Hammerness et al., 2005).

The primary purpose of this study was to examine a pilot mentoring project which links novice and experienced special educators through an electronic platform. Although this approach may have obvious limitations (e.g., lack of onsite observation and feedback which is a key component in systematic mentoring programs), it is being tested as a method to increase support for new special educators who lack access to experienced teachers in their specific

disciplines. Computer mediated communication (CMC), offers a unique advantage for studying the actual content of the dialogues between new special educators and their mentors, because it provides a written record of their communications. Specifically, these electronic transcripts can be analyzed to examine the nature of the issues which dyads address, including new special educators' concerns, professional competencies, and key factors identified in teacher development and special educator development research.

Conceptual Framework: How People Learn

Effective teaching requires specialized knowledge of the learners, the learning process, curriculum, and pedagogy. The goal of effective teacher development and mentoring is the improvement of teachers' knowledge and skills to ultimately impact student achievement (Garet, Porter, Desimore, Biram, & Yoon, 2001; Weiss & Weiss, 1999). One of the greatest challenges for new teachers is the need to be proficient from the moment they enter the classroom (Kealy, 2010); however, they need ongoing developmental support to build their knowledge, skills, and dispositions for teaching. From a social constructivist perspective, knowledge is generated by groups and is based on shared perceptions and understandings mediated by social tools, such as language, social protocols, and cultural practices (Vygotsky, 1978). With an emphasis on teacher development within a professional community, the Learning to Teach in Community framework provides a "set of lenses on any teaching situation that teachers can use to reflect on and improve their practice" (Darling-Hammond, 2005, p. 10).

Darling-Hammond (1995) declared that transforming teaching and learning is based on an understanding of students – not only what they know, but also how they think. In order to build these understandings, teachers must develop tools for assessing students' thinking,

understanding students' prior knowledge, and connecting with students' families and communities because these connections are central to the learning process. Students construct knowledge based on their previous understandings and experiences (Brown, Collins & Duguid, 1989; Resnick, 1987) and learning is best facilitated through a strengths-based approach; thus teachers must understand how students think as well as what they know (Gardner & Hatch, 1989; Kornhaber & Gardner, 1993). This requires knowledge of subject matter and a repertoire of teaching strategies, but Darling-Hammond (1995) states that teachers need to learn these skills on the job. "Like students, teachers must construct their own understandings by doing, by collaborating, by inquiring into problems, trying and testing ideas, evaluating and reflecting on the outcomes of their work" (Darling-Hammond, 1995, p. 24).

Schlechty (1985) recommended that beginning teachers have opportunities to meet to develop the sense of being members of a group that share an ordeal and to understand that others are experiencing the same stress. Electronic mentoring (e-mentoring) might provide this opportunity while reducing isolation and fostering professional growth. Carter and Richardson (1988) suggested that networking among beginning teachers would allow beginning teachers to develop understandings of teaching. E-mentoring provides an ideal format for bringing together groups of teachers from multiple schools, thereby reducing isolation that leads to attrition. Gareis and Nussbaum-Beach (2007) found that e-mentoring allowed novices to (a) interact with mentors by asking questions on pertinent issues, (b) seek others who are experiencing similar problems, and (c) simply vent.

Strong professional communities are built on teachers who regularly engage in discussions with colleagues about their work. By engaging in extended conversations that

scrutinize beliefs about teaching, learning, and instructional practice, teachers can examine the assumptions basic to quality practice (Newman, 1992). Reflection upon practice leads to deepened understandings of the process of instruction and of the products created within the teaching and learning process. The opening up of one's practice to scrutiny also encourages teachers to ask questions about their practice and to view it in a more analytical fashion. In this way, teachers also come to know each other's strengths and can therefore more easily find "expert advice" from colleagues. Researchers speculate that responses may be more reflective in online discourse due to having time to think about and reflect on the response prior to sending it (Gareis & Nussbaum-Beach, 2007; Single & Single, 2005).

Discourse is a tool to socially construct knowledge because it enables the expression of ideas; individual understanding derived from collective knowledge; and is dependent on the identity of the community that practices it (Grimberg, 2006). Discursive practices, which are a combination of language, actions and culture (Gee, 1996), are associated with the process of knowledge construction and constitute a link between collective and individual knowledge (Grimberg, 2006). Reflective communication has been shown to have positive effects on the growth of teacher practice (Raizen, Huntley, & Britton, 2003; Stansbury & Zimmerman, 2000) and the professional development literature frequently recommends the use of reflection to fill the gap between professional knowledge and the changing situations of practice in which professions find themselves. Zeichner (1992) explains that reflection is considered one of the primary tools for facilitating the development of competence and ultimately expertise in novice teachers. However, Hussein (2006) cautions that it is inappropriate to expect beginning teachers to be reflective simply because they have been asked to reflect on a topic; rather

beginning teachers need to be provided a support structure in which a variety of formats and opportunities for reflection are made available. CMC provides the opportunity to understand communication patterns, forms, functions, conventions, and subtexts, which can in turn engender an understanding of how people derive meaning within such contexts (Naidu & Jarvela, 2006). An e-mentoring environment may be the support structure needed to assist beginning teachers with the use of reflective practices.

Adaptive Expertise

To be effective teachers, Darling-Hammond, Bransford, and LePage (2005) argue that teachers must be adaptive experts, modifying and adjusting instructional strategies and methods, and continually innovating to meet the needs of diverse student populations. Adaptive expertise entails developing decision making and problem-solving strategies while simultaneously acquiring a solid foundation in content knowledge that they teach. This combination of knowledge and abilities promotes effective innovation when teachers encounter dilemmas and new situations in their teaching practice (Bransford, Darling-Hammond, & LePage, 2005). Adaptive experts possess metacognitive strategies to recognize the limitations of their current knowledge as well as the ability to apply knowledge effectively to novel problems. This flexible application of knowledge underlies adaptive experts' greater tendency to enrich and refine their knowledge structures on the basis of continuing experience or to learn from problem solving (Bereiter & Scardamalia, 1993; Bransford, Brown, & Cocking, 2000; Hatano & Inagaki, 1986). While routine experts typically assume that their current knowledge is correct, adaptive experts draw on their knowledge in light of situational factors to formulate possible explanations, so that their knowledge is expanded through problem solving.

Bransford, Derry, Berliner, Hammerness, and Beckett (2005) state that "adaptive experts are able to approach a new situation with flexibility and learn throughout their lifetimes" (p. 48). These skills can be fostered by mentors who view mentoring as a teacher development process rather than a process focused on providing district and school procedural information and emotional support.

Bereiter and Scardamalia (1993) state that the processes of adaptive expertise can be used in all learning experiences through examining practice and progressive problem solving. Research has shown that instructional decision making, lesson planning, and other aspects of teachers' everyday practice can be important loci for the development of expertise (Ball & Cohen, 1999; Shulman, 1987). Adaptive expertise is viewed as a balance of mastered skills, knowledge, and abilities, and the ability to let go of routines in applying knowledge to new contexts—or the ability to approach familiar problems in new ways. Social interaction can assist individuals to recognize the need to change while learning from others and is often the key to change (Crawford & Brophy, 2005). Adaptiveness entails actively seeking feedback from those who are not likeminded and involves the willingness to take risks and make mistakes in attempting innovation. To foster innovation, cyclical problem solving in which learners have an opportunity to try something out, obtain feedback, and try again can be used (Crawford & Brophy, 2005); thus, interactions with mentors can provide a catalyst for reflections, problem solving, and innovation to address the challenges of learning to teach.

Statement of the Problem

Providing a high-quality education for all students is a major challenge that increases in difficulty when poorly prepared teachers assume this responsibility. No Child Left Behind

(NCLB, 2001) clearly delineates the critical role of teachers in promoting higher and more equitable achievement for students in the United States by requiring "highly qualified" teachers. Furthermore, the Individuals with Disabilities Act (IDEA, 2004) guarantees a free appropriate public education to students with disabilities that is also dependent on well-prepared educators. Research also supports a clear link between the quality of teaching and its impact on student achievement finding that students with comparable initial achievement levels have significantly different academic outcomes based on the sequence of teachers to whom they are assigned (Darling-Hammond, 1997, 1999; Saunders & Rivers, 1996). Without teachers who have sophisticated skills for teaching challenging content to diverse learners, children from all racial and ethnic, language and socioeconomic backgrounds will not reach the high academic standards envisioned by the law (Darling-Hammond, 2007).

Developing a qualified workforce and creating work environments that sustain special education teachers are important to prevent inadequate educational experiences, reduced achievement levels, and insufficient competence of graduates for the workplace (Billingsley, 2004a). The severe, chronic, and pervasive shortage of fully certified special education teachers (Billingsley & McLeskey, 2004) exists in every region of the United States, however, few teaching positions are left unfilled. Vacancies are filled with less-qualified teachers, such as substitute teachers, uncertified personnel, and teachers trained in another subject or grade level (Ingersoll, 2001). McLeskey, Tyler, and Saunders Flippin (2004) found that nationally 11% of special education teachers were not fully certified; this means that approximately 800,000 students were taught by teachers who were not fully certified and some students were never taught by a fully licensed special education teacher (Esposito & Lal, 2005). Retaining and

supporting new teachers is an important goal because new teachers show significant growth in their first few years (Wynn, Carboni, & Patall, 2007), especially when that support focuses on their effectiveness in promoting student achievement and meeting professional standards (Berry, Hoke, Hirsch, 2004; Fideler & Haselkorn, 1999; Fletcher, Strong & Villar, 2008; Huling-Austin, 1990).

Statement of the Purpose

The study contributes to the development and assessment of mentoring programs for new special education teachers. In order to address questions about the types of support which new special educators seek and receive, this study analyzed the online discourse between mentors and mentees through the application of teacher development models, professional standards, and unique concerns of special educators.

Many reasons have been used to explain the disparity between the increase in induction programs and the continued attrition rates for special educators. Fox and Singletary (1986) reported that the concerns of beginning teachers and attrition outcomes are well known, however, little is known about programs that assist them during the crucial induction period. Carver and Feiman-Nemser (2009) stated that prescriptions about induction and mentoring abound, but information about the characteristics, quality, and effects of induction programs and policies remains limited at both the research and policy levels. The field has examined mentoring and induction programs by comparing formal and informal programs, providing detailed descriptions of individual programs, and relying on programs in general education to inform practice in special education (Griffin et al., 2009). These studies rely on case studies involving a few teachers, surveys soliciting opinions and perceptions about mentoring, and

evaluations of existing programs. The literature base has been described as "fragmented, lacking a cohesive conceptual framework, and containing numerous methodological limitations that are liable to compromise the implications one is able to draw from the literature" (Griffin, 2010, p. 14). While induction programs have the potential to address beginning teacher quality and retention (Kamman & Long, 2010) and have increased in number, and many scholars agree that induction is an important support for beginning teachers (Billingsley et al., 2004; Cochran-Smith & Lytle, 1999; Feiman-Nemser, 2001b; Wang, Odell & Schwille, 2008); the research is less conclusive (Kamman & Long, 2010).

Most existing research has focused on the emotional needs of beginning teachers, the levels and frequency of support, and the characteristics of the mentors. Novice special educators have expressed a multitude of challenges (Billingsley, Griffin, Smith, Kamman, & Israel, 2009) including curriculum planning and instructional delivery, (Gareis, 2005); classroom management (Bullough & Draper, 2004; Feiman-Nemser & Parker, 1990; Griffin, Winn, Otis-Wilborn & Kilgore, 2003; Wang & Odell, 2002; White & Mason, 2006); inclusion, collaboration, and interactions with adults (Billingsley et al., 2009); and difficulty managing multiple roles (Billingsley & McLeskey, 2004). Studies have documented that working with a mentor can reduce new special educators' stress and anxiety (Whitaker, 2000a; White & Mason, 2006), enhance their satisfaction and confidence (Boyer & Gillespie, 2000), and is associated with better teacher retention (Billingsley, 2004; Miller, Brownell, & Smith, 1999). In addition, studies of beginning teachers documented their preference for informal forms of support over formal programs (Billingsley et al., 2004); preference for observations by mentors (White, 1995); and beginning teachers avoid seeking help especially if their mentor has an

evaluative role (Feiman-Nemser, 2001b; Johnson & Birkeland, 2003). New special educators also face unique challenges such as teaching across a variety of grade levels, meeting the legal requirements of special education, and managing multiple roles (Billingsley et al., 2009).

Thus far, many teacher induction programs have primarily focused on the personal comfort levels of novices (Feiman-Nemser et al., 1999; Gold, 1996) and easing the transition into teaching (Huling-Austin, 1992). Induction programs need to be examined for the extent to which they focus on curriculum and teaching standards (Interstate New Teacher Assessment and Support Teaching Consortium, 1992). Current empirical evidence does not "shed light on how induction activities can advance teacher learning" (Bay & Parker-Katz, 2009, p. 27). New special educators often feel inadequately prepared to meet the complex needs of students across a range of curriculum areas (Mastropieri, 2001) and indicated they needed assistance with finding materials and learning the curriculum (White & Mason, 2006).

Induction programs focused on situational and psychological support do not take into account that even the best teacher training programs do not fully prepare new professionals for full-time teaching responsibilities. The entry into teaching is sudden and beginning teachers are expected to complete the same tasks as experienced teachers. Additionally, new teachers are often assigned the most difficult classes. These factors lead many teachers to revert to survival tactics such as clinging to the first strategy that works without reflecting on practice (Feiman-Nemser, 2001a). Special educators have indicated that they were more likely to stay in teaching when their workload was manageable, their school supportive, and paperwork did not interfere with their teaching (Westat, 2002). Johnson et al. (2001) found that new teachers make their decisions to stay in schools based on the level of support and acceptance they

receive at the building level. Special educators reported that fellow teachers can make their jobs manageable (Gersten et al., 2001). Therefore, the climate within a school and support act as either a support or deterrent in teacher retention (Ingersoll, 2001; Johnson et al., 2001; Westat, 2002).

Developmental Needs of Beginning Teachers

Teacher development is dependent on both preservice education and ongoing support during induction into the profession. Recognition of what preservice education does and does not accomplish is necessary to understand beginning teachers' concerns and needs for ongoing support. Kagan (1992) states, "Preservice students enter programs of teacher education with personal beliefs about teaching, good teachers, images of self as a teacher, and memories of themselves in classrooms" (p. 142), which act as filters for their learning. These prior beliefs and images must be modified and reconstructed for professional learning to occur. Sindelar, Brownell, and Billingsley (2010) found similar issues with special educators, noting that school contexts and "district-sponsored professional development shape what and how beginning teachers teach far more than initial preparation does" (p. 10).

Kagan (1992) also found that teachers enter the classroom with a lack of knowledge about students and acquire this knowledge through direct experience. This process is facilitated by seasoned teachers who provide models by questioning and reflecting on pedagogical beliefs with the beginning teacher. Preconceived images of themselves as teachers rarely conform to their visions and expectations; instead, they are confronted with students with little academic motivation, little interest in learning, and a tendency to misbehave (Bransford, Brown, & Cocking, 2000). The disparity between preconceived images and reality

initially inhibits the growth process because beginning teachers lack procedural knowledge and quickly become consumed with managing behaviors in the classroom (Darling-Hammond, 1999). This may cause the novice to quickly become disillusioned and obsessed with planning lessons based on control of the classroom rather than student learning. During this time, the novice focuses on his/her own behavior rather than the students. It is not until the novice is able to step back from his/her personal beliefs and images that he/she can begin to acquire knowledge of pupils which they use to modify and adapt their images of self as a teacher. Next, they need to acquire procedural knowledge such as behavior management procedures before they can shift their attention to student learning.

Fuller and Brown (1975) proposed a 4-stage model of teacher development: (a) preteaching, (b) concerns for survival, (c) concerns for teaching performance, and (d) concerns for pupils. During the first stage, preteaching, candidates tend to identify with students rather than teachers. During, the second stage, concerns for survival, the teacher is concerned with class control, behavior management, mastery of content, and the teacher's own adequacy to fulfill the teaching role. During the third stage, concerns turn to teaching performance, and in the final stage the teacher focuses on the students. It is during this stage that the teachers become concerned about students' academic and social performance, as well as emotional needs and begin relating to students as individuals. Berliner (1988) proposed a similar progression with teachers' concerns originally focused on procedural and classroom knowledge, with subsequent focus on students' learning. According to Berliner, it is only after effective routines have been integrated into class management and instruction that the teacher can focus on the students and their learning of academic tasks.

Novice educators often do not accurately conceptualize teaching, having spent many years in an "apprenticeship of observation" (Lortie, 1975, p. 123) watching what effective teachers do. But watching what teachers do is not sufficient training for knowing what to do nor how to articulate the purpose of teaching methods to parents and administrators. Mentors can prompt deeper reflection about practice, offer encouragement that supports ongoing growth, and increase job satisfaction needed for teachers to move through more mature career stages (Danielson, 2002a). Several researchers have suggested that multiple mentors may enhance the mentoring process (Griffin et al., 2009; Smith & Ingersoll, 2004; Wang et al., 2009).

Studies focusing on the needs, problems, and concerns of beginning teachers may illuminate concerns of beginning teachers, but these studies do not focus on the core tasks of learning to teach (Carter & Richardson, 1989) and simply retaining teachers may not develop the kind of teaching that fosters deep and complex learning on the part of students (Feiman-Nemser et al., 1999). Frequently missing from some mentoring programs is a coherent structure to enable mentors to guide new teachers in reform-minded, standards based, and critically reflective practices to meet the needs of all learners (Feiman-Nemser, 2001b).

Rationale for the Study of the Problem

While mentoring is widely accepted as a desirable approach for teacher development and retention, the features that distinguish a highly effective program for special educators have not been clearly defined (Billingsley et al., 2009). Whitaker (2000b) stated that little is known about the nature or extent of induction supports that result in special education teacher quality and retention over time. Furthermore, Sindelar et al. (2010) state, "We know nothing

about what happens during mentor and mentee exchanges which requires studying mentoring pairs over time and fine-grained analyses of their interactions" (p. 16).

This study utilized the archived and text-based interactions between special education mentors and mentees, which provided the opportunity to analyze the content of the conversations occurring over time. From analyses of this text-based interaction, evidence of beginning teachers' concerns and development, as well as their mentors' support for problem solving and reflection was observed. Researchers have noted the importance of mentors' nonevaluative roles, which strengthen their focus on novice teachers' professional growth (Boyer, 1999; Gehrke & McCoy, 2007; White & Mason, 2006). White and Mason (2006) found that beginning teachers feared revealing their problems and concerns to mentor teachers who were responsible for their evaluations for fear of losing their jobs; however, when mentors assumed nonevaluative roles, mentees felt comfortable "to ask anything or get anything" (Boyer, 1999, p. 68). In the e-mentoring program, which is the basis for this study, mentors were not involved in their mentees' evaluations, so it was anticipated that their discourse would involve a wide range of concerns for beginning new special educators that was supported by the data.

This study examined the extent to which mentors supported new special educators in addressing their specific concerns. Irinaga-Bistolas, Schalock, Marvin, and Beck (2007) studied 44 beginning special educators and found that of the 83.3% of beginning special educators who received support from their mentors, only 62.5% reported that the feedback was adequate. This study also examined novice special educators' perspectives about their mentors' support. Wong and Wong (2008) stated that the content, duration, and delivery of programs as well as

discrepancies between what mentors are expected to do and what actually occurs, need to be examined. In addition to content analysis, frequency of interactivity across mentoring pairs was also examined.

The need for qualified special education teachers continues to be one of the most serious obstacles to the appropriate and effective education of students with disabilities (Billingsley, 2003). To address the critical concern about attrition, mentoring programs for special educators need to be examined for their effectiveness in addressing the key concerns of special educators as well as professional standards for the field. This examined a new online mentoring program through analysis of online discourse between mentors and novice special educators and the perspectives of mentees about the quality of mentoring support.

Literature and Research Background

In the past, emphasis has been placed on the importance of a face-to-face community of professionals in producing maximum career success (Wellington, 2001), but changes in career patterns have opened the door to alternative mentoring approaches. Given the millions of worldwide Internet users (Hof, 2005) and increasing reliance on technology for personal and professional connectivity, individuals are utilizing email and CMC for relationship development (Sproull & Kiesler, 1999). E-mentoring is defined as "a relationship between a more experienced individual [mentor] and a less skilled or experienced individual [mentee], primarily using computer mediated communication (CMC), that is intended to develop and improve each mentee's skills, confidence, and cultural understanding" (Jaffe, Moir, Swanson, &Wheeler, 2006, p. 94). E-mentoring is relatively new to the field of education, but has been used for decades in business and positive results have been realized (Ensher, Heun, & Blanchard, 2003;

Single & Muller, 2001; Single & Single, 2005). E-mentoring is changing the way mentors and mentees interact (Smith & Israel, 2010).

E-mentoring offers several distinct advantages and holds considerable promise as a means of addressing the needs of novice teachers, reducing attrition, and improving teacher effectiveness. Trained mentors can be drawn from much larger pools of seasoned teachers than that typically available in local schools. Online mentors and novices often develop open, honest relationships due in part to the fact that the mentor is not a member of the teacher's immediate school context, creating a perceived sense of anonymity (Levin & Cross, 2002). E-mentors may also have the advantage of time to develop responses that are more thoughtful and reflective as opposed to those communicated "on demand" in face-to-face mentoring situations (Gareis & Nussbaum-Beach, 2007). Networked technology can provide an opportunity for novices to have continued and frequent contact with mentors and each other, thereby creating a sense of community and shared learning (Bruffee, 1993). E-mentoring can help to combat new teachers' isolation by means of a networked community of peers and mentors (Hawkes & Rosmiszowski, 2001; Naidu & Olson, 1996). According to Smith and Israel (2010), e-mentoring relationships are primarily intended to develop and improve the mentee's skills, knowledge, confidence, and cultural understanding through differentiated experiences based on the mentee's needs and immediate concerns.

The effectiveness of mentoring is closely aligned to the expertise of the mentor as well as the quality and type of support provided to beginning teachers (Nickson & Kritsonis, 2006; Parker-Katz & Hughes, 2008). Several studies examining the content of support (Gehrke & McCoy, 2007; Giacobbe, 2003; Griffin, 2005; Irinaga-Bistolas et al., 2007; Walker-Wied, 2005;

Whitaker, 2000b) found that the content of mentor's interactions are most often in the areas of emotional support and that mentees rate this type of assistance highly. Less attention has been given to mentors assisting new teacher to develop their content knowledge and general pedagogical knowledge. If we trust mentors to have a substantial input into the professional training and development of teachers, we need to be confident that their practices are effective, consistent, and based on existing knowledge (Jones & Straker, 2006). This is largely dependent on the commitment, expertise, and enthusiasm of the teacher performing the mentoring role (Jones & Stacker, 2006). "Keeping new teachers in teaching is not the same as helping them become good teachers" (Feiman-Nemser, 2001a, p. 25). Scheeler (2008) points out that the need to teach teachers to generalize their newly acquired teaching skills continues to be the missing link between preservice teacher preparation and inservice application of skills. In order for the full potential of induction to be realized, it must be framed in expanded terms including teacher learning, student learning, and teacher retention (Bartlett, Johnson, Lopez, Sugarman, & Wilson, 2005). Systematically examining evidence of teacher learning will identify a more complete picture of induction benefits.

The online forum represents a complex learning environment in which collaboration is practiced in a technologically-mediated environment (Kanuka & Anderson, 1998) and holds potential for new forms of collaborative work, study, and community that reduce barriers of time and distance; yet the types of interactions and means by which individuals create new knowledge in online environments are not well understood (Kanuka & Anderson, 1998). Single and Muller (2001) claim that ". . .e-mentoring holds promise for redefining the mentoring relationships and changing the conditions under which mentoring is sought and offered" (p.

122) but the literature is lacking in research that examines the process (the how and why) of implementing e-mentoring programs (Costello-Dougherty, 2008).

As e-mentoring is becoming a popular means of supporting novice teachers, and new online induction and mentoring programs emerge and attempt to incorporate best practices of both face-to-face mentoring and e-pedagogy, it is worthwhile to examine the growing research on the efficacy of e-mentoring while also using the practical knowledge from current e-mentoring programs that support novice teachers. CMC offers a potential solution to the challenge of providing quality content and pedagogy based mentoring to special education teachers, but there is sparse research on e-mentoring. Continued research needs to be conducted to determine the efficacy of e-mentoring as a supplement to face-to-face mentoring as well as a possible replacement. Several researchers have examined online mentoring environments involving teachers, but special education has not been examined.

Electronic Mentoring

E-mentoring is designed to support novice teachers' needs through differentiated experiences based on the mentee's needs and immediate concerns (Smith & Israel, 2010). E-mentoring involves the use of asynchronous and synchronous communication technology to support interaction between participants, allowing them to interact across geographical distances with fewer scheduling constraints; thus, the attainment of mentoring goals is dependent upon the quality and quantity of the interactions between mentors and their mentees. E-mentoring has been used with general education teachers, but has not been examined with special educators. This study examined a pilot e-mentoring program with 68 special educators and trained mentors conducted in 2009.

Attrition significantly impacts the field of special education so an awareness of how e-mentoring works is important to understanding both the advantages and the disadvantages of e-mentoring, especially in the field of special education. In existing mentoring literature, the content of mentoring support is often overlooked; however, the content can provide insight into how novice special education teachers and their mentors focus on critical competencies for special educators.

Electronic mentoring for student success program. The Electronic Mentoring for Student Success Program (eMSS) is a teacher mentoring program developed in 2002 at the New Teacher Center (NTC). The purpose of the program was to explore the feasibility of mentoring beginning math and science teachers to move beyond the survival mode and focus on content-oriented professional practice. The mission of NTC is "to transform the lives of new teachers through intensive, mentor-based induction" (Kepp & Myke, 2009, p. 2). In 2009, the New Teacher Center received funding from state departments of education in Louisiana and Nevada as well as the U.S. Department of Education Office of Special Education Programs to pilot a program to "empower and develop the next generation of special educators providing content-focused mentoring through a national, online technology network"(Kepp & Myke, 2009, p. 2).

"Through eMSS, new and veteran teachers collaborate in an interactive and facilitated professional learning community to exchange information, ideas, and experiences" (Kepp & Myke, 2009, p. 2). In the eMSS program, veteran teachers are matched with mentees to participate in an online mentoring project. The mentees are assigned a mentor from the same grade level and discipline and interact electronically through one-to-one communication

discussing pedagogy and selected content. Mentees also have access to: (a) a nationwide network of special education teachers; (b) content focused online support for the classroom; (c) a guided curriculum that engages mentees in planning, applying practice to their classroom, and reflection with their mentor and a group of teachers working on similar goals; and (d) a vast array of special education resources (NTC, 2010).

Mentors are experienced teachers with strong content area knowledge and evidence of exemplary teaching. Mentors are also granted access to a nationwide network of other mentor teachers, university faculty, and other beginning teachers. Requirements include completion of a 3-week online institute, participation in mentor professional development activities, active participation in eMSS defined as posting a minimum of two times weekly, quality online dialogue, and working with 3 to 8 mentees to guide them through all aspects of the eMSS online environment.

The eMSS network "is designed to promote professional development through dialogue" (NTC, 2010). Mentees work with their online mentor in what is called *Our Place*, a private discussion area for mentees and mentors. Another area of the site is called *Inquiries*. The NTC defines *Inquiries* as "conversation guides designed to help mentees—with guidance from a small group of mentors and a facilitator—to deepen your teaching practice and boost your effectiveness with students" (NTC, 2010, p. 5). These inquiries, described as the core of the eMSS program, are classroom based and each inquiry is flexible and adaptable for mentees teaching situations. The mentee picks an Inquiry in an area relevant to them and takes approximately 6 to 8 weeks to complete. Mentees also participate in a variety of online discussions with other new teachers and their mentors. Facilitators, who are experienced eMSS

mentors with demonstrated ability to be exceptional online mentors, guide discussion areas of mentors and mentees. Facilitators are trained in moderating online discussion groups, providing timely feedback, and posing engaging questions. Paid facilitators are expected to be online daily. In addition, eMSS also provides access to content specialists who are available to help answer content area questions. Content specialists are university faculty who regularly participate in eMSS discussions, answer content questions, probe for understanding, and share information related to their research. *Our Place*, a facilitated mentoring community of one-on-one mentoring, was examined in this study. The source of data was archived transcripts from their asynchronous communications drawn from teacher participants in Nevada and Louisiana who engaged in private discussions with their assigned mentor.

This study sought to determine whether private paired discussions between a beginning special education teacher and a mentor in a computer-mediated environment is an effective avenue for co-construction of knowledge among teachers. Because e-mail lacks the full spectrum of visual and auditory cues that people depend on in face-to-face conversations (Sproull & Keisler, 1986), e-mentoring requires different interaction strategies than face-to-face mentoring to create maximal educational benefits. The two main areas addressed are the content of the conversations and the perceptions of the program based on surveys completed by mentors and mentees.

Research Questions

1. What are the characteristics of the participants in the pilot online mentoring program?

2. What are the perceived outcomes of the participants in the pilot online mentoring program?
3. What is the frequency of interactions between beginning special educators and their mentors?
4. What is the content of the discourse among novice and mentor special educators, by key concerns, Interstate Teacher Assessment and Support Consortium (InTASC) Model Core standards, and the How People Learn framework (HPL)?

Methodology

Qualitative and quantitative methods were used to evaluate the archived data collected by the eMSS program. Descriptive statistics are particularly valuable when an area is first investigated (McMillan, 2008) and were used to describe the population including certification status of mentors and mentees, prior experience with online technology, years taught, age and grade level currently teaching, and perceptions of preparedness for respective roles. The frequency of postings by each participant provides an overview of the amount of interaction between mentors and mentees and sets the context for more in-depth analysis of the interactivity of these relationships. The content of messages exchanged was also examined based on the literature about beginning teachers' needs and concerns, the InTASC Model Core Teaching Standards, and the HPL framework.

Qualitative research examines social settings and the individuals in the setting in order to answer a particular question. Qualitative methods are used to find out what "people do, know, think, and feel by observing, interviewing, and analyzing documents" (Patton, 2002, p. 145). Taylor and Bogdan (1984) described qualitative research as an inductive process in which

researchers gain insight and a deeper understanding through patterns that emerge in the data. Qualitative analysis was conducted of mentee and mentor posts in an e-mentoring program. Analysis was conducted using the one-to-one communications that occur between the mentor and mentee with a focus on the content of support.

Summary

In sum, teacher attrition has a negative impact on the educational outcomes for students with disabilities. Loss of staff in large numbers results in "disruption of the coherence, continuity, and community that are central to strong schools" (National Commission on Teaching and America's Future [NCTAF], 2010, p. 32). The content of mentoring conversations has not been widely reported. Through the examination of an online forum the nature, frequency, and content of support was examined. Mentees in a number of studies (Kasprisin, Single, Single, & Muller, 2003; Klecka, Clift, & Cheng, 2005) shared that online environments offer teachers opportunities to connect with similar-minded individuals not readily available in their buildings, and found online environments less threatening and more conducive to sharing thoughts and inadequacy as well as doubts; but these studies were conducted with personnel in other fields and have not been examined with special educators.

Definition of Key Terms

Beginning special educator. For the purpose of this study, a beginning special educator had 3 years or less experience teaching students with disabilities.

Computer mediated communication. Communication occurring between two or more persons using synchronous or asynchronous web-based computer hardware and software (Single & Muller, 2001)

Discourse. Lupton (1992) describes discourse as a group of ideas or patterned way of thinking which can be identified in textual communications. In this study, discourse is the related ideas and patterns collected in the record of messages in an online communication site.

E-mentoring. A relationship between a more experienced individual (mentor) and a less skilled or experienced individual (mentee), primarily using computer-mediated communication (CMC) that is intended to develop and improve each mentee's skills, confidence, and cultural understanding (Jaffe et al., 2006)

Facilitator. A program manager who regularly communicates with participants and can significantly increase the number of successful mentoring relationships (Boyle & Boice, 1998; Wunsch, 1994).

Induction. Feiman-Nemser (1999, 2001a) views induction as both a phase in a teacher's career and a process. As a phase, it is the period during which a teacher develops from preservice preparation through professional practice. As a process, induction involves socializing beginning teachers into teaching practice as well as supporting teachers and helping them build their knowledge about teaching through professional development that occurs with or without a formal program.

Lurkers. A term used to refer to members who do not actively participate by communicating, but who visit and presumably read and may benefit from the postings in the forum (Gareis & Nussbaum-Beach, 2007).

Knowledge construction. To understand a new piece of information by relating it to an existing schema, integrating it with existing knowledge is considered knowledge construction. It is a type of learning (Bransford, 2000).

Mentoring. A complex and multidimensional process of guiding, teaching, influencing and supporting a beginning or new teacher. It is generally accepted that a mentor teacher leads, guides, and advises another teacher more junior in experience in a work situation characterized by mutual trust and belief (Feiman-Nemser & Parker, 1990)

Professional development. Professional development includes activities that improve and increase teachers' knowledge of the academic subjects they teach; advances teacher understanding of effective evidence-based instructional strategies; gives teachers the knowledge and skills to provide students with the opportunity to meet state academic and student academic achievement standards; and improve classroom management skills. Professional development must be high quality, sustained, intensive and classroom-focused in order to have a positive and lasting impact on classroom instruction and the teacher's performance in the classroom.

CHAPTER 2. REVIEW OF LITERATURE

Introduction

This chapter reviews relevant research pertaining to the needs of beginning special educators, school-based induction programs, and the characteristics of mentors. The available literature on electronic mentoring will also be reviewed. The rationale for the literature review on new teacher induction in special education is based on three critical concerns: (a) the high attrition rate of special educators, (b) the potential for adverse student outcomes when beginning special educators struggle in adverse situations, and (3) the conditions under which special educators work (Griffin, Winn, Otis-Wilborn, & Kilgore, 2003).

"The lack of qualified special education teachers threatens the quality of education that students with disabilities receive" (Billingsley, 2004a, p. 40) and compromises teacher quality and school stability (McLeskey & Billingsley, 2008; Smith & Ingersoll, 2004). Currently, many students do not have the opportunity to be taught by experienced teachers who have acquired expertise due to attrition (Boyer & Gillespie, 2000). The Individuals with Disabilities Education Act [IDEA] requires a free, appropriate education for students with disabilities, which has not been realized due to teacher shortages and attrition. Improving educational results for students with disabilities not only requires an adequate supply of special education teachers but also a pool of teachers who are highly skilled and knowledgeable (Study of Personnel Needs in Special Education Summary, 2002). Therefore, developing a qualified workforce and creating

work environments that sustain special education teachers are important challenges with serious consequences for students with disabilities (McLeskey et al., 2004).

Researchers recognize the potential of teacher induction to support beginning teachers, improve teacher quality, and increase retention (Guarino et al., 2006; Strong, 2005). As a result, mentoring and induction programs, based on an awareness of new teachers' unique needs for comprehensive support and training have been developed (Johnson, Goldrick, & Lasagna, 2010). As a result, many more states are requiring induction support for beginning special education teachers (Johnson et al., 2010). Despite these additional programs and resources, a lack of professional support is often cited as the primary reason why special educators leave the field (Billingsley & Cross, 1991; Gold, 1996) and current research illustrates the precipitous decline in years of experience among the nation's teachers (NCTAF, 2010). Teacher attrition is a major contributor to teacher shortages. Federal mandates such as the No Child Left Behind legislation, state highly qualified teachers are of critical importance to ensure that students reach proficiency in core academic subjects (Katsiyannis, 2010).

The literature on mentoring special educators has been described as fragmented, lacking a cohesive conceptual framework, and containing numerous methodological errors (Feiman-Nemser, 2001; Griffin, 2010, Strong, 2005). Findings from attrition studies, which originated in the field of general education, were applied to the field of special education prior to researchers' realization that special educators had different needs and concerns; therefore, effective mentoring programs for general educators did not apply to special educators. Subsequent examinations of mentoring have focused on needs and concerns, documenting trends, informal forms of support and formal forms of support. Due to increased emphasis on

teacher quality and legislation including the IDEA and NCLB, the field has recognized the important challenge of "developing a qualified work force and creating work environments that sustain special educators' involvement and commitment" (Billingsley, 2004a, p. 45). As a result, local, state, and national efforts must focus on the content and types of supports provided and the outcomes of these supports.

One of the reasons new teachers leave the profession is that the profession has been slow to develop a systematic way to induct beginning teachers into a highly complex job. Mentoring is a form of support frequently used in school divisions and when mentoring is available, decreased attrition rates are realized (Boyer & Gillespie, 2000; Whitaker, 2000b). How well teachers are provided with necessary supports clearly influences retention rates and perceived effectiveness of mentoring is correlated with beginning special educators' plans to remain in teaching (Whitaker, 2000b). Smith and Ingersoll (2004) found that mentoring and induction support for special educators varies widely and Gehrke and Murri (2006) reported that many special educators stated that they were inducted in programs designed for general educators reporting that these programs were not helpful.

Needs of Beginning Special Educators

New special educators face complex expectations during their first year of teaching. In many ways, they experience some of the same challenges as their general education colleagues such as managing a classroom, becoming familiar with a district's curriculum, acquiring information about the school and district where they work, and engaging in the communication and collaboration that are essential to becoming a member of a school team. However, they encounter additional responsibilities that include: understanding the IDEA, acquiring the

knowledge of special education forms, developing modifications or accommodations, developing effective professional relationships, clarifying the school culture around issues of inclusion, determining the availability of assistive technology, apprising themselves of complex medical procedures, and collecting data (Billingsley, 2003; Billingsley et al., 2004; Boyer & Gillespie, 2000; Gehrke & McCoy, 2007). The magnitude of additional demands placed on new special educators exacerbates the existing frustrations and stress that all new teachers experience (Boyer & Gillespie, 2000) causing beginning special educators to feel overwhelmed by the variety of roles they play (Wilson, Shulman & Reichert, 1997).

Special educators also experience challenges including unsupportive climates, insufficient materials, lack of familiarity with the curriculum, poor preparation for supervising paraprofessionals and working with parents, and inadequate time for lesson planning and writing Individualized Education Plans; these factors negatively affect instruction and student achievement (Billingsley et al., 2009). While both special and general educators have pedagogical concerns including addressing challenging student behaviors and learning the curriculum, special education teachers often have curriculum responsibilities that exceed those of general educators (Kilgore, Griffin, Otis-Wilborn, & Winn, 2003) spanning many content areas and grade levels. This is especially difficult for new special educators who report minimal preparation in content areas causing the new special educators to spend time learning the content rather than thinking about how to design appropriate teaching strategies and routines (Borko & Livingston, 1989). Collectively, these studies suggest that new special educators struggle with (a) including students with disabilities; (b) collaborating with general education teachers; (c) working with adults; (d) handling pedagogy, including teaching multiple content

areas; (e) securing materials; (f) performing assessments; (g) addressing student behavior; and (h) managing their varied roles (Billingsley et al., 2009).

The transition between teacher preparation programs and the realities of classroom life can be overwhelming (Ralph, 2002) and experiences in their first teaching assignments are often quite different from what they expected when in college (Huling-Austin, 1992). Faced with this array of challenges, a novice teacher's odds of feeling confirmed about and committed to his or her career choice can be severely reduced and result in the loss to the profession of qualified teachers. These challenges coupled with difficult assignments and inadequate supports contribute to high levels of teacher attrition (Darling-Hammond & Sykes; 2003; Gold, 1996; Grissmer & Kirby 1987; Odell & Ferraro, 1992). Beginning teacher support programs need to build the capacity of novice teachers, but too often support is directed toward or limited to a narrow range of classroom survival skills (Reynolds, 1990). Survival and adjustment are important, but support should not stop there, but should improve and expand the beginning teacher's ability to implement a variety of appropriate instructional strategies, implement curriculum, and select and develop effective teaching materials (Reynolds, 1990). Beginning teachers who are given reasonable assignments, receive helpful feedback, and are provided with personal support are more likely to acquire the skills needed for a satisfying teaching career and to develop greater commitment to teaching (Yee, 1990). Unfortunately this is not being realized, causing Merrow (2001) to state, "Simply put, we train teachers poorly, and then treat them badly—and so they leave in droves" (p. 64).

Literature Review

Face-to-Face Mentoring

Research has focused on the proximity of the mentor, the traits of the mentor, and perceptions of the mentoring experience mainly from the perspective of the mentee. Results have been mainly mixed with a few consistent results such as beginning teachers prefer mentors who are special education teachers, informal supports, and that the support currently received is not perceived to be sufficient. Many of these studies have been conducted utilizing qualitative methodology, which involves small groups or case studies of individual teachers to describe problems encountered by novice special educators, but cannot be generalized (Griffin, Kilgore, Winn, Otis-Wilborn, Hou, & Garvan, 2009). Induction programs have successfully increased retention and the forms of support have mainly focused on emotional supports. The idea of support for beginning teachers has had a major impact on policy formulation and implementation; however, programs vary widely in terms of stated purposes, the type of support, the targeted audience, the length of the program, and the qualifications of mentors (Bay & Parker-Katz, 2009).

Induction has been defined in numerous ways, for this review it is defined as "the period after preservice education extending into the first years in the classroom" (Billingsley et al., 2009, p. 4). Studies examining induction have been predominantly qualitative and typically examine specific programs by gathering perceptions from mentees only and few large-scale quantitative studies exist. Although teacher induction can encompass a variety of activities (Ingersoll & Kralik, 2004), research in both general and special education has focused mainly on mentoring (Griffin et al., 2003; Ingersoll & Kralik, 2004; Smith & Ingersoll, 2004); however, the

research is limited. Emerging evidence exists that mentoring and induction support influences beginning special educators' intent to remain in teaching (Whitaker, 2000b) and perceived effectiveness. Billingsley et al. (2004) found that teachers with higher levels of induction support also reported greater job manageability and success in getting through to difficult students. Recently, induction has also been linked to beginning teachers' self-ratings of their preparedness to teach, pedagogical content knowledge, and ability to manage classrooms (Boe et al., 2008). Teacher induction experiences have been evaluated "including satisfaction with mentoring, perceived effectiveness, perceived helpfulness, perceived self-confidence, perceptions of job manageability, and intentions to stay in teaching" (Billingsley et al., 2009, p. 21) mainly by surveys soliciting the views of mentees only. Mentors' views of support provided have rarely been examined. Specific programs have also been examined, but lacking is the content of the conversations that occur and the support provided from both the mentors and the mentees perspectives.

Several studies have focused on characteristics and traits of mentors and those results are summarized. Irinaga-Bistolas et al. (2007) surveyed 44 mentees to determine the effectiveness of mentoring programs in rural communities, finding that personal characteristics of mentors was one of the most important factors associated with successful mentoring. Several researchers found similar results including beginning special educators prefer mentors who are special educators teaching students with similar disability characteristics at the same grade level (Boyer, 1999; Smith & Ingersoll, 2004; Whitaker, 2000a; White, 1995). Whitaker (2000a) found that beginning special educators who had mentors they rated as effective were more likely to remain in special education. Effective mentors had the following characteristics:

They were special educators who met with new teachers frequently, providing emotional support and conveyed information related to both special education and the school environment; and they informed new teachers of available supplies and resources. Odell and Huling (2000) state the characteristics of good mentors are: (a) willingness to be a mentor, (b) sensitivity to the needs of new teachers, (c) being helpful not authoritarian, (d) being diplomatic, (e) the ability to anticipate problems, (f) encouraging, (g) keeping beginner's problems confidential, (h) enthusiasm about teaching, (i) being a good role model at all times, (j) having an understanding of school policy and priorities, (k) skill in classroom observations, (l) experience working with adult learners, and (m) the ability to provide feedback to keep new teachers apprised of successes. Based on a national sample of 1,153 special educators, Billingsley et al. (2004) reported a variety of supports available to beginning special educators including informal help from other colleagues (89%) and building administrators, regular meetings with new teachers, and formal mentoring programs; however, support received from meetings with new teachers (62%), inservice programs (72%) and formal mentoring programs (72%) were rated lowest. Irinaga-Bistolas et al. (2007) also reported that three factors hindered successful mentoring relationships: time constraints, a deficiency of knowledge on the part of the mentor, or simply a bad match either professionally or philosophically.

Irinaga-Bistolas et al. (2007) found that of the 83.3% of beginning special educators who received support from their mentors, only 62.5% reported that the feedback received was helpful. Perhaps this is a reason that beginning special educators seek others to fulfill their support needs. Billingsley et al. (2004) reported the forms of support rated highest were informal help from other colleagues (89%) and informal help from building teachers (88%).

Gehrke and McCoy (2007) referred to this as relying on a "village" citing novices rely on other special educators, reading specialists, and school psychologists for support (p. 490). Other researchers have provided evidence that beginning special educators value the support of professional colleagues and administrators (Billingsley, 2004b; Boe et al., 2008; Boyer, 1999; Giacobbe, 2003); university professors and fellow preservice graduates (Martinez & Mulhall, 2007); the teacher next door (Babione & Shea, 2005; White & Mason, 2006); and general education teachers (Babione & Shea, 2005). Whitaker (2003) found that other special education teachers were the most frequently reported providers of support; however, mentees perceived the frequency of support as inadequate to address their needs. In a nationally representative sample, Smith and Ingersoll (2004) found that mentors in the same field, common planning time with other teachers, and participation in an external network of teachers contributed to teacher retention. Furthermore, Smith and Ingersoll (2004) suggested that multiple rather than single forms of support are effective.

Formal supports including scheduled meetings and professional development have been proposed. Formal induction programs have been implemented and consistently only half of special educators surveyed report them helpful; although positive impacts on intent to remain and perceptions of professional competence have been found (Gehrke & McCoy, 2007; Griffin, 2005; Irinaga-Bistolas et al., 2007; Martinez & Mulhall, 2007; Tucker, 2000). Whitaker (2000b) found that 47% of beginning special educators participating in scheduled meetings reported these meetings were helpful or extremely helpful. Griffin (2005) speculated that the social and collaborative aspects of meeting were especially beneficial. Gehrke and McCoy (2007) and White and Mason (2006) warn that having release time to attend scheduled meetings is

important. Billingsley et al. (2004) found that 49% of special educators participated in formal meetings, but when asked to rank helpfulness of support, these teachers rated these meetings last, not finding them helpful. Additionally, Billingsley et al. (2004) found that over 90% of beginning special educators participated in professional development opportunities within their district, but few reported these helpful. Gehrke and Murri (2006) reported that special educators were included in training sessions with general educators so perhaps that is a reason these meetings did not meet their needs. While the literature on formal supports appears mixed, informal supports provided to beginning special education teachers have consistently been reported as helpful (Billingsley et al., 2004). Babione and Shea (2005) state that informal supports may be more responsive to the teacher's needs. The frequency of support has been studied and found to be highly correlated with special educators' perceptions of support (Billingsley, 2004b; Whitaker, 2000b).

Research examining the proximity of mentors has also revealed mixed results. Boyer (1999) reported mentors located outside of the school offered an "objective viewpoint that was not tainted by knowledge of the building culture or the dynamics of the staff within the school" (p. 69) and that personal conversations were less likely to be repeated in the mentees' building. White and Mason's (2006) study found special educators did not seek help from mentors located outside their building. Griffin (2005) reported having a mentor in the same building played a significant role in relationship development and Whitaker (2000b) found that special educators possess a strong preference for mentors who are special educators over those placed in the same school. Irinaga-Bistolas et al. (2007) found that early career special educators with

mentors in the same building reported their information, instructional, and emotional needs were met at higher levels than did participants with mentors in another building.

The content of support has also been examined and it is widely acknowledged that the predominant content of mentoring is emotional support (Gehrke & McCoy, 2007; Giacobbe, 2003; Griffin, 2005; Irinaga-Bistolas et al., 2007; Whitaker, 2000b). Andrews and Quinn (2005), studying the content of mentoring, found support topics related to information about school policies and procedures as well as dimensions of personal and emotional support. Sindelar, Heretick, Hirsch, Rorrer, and Dawson (2010) stated the general content of the conversations includes addressing behavior, Individualized Education Plans, and factors that influence mentees' satisfaction with mentoring, but we know nothing about what happens during mentor and mentee exchanges and how mentors guide novices. Wang and Odell (2002), completing one of the few studies examining perceptions from both mentors and mentees, found that mentors expect to provide and novices expect to receive psychological support and guidance on local customs and policies, but neither views mentoring as a substantial and meaningful influence on novices' learning to teach while several studies have outlined the reported need for additional content area support (Irinaga-Bistolas et al., 2007; Whitaker, 2003).

Two studies examining the content of support within the Beginning Teacher Support and Assessment (BTSA) program were located. Dalton (1994) used mentoring logs to determine the forms of support given over a 10-month period to beginning teachers by four advisors. The researcher found that the types of support varied by grade level taught and how long the beginning teacher had taught. A beginning teacher at the elementary level received an

average of 10.7 hours of support a month and the elementary teacher in her second year of teaching received an average of 6.1 hour monthly. The top three forms of support for the first-year teacher were assisting in the classroom, instructional strategies, and observations by the advisor, but for the second year they were curriculum development, assisting in the classroom with observation, and conferencing. Overall, the first-year teacher averaged 4.6 hours more of classroom assistance than the second-year teacher and the second-year teacher averaged 5.9 hours more of curriculum development. The author speculated that the differences were due to varying developmental needs. At the middle school level the three most common forms of support for first-year teachers were conferencing, curriculum development, and assisting in the classroom and for second-year teachers they were curriculum development, assisting in the classroom, and observation. The levels of support in classroom management, emotional support, and coaching dropped from the first year to the second year. First-year high school teachers mainly received support on instructional strategies, curriculum development, and classroom management while second-year teachers received the most support on instructional strategies, then classroom management, followed by curriculum development and observations. Acknowledging difficulties with advisor logs and a coding system using coding categories that were not exclusive, Dalton (1994) attributed the differences in first and second-year teachers as developmentally related. Participants also answered survey questions about how the project assisted them in growth. First-year teachers revealed the practical help received such as assisting in the classroom and gathering needed materials and supplies; whereas second-year teachers responded that it was the supportive

presence of the advisor that assisted them most, with many stating that project participation assisted with retaining a "focus on my goals and objectives for the year" (Dalton, 1994, p. 43).

Kennedy and Burstein (2004) examined weekly logs kept by advisors in the BTSA program for special educators established in 1999. Participant surveys were also completed and retention rates were gathered. The weekly logs specified the frequency of contact, the topics of discussion, and the types of assistance given. An analysis of weekly logs revealed that the California Formative Assessment and Support System for Teachers was discussed most frequently (82%); followed by legal requirements (27%); lesson planning, instruction, and selection of curricular materials (27%); student assessment (26%); classroom management and student behavior issues (25%); orientation procedures and workshops (7%); and finally working with parents (6%). Based on a participant satisfaction survey, high ratings were achieved for all five program components. Rated on a 5-point Likert scale in which 1 = not valuable and 5 = very valuable, scores ranged from 3.6 to 4.8. Additionally, retention rates measured at the end of the 3-year program were 95%. Outcomes of this evaluation suggest that induction should address the unique needs of the special educator, facilitate collaboration, and be implemented within a comprehensive program with multiple supports.

An area where research findings differ from practice is the evaluative role of mentoring. Researchers point to the importance of mentors assuming nonevaluative roles in which they focus on fostering teachers' professional growth (Boyer, 1999; Gehrke & McCoy, 2007; White & Mason, 2006). However, in White and Mason's (2006) examination of seven induction programs, mentors served evaluative roles and mentees reported this aspect as uncomfortable stating it was stressful to reveal their problems and concerns with mentors for fear of losing

their jobs. Conversely, Boyer (1999) found that when mentors assumed nonevaluative roles, mentees reported feeling comfortable "asking anything or getting anything from mentors" (p. 68). The literature also suggests that beginning teachers are often reluctant to seek help in general (Feiman-Nemser, 2001a) and may be especially reluctant to seek help from those responsible for their evaluations (Billingsley, 2005; Griffin et al., 2003). Beginning teachers often have questions they do not ask based on the belief they should know the answers (Johnson & Kardos, 2002). Special educators in Whitaker's study stated,

> I felt like I had learned most of the stuff in college. . .but I didn't remember or know exactly how to apply it in my particular situation (Whitaker, 2000a, p. 29), or, It's hard the first time you go and ask. . .makes you feel dumb. . .they are going to think I can't handle this. (p. 32)

Sindelar et al. (2010) assert that if students are to meet content-based standards, the quality of instruction must improve. Noticeably missing from the mentoring literature is a focus on instructional practices, but it has been examined with student teachers. Hiebert, Gallimore, and Stigler (2002) found that mentoring dialogues about teaching experiences are important educational contexts for helping student teachers develop professional knowledge. Kremer-Hayon and Wubbels (1993) found that the role mentors take differ and therefore have different effects on student teachers' learning and professional development. Through learning dialogues, mentor teachers may have a considerable influence on what teachers learn, but this area has not been examined empirically. While psychological support is important and necessary, it will not move teachers along a continuum of lifelong learning and students will not meet state and federal mandates.

An immense need exists for special education teachers to create high quality educational opportunities and to level the playing field for students with disabilities. The IDEA requires that students with disabilities have access to the general education curriculum and meet adequately yearly progress on state academic content standards (Leko & Brownell, 2009), which requires new special educators to use effective practices; teach across grades and content areas; collaborate with general education teachers, parents, and professionals; and manage time to ensure that their students meet achievement standards (Sindelar et al., 2010). In order to provide high quality instruction special education teachers need to have content and pedagogical knowledge, but depending on their initial preparation and ongoing access to professional development, special education teachers may vary considerably in their content knowledge and pedagogical knowledge (Billingsley et al., 2009).

Only a few studies have examined mentoring and induction and student achievement. Mentoring has been shown to have positive effects on teacher retention; however, staying in the classroom does not mean that new teachers are effective in helping students learn (Fletcher et al., 2008). Student achievement is the least studied outcome variable in mentoring studies because of difficulty obtaining data, because not all induction programs are focused on student achievement, and any connection between mentoring and student achievement is mediated by other factors (Fletcher et al. 2008). Six studies were located and will be reviewed.

Fletcher et al. (2008), using student achievement data for classes taught by elementary teachers in their first or second year of teaching, compared gain scores on reading tests for the new teachers' classes with the scores of their respective schools. From this analysis it was apparent that despite new teachers being assigned classes with the lowest initial achievement

levels, levels below district averages, these classes had greater achievement than classes taught by more experienced teachers suggesting that new teacher support can have a positive effect on student achievement. The new teachers in this study worked with their mentors for 1 to 2 hours weekly on instructional issues. Furthermore, Fletcher et al. (2008) found that the most intensive induction programs had greater gains in reading with teachers in the intensive program showing class gains equal to those of experienced teachers in the same district. Fletcher and Strong (2009) compared groups of beginning teachers in the same urban school districts, found that those with full-time mentors shower greater achievement gains over one year than those with part-time mentors.

Thompson, Paek, Goe, and Ponte (2004), studying the California BTSA program among 1,125 third to fifth grade teachers from 107 school districts during their third year of teaching, found high engagement in BTSA was associated with higher scores on student engagement and higher test scores on student achievement measures. Rockoff (2008), examining the NTC mentoring program using surveys and standardized test scores, also found that more time with mentors showed higher achievement in math and reading. However, a study completed by Mathematica Policy Research containing four reports conducted by Glazerman and colleagues between 2006 and 2010 did not corroborate the above findings. Using student test data, observations, interviews, and questionnaires to examine the intensity of induction support on retention, teacher practice, and student achievement, no significant effects were found on retention, practice, or student achievement after 1 year or on retention or achievement after 2 years; however, student achievement of treatment teachers was significantly higher after 3 years. Using hierarchical linear modeling, Adams (2010) used student standardized test scores

to analyze and determine the impact of mentoring first and second-year teachers on their students' achievement using a comparison group consisting of experienced teachers in matched schools. Examining data from over 300 teachers of over 6,900 students in language arts, reading, mathematics, and science from the state of Alaska, results show that although mentoring new teachers did not bring the students' standardized scores up to the same level as students in classes with veteran teachers, they were much closer than expected for reading, writing, and science. Standardized scores for reading, writing, and science were statistically significant with small effect sizes and math scores the same for first and second-year teachers as veteran teachers.

Ingersoll and Strong (2011) reviewed 15 empirical studies, including 4 of the 5 reviewed above to find empirical support for the claim that support and assistance for beginning teachers from mentors had a positive effect on teachers' classroom instructional practices and student achievement. In conclusion, several studies support that the quantity of induction support is important; however, an optimal program length or intensity is not known. Additionally, while almost all of the studies reviewed showed that students of beginning teachers participating in induction had higher scores or gains on academic achievement tests, much research remains to be done in this area. Several studies suggest that long-term intensive induction should be studied longitudinally. Furthermore, Ingersoll and Strong (2011) state that the empirical research has examined what works, but not why or why not.

Conversations amongst mentors have also been examined. Orland-Barak (2006) analyzed conversations within a 1-year in-service professional development program for mentors in Israel to explore the content of mentor and mentee professional conversations. Ten

mentors participated in this study. Analysis of the content of conversations revealed that these dialogues constituted unique opportunities for participants to co-construct meanings from different dimensions of mentoring. The three dialogue types were divergent, convergent, and parallel. Divergent dialogues involve shifting from personal context to theorizing about mentoring and allowing for exploring, comparing, and making connections across practices. In parallel dialogues participants use the conversation to develop their own ideas in a kind of "dialogue with themselves" providing opportunities for participants to discriminate and dispute their own ideologies and fixed assumptions (Orland-Barak, 2006, p. 13). Lastly, convergent dialogues occurred when participants mediated understandings that outlined possible solutions to a particular dilemma. The mentors stated the conversations allowed for solving problems and assisting each other to jointly construct new understandings about how mentoring operates in different teaching contexts corroborating the potential of conversation for learning and professional development (Clandinin, 2001; Clark, 2001).

In summary, it is widely accepted that beginning teachers need support and guidance as they work through the process of becoming an experienced, effective teacher (Darling-Hammond, 1998; Feiman-Nemser, 2001b, Odell, 1986). Studies focusing on needs, problems, and concerns of beginning teachers shed some light on what makes the induction phase unique, but they do not focus on the core tasks of learning to teach (Carter & Richardson, 1989). Mentoring tends to focus on situational adjustment, technical advice, emotional support, and local guidance (Feiman-Nemser, 2001b: Little, 1990; Wang & Odell, 2002). Additionally, programs vary dramatically in the degree of support, time, and financial resources from comprehensive systems with release-time for mentors and novices to meet, to more

informal arrangement that pair a new teacher with a buddy at the school site with no release time, no common planning, no compensation, and no professional development (Gless, 2006). Frequently missing from mentoring programs is a coherent structure to enable mentors to guide new teachers in reform-minded, standards-based, and critically reflective practice; however, when conceptualized as joint participation in authentic tasks mentoring can foster improved practice (Feiman-Nemser & Parker, 1990; Wang & Odell, 2002). Currently, in the research and at the policy level it is often asserted that if new teachers engage in induction activities, particularly mentoring, they will become better practitioners, but "this uncritical view of the provision of support activities ignores the fact that some programs may not offer guidance and support that lead to improved practice and retention" (Feiman-Nemser, 2001a, p. 18) and little is known about how induction leads to quality instructional practices because it is rarely examined. Andrews and Quinn (2005) found that mentored teachers reported that curriculum and instruction were the areas in which they received the least support. To realize improvements in students' achievement, this trend needs to be reversed with an emphasis on curriculum and pedagogical issues moving to the forefront.

Feiman-Nemser et al. (1993) found differences in the way mentors defined and enacted their roles. Some mentors defined their roles as conveyers of emotional support and short-term technical assistance and felt their roles were to share materials, answer questions, explain local procedures and policies, and offer advice while others defined their roles in educational terms such as focusing on student learning and helping novices with immediate problems, but few mentors saw themselves as agents of change responsible for encouraging and arranging collaboration and shared inquiry. The mentoring role needs to be redefined

around standards and student learning for change to be enacted state Zanting, Verloop, Vermunt, and Van Driel (1998), referring to the multifaceted roles of mentors (co-thinker, inquirer, evaluator, supervisor, and learning companion). Novice teachers need well-prepared mentor teachers competent to combine the knowledge and skills of classroom teaching with the knowledge and skills of a teacher of teaching (Feiman-Nemser, 2001b).

The Role of the Mentor

If mentoring is to function as a strategy of reform, it must be linked to a vision of good teaching and guided by an understanding of adult learning (Feiman-Nemser, 1996). While beginning teachers should have access to emotional support, advice and feedback does not qualify as an educational intervention (Feiman-Nemser, 1996). Emotional support, practical advice, and technical proficiency will not help novices learn to teach (Cochran-Smith, 1991). Evertson and Smithey (2000) concluded that mere presence of a mentor is not enough—mentors must possess knowledge and skill in mentoring. The effectiveness of mentoring is closely aligned to the expertise of the mentor as well as the quality and type of support provided (Nickson & Kritsonis, 2006; Parker-Katz & Hughes, 2008). A literature review completed by Hobson, Ashby, Malderez, and Tomlinson (2009) concluded that the extent to which mentor teachers are able to address mentees' learning needs is an important factor in the success of mentoring. However, Feiman-Nemser (1996) found that teachers who serve as mentors do not see themselves as school-based teacher educators responsible for helping novices learn to teach. In order for state and federal standards to be realized, mentors need to focus on student learning in the context of the standards.

One approach to identifying effects of teacher induction on novices' teaching is to analyze what mentors do and to identify the impact on novices' practice based on theoretical assumptions of effective mentoring (Wang et al., 2008). Athanses and Achinstein (2003) surveyed program coordinators of teacher induction programs who stated that mentors should help novices focus their attention on children's thinking. Feiman-Nemser (2001b) analyzed interview and observation data collected over 2 years from a mentor teacher assigned to work with 14 beginning teachers discovering that this mentor was concerned with arranging conditions for growth-producing experiences and co-thinking; however, this study only examined one teacher's view of mentoring. Wang (2001) explored the relationship between mentoring context and mentoring practice by drawing on data from 23 mentor teachers in the United States and China finding that mentors in different countries hold different beliefs concerning what novices should learn. Through comparative analysis he discovered that U.S. mentors believed that establishing a purpose for teaching and learning about individual students was important whereas mentors in China believed novices should develop a deep understanding of the subject matter, curriculum, and professional ethics. Additionally, Wang found that U.S. mentors spent less time with novices. This study was mainly comparative in nature and was focused on broad differences based on where the mentoring occurred and lacked detailed information and analysis. Unfortunately, none of these studies addressed the views of beginning teachers.

How mentors define and enact their role, what kind of preparation and support they receive, and whether mentors have time to mentor all influence the character and quality of mentoring and its influence on novice's practice (Feiman-Nemser, & Parker, 1990).

Feiman-Nemser (1996) suggests that it is difficult for teachers to develop the necessary dispositions and skills to become school-based teacher educators because most lack experience and skills in the core activities of mentoring such as observing and talking with other teachers about teaching. Teachers generally work alone in their classrooms and rarely see teachers' practice and they have limited opportunities to talk about teaching in systematic and rigorous ways. Stallion and Zimpher (1991) tested the benefits of mentor training on mentee teacher change related to classroom management concluding that the mentors' own knowledge base was vital in transferring such knowledge to their mentees. In contrast, mentors not provided extensive training in mentoring lacked sufficient skills to transfer this knowledge. In addition, school environments need to be set up to support quality mentoring. Wildman, Magliaro, Niles, and Niles (1992) analyzed specific roles, activities, and conditions experienced in mentoring programs through a qualitative analysis including 150 mentor teachers and found that mentors lacked time for communication and observations. Mentors stated that their school environments were not set up to foster these tasks.

The Developmental Needs of Beginning Teachers

Goldrick (2009) describes the developmental pathway into teaching as fragmented, haphazard, and an incoherent system of training and support defining three distinct phases of teacher development: (a) preservice training, (b) new teacher induction, and (c) career-long professional development. Wideen, Mayer-Smith, and Moon (1998) completed a meta-analysis of 93 research-based studies on learning to teach. These studies showed that pedagogical content knowledge could not be acquired during preservice education because practicum experiences were usually too limited to acquire a significant amount of direct application.

Wideen et al. (1998) concluded that teachers learn to teach in the classroom through their own construction of knowledge "that develops and evolves through sustained conversation" (p. 159). Therefore, beginning teachers need practice, coaching, and feedback. From a developmental perspective, this is how induction is viewed. Berliner (1988), in his examination of experts and novices, uncovered qualitative differences in the thinking and performance of teachers at different stages of their careers pointing out that proficiency and expertise take time to develop and do not automatically flow from experience. Berliner (1988) proposed six dimensions on which novice and experts differ: (a) their abilities to interpret classroom phenomena, (b) discern important events, (c) use routines, (d) make predictions, (e) judge typical and atypical events, and (e) evaluate performance. This developmental theory of skill acquisition had a powerful impact on the Beginning Teacher Support and Assessment policy (Scott, 1995).

As discussed earlier, beginning teachers are reluctant and afraid to ask questions, especially if their mentor is responsible for evaluating them. They often feel that they should know the answers or should have learned them at the preservice level. Hammerness, Darling-Hammond, Grossman, Rust, and Shulman (2005) outlines three areas or problems that occur during preservice education that inhibit learning: (a) the apprenticeship of observation, (b) the problem of enactment, and (c) the problem of complexity. This states that teachers enter preservice education with preconceived notions from their own schooling which serve as filters and possibly barriers to gaining knowledge from coursework. One of the widespread misconceptions is that teaching is easy because as a student, you observe the "superficial trappings of teaching, but not the underlying knowledge, skills, planning, and decision making"

(Hammerness, Darling-Hammond, Grossman et al., 2005, p. 367). Therefore, the knowledge, skills and attitudes needed for optimal teaching are not something that can be fully developed in preservice programs (Hammerness, Darling-Hammond, Bransford, Berliner, Cochran-Smith, McDonald, Zeichner, 2005), rather teacher education should lay a foundation for lifelong learning.

Schon (1987) describes as a paradoxical situation the need to demonstrate skills and abilities that they do not have and can only gain by beginning to do what they do not yet understand. Beginning teachers have limited experience and practical knowledge to draw on which increases their sense of frustration and inadequacy and they are expected to perform and be effective (Feiman-Nemser et al., 1999). A common complaint from beginning teachers is that they need to be proficient in all knowledge and skills from the first moment they enter the classroom and they often report being unprepared for the variety of roles all at once (Kealy, 2010). Both qualitative and quantitative research results provide convincing evidence that role problems significantly interfere with special educators' ability to be effective with their students and job satisfaction (Billingsley, 2004, p. 22). Role problems not only increase attrition (Billingsley & Cross, 1992; Cross & Billingsley, 1994; Gersten et al., 2001), but may also cause the overwhelmed beginning teacher to cling to the first strategy that works.

Once in the classroom, teachers must apply the knowledge learned in preservice programs, but understanding and skillful practice are two different forms of knowledge (Carter, 1990; Schon, 1987). While in college methods, curriculum, and behavior management are learned, but in the classroom application is required. Professional practice is complex, context-specific and involves reasoning, decision making and continuous reflection

(Feiman-Nemser & Norman, 2000). Teachers must size up situations, weigh competing goals, and make decisions about what to do. These decisions are shaped by the situations encountered and mediated by the knowledge and skills they bring to the classroom (Feiman-Nemser, 2001b). Therefore, during the induction phase, teachers are shifting from theory to application while simultaneously attempting to adjust to their environment and professional roles. During this time mentors attempt to assist with this transition, but if simply serving as a local guide and provider of emotional support rather than helping the novice attend to student learning they are not assisting the novice. Novices need guides to transform their knowledge of discrete skills and strategies into deep understandings of students and the subject matter and how the two intersect. Teachers need to be involved in meaningful sustained engagement with colleagues, ideas, and materials which enable teachers to deepen their understanding of the subjects they teach and to investigate students' work (National Center for Educational Statistics [NCES], 1998). The induction phase must also take into account the teacher's preparation and build upon and continue this learning process. Otherwise, beginning teachers will cling to strategies focused on survival rather than student learning. For mentoring programs this means a shift from emotional support and conveying knowledge of school and district information to a more sustained and systematic approach focused on standards and curriculum. It means framing induction around visions of student learning, good teaching, and standards rather than simply reducing stress and applying feel good support.

Conceptual Framework: How People Learn

The professional development literature tells us that teachers need learning opportunities that are connected to their daily work with students, related to the teaching and learning of subject matter, organized around real problems of practice, and sustained over time by conversation and coaching (Darling Hammond & McLaughlin, 1996; Little, 1993). Little (1990) distinguishes between emotional support, which makes novices feel comfortable, and professional support that fosters a principled understanding of teaching and argues that the promise of mentoring lies not in easing novices' entry into teaching but in helping them confront difficult problems of practice and use their teaching as a site for learning. Helping new teachers learn to teach inevitably means helping them learn about students and contexts and how to engage their students in learning content (Feiman-Nemser et al., 1999). We know from the literature on preservice education that challenging aspects of teaching must be learned in practice—learning to size up teaching situations, investigate what students are thinking, and use the information gathered to inform and improve practice (Feiman-Nemser et al., 1999).

Feiman-Nemser (1996) states, "The education community understands that mentors have a positive effect on teacher retention, but that leaves open the question of what mentors should do, what they actually do, and what novices learn as a result" (p. 2). Teacher shortages and teacher attrition have contributed to a growing consensus that support and assistance are essential to the retention of beginning teachers (Feiman-Nemser et al., 1999), but simply retaining teachers does not mean that they will develop the kind of teaching that fosters deep and complex learning on the part of students (Feiman-Nemser et al., 1999). If we want to realize the potential of induction to help improve the quality of teaching, we must provide the

conditions, support, and guidance to help construct a professional, standards-based practice in the context of their teaching (Feiman-Nemser, Schwille, Carver, Yusko, 1999); otherwise we design programs that reduce stress and address problems and concerns without promoting teacher development (Feiman-Nemser et al., 1999). The way induction is conceptualized has consequences for the way induction programs and policies have been framed, accessed, and studied.

In the last 30 years, research from anthropology, linguistics, philosophy, developmental psychology, computer science, neuroscience and sociocognitive studies have contributed to the formulation of the How People Learn (HPL) framework and the science of learning knowledge base (Bransford et al., 2000). These authors describe three essential competencies for teachers: (a) knowledge of how students learn; (b) knowledge of teaching; and (c) knowledge of subject matter, stating teachers with an understanding of the nature and processes of learning possess knowledge that can significantly increase the facilitation of learning and development for each student (Bransford et al., 2000; Peterson, Clark, & Dickson, 1990). The learning community built around vision includes understanding, practices, dispositions and tools and is included in Figure 1.

Based on the fact that learning needs to continue once teachers enter the classroom, Hatano and colleagues (Hatano & Inagaki, 1986; Hatano & Oura, 2003) describe effective lifelong learning that allows for continuous knowledge and skill building. Bransford et al. (2005) developed a conceptual framework highlighting three general areas of knowledge, skills, and dispositions that are important for every teacher to acquire.

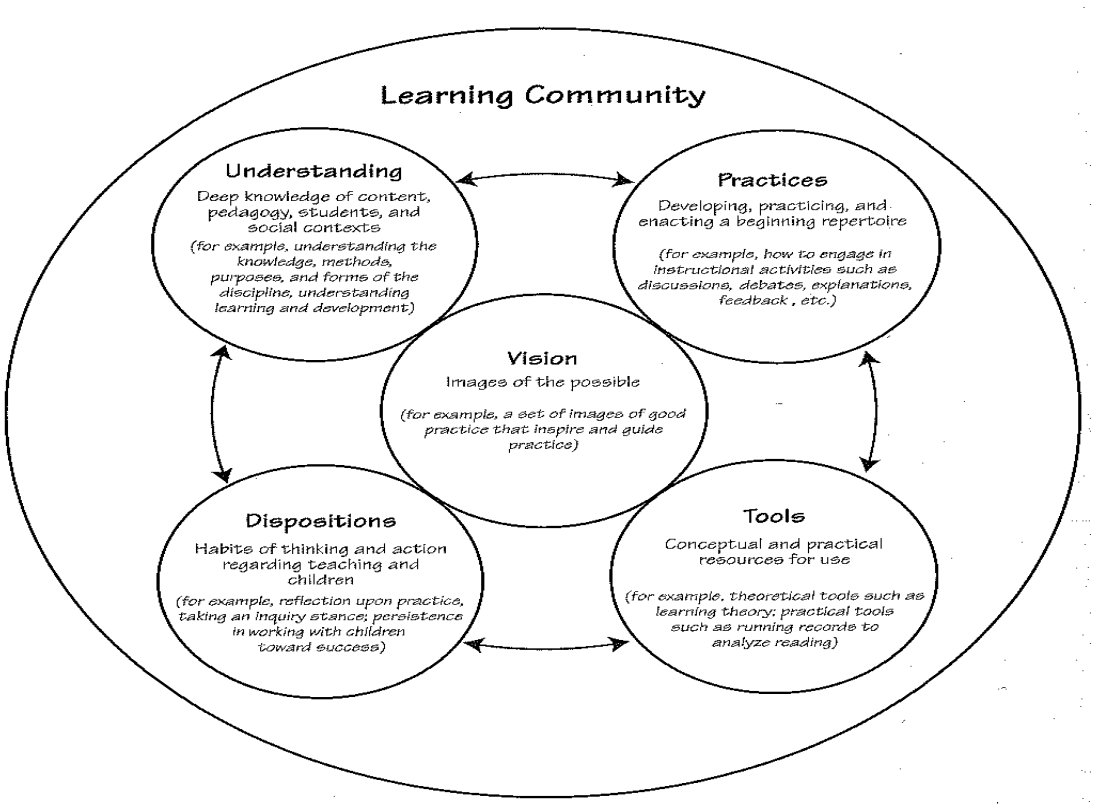

Figure 1. Learning in community. Adapted from *How People Learn*: *Brain, Mind, Experience, and School* by J. D. Bransford, A. L. Brown, & R. R. Cocking (Eds.), 2005, Washington, DC: National Academics Press.

- Knowledge of learners and how they learn and develop within social contexts;
- Conceptions of curriculum, content and goals: an understanding of the subject matter and skills to be taught;
- An understanding of teaching in light of the content and learners to be taught, informed by assessment and supported by classroom environments. (Bransford et al., 2005, p. 10)

The HPL framework is developed around four overlapping design for teaching environments that can be used to analyze any learning situation. The HPL Dimensions of Learning Environments is presented in Figure 2.

The HPL framework suggests ways instruction can be designed around the four dimensions: learner centered, knowledge centered, assessment centered, and community centered (Bransford et al., 2000) (see Appendix A).

Learner centered environments incorporate the learners' strengths and interests and are designed to help students make connections between their previous knowledge, skills, attitudes, and beliefs. Teachers recognize the importance of building on these conceptual frameworks to focus on how students construct meaning and connect new knowledge to old knowledge (Bransford, 2004).

Knowledge centered environments are standards based and organized around big ideas and involves providing rigorous content and helping students' understanding of a subject or discipline.

Assessment centered environments are designed to enhance understanding of content through frequent opportunities for feedback, reflection, and revision to enhance learning.

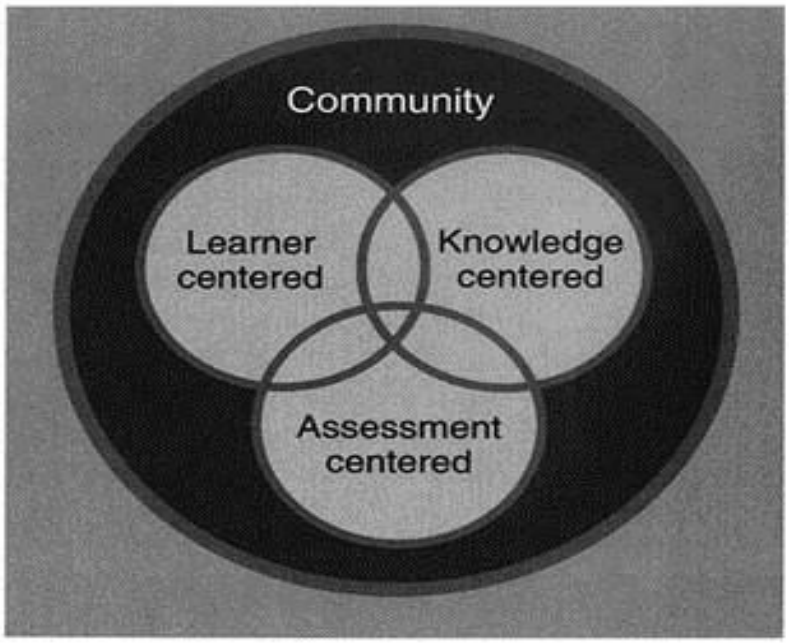

Figure 2. The HPL dimension of learning environments. Adapted from *How People Learn: Brain, Mind, Experience, and School* by J. D. Bransford, A. L. Brown, R. R. Cocking (Eds.), 2005, Washington, DC: National Academics Press.

Community centered learning environments provide stimulating, supportive, and safe environments in which students challenge themselves (The IRIS Center for Training Enhancements, 2009). Collaborative learning environments that foster the skills of lifelong learners are valued here. Effective teachers know how to balance the four components.

Teacher expertise is developed within specific domains and is situated within specific contexts meaning learning needs to be derived from and connected to the content and students taught. Simultaneously, teachers need to learn how aspects of what they learned in preservice education may apply to their classrooms and the problems they encounter. Studies have suggested that professional development focused on how students learn specific content within subject matter is helpful for teachers (Ma, 1999). Learning communities in which teachers share understandings about the nature of good teaching and work together to enact them provide particularly conducive settings for learning to teach (Darling-Hammond, Grossman, Rust, & Shulman, 2005). These communities of learning support learning and problem solving and teachers learn from guidance, mentorship, and peer support not sink or swim (Rodriguez & Sjostrom, 1995; Sparks, 2001). Adult learning theories support that adults learn more when they have the opportunity to interact with peers (Sprinthall & Theis-Sprinthall, 1983) and induction research suggests that beginning teachers need frequent opportunities to share or solve problems with other first-year teachers.

Teacher Standards

Three national organizations have provided outlines for the professional learning continuum for the teaching profession. The National Council for Accreditation of Teacher Education (NCATE) developed standards for accreditation of preservice programs, the

Interstate Teacher Assessment and Support Continuum (InTASC, 2009) developed licensure for beginning teachers, and the National Board for Professional Teaching standards (NBPTS) outlines certification of accomplished practitioners.

The current Interstate Teacher Assessment and Support Consortium (InTASC) standards, released in April, 2011 (see Appendix B), outline what teachers should know and be able to do to help students reach the goal of being college and career ready. The new standards, designed to articulate what effective teaching and learning looks like, are intended as professional practice standards, setting one standard for performance that will look different dependent on the teacher's developmental stage (Council of Chief State School Officers [CCSSO], 2010). To reflect this change in emphasis, INTASC has removed "new" from its name and is now called the Interstate Teacher Assessment and Support Consortium. While the old standards were performance based and focused on outcomes, the new standards are based on the premise of assuring that every learner learns. In order to achieve this goal, three things must be realized: (a) transparency of practice; (b) a culture of collaboration; and (c) ongoing, embedded professional learning (CCSSO, 2010). The basis for revision of the standards included the report by Bransford et al. (2000) for the National Research Council, How People Learn. Substantial changes to the standards include that communication, which used to be a stand-alone standard, is now integrated throughout the standards. A new standard, Innovative Applications of Content, has been added to address cross-disciplinary skills and interdisciplinary themes. Additionally, standards have been grouped into four categories (The Learner and Learning, Content Knowledge, Instructional Practice, and Professional Responsibility) to emphasize the renewed focus on the learner. While the terms knowledge, dispositions, and performances

were retained, performance is now listed first and the others have been renamed as essential knowledge.

The new standards are formed around a newly conceptualized educator development and career continuum organized into four stages: preparation, novice, professional, and expert. Recognizing that expertise is developed over time, the degree of sophistication in the application of the standards will develop over time and through the development of expertise. These stages are not defined by programs, coursework, or time on the job, but rather by the level of competency (Hill et al., 2010). Initial licensure is viewed as minimum competency to move into the novice phase as candidates transition into teaching. The standards focus on collaboration among teachers to improve professional practice and suggest that induction and mentoring are central to the professional collaborative culture. Assessment within the new standards is envisioned as being integrated within teaching. Elmore (2004) states accountability should be considered a reciprocal process, with both high expectations for educators to address the changing needs of students and a system strategy for investing in the knowledge and skills of educators who are challenged to do their work in new ways. Because national and state standards reflect visions of good teaching, they can serve to shape conversations about instruction and may also be used by the beginning teacher as a tool for formative assessments of their teaching and learning. Currently, little is known about how standards actually influence induction practices and how they affect novices' teaching and their students' learning (Feiman-Nemser et al., 1999).

Summary and Limitations of Literature

Researchers have found that the current induction programs are not successfully meeting beginning special educators' needs (Billingsley et al., 2004; Whitaker, 2000b). Mentoring programs vary dramatically in their degree of support, time, and financial resources (Athanses et al., 2008), content, duration, and delivery of programs; therefore, it is not clear to what extent general conclusions about mentoring and induction can be drawn from any given study (Wong & Wong, 1998). Mentoring programs also differ in infrastructure, focus, and outcomes (Huling & Resta, 2007; Mullen, 2008). CoBabe (2000) stated that the overall picture is uneven in terms of the purpose and goals of mentoring programs and how they are implemented. Most mentoring and induction programs are conducted by local schools, and differ considerably from school to school (Carver & Feiman-Nemser, 2009; Fideler & Haselkorn, 1999). Fox and Singletary (1986) stated that much is known about the concerns of beginning teachers and rates of attrition, but little is known about programs that assist during the crucial induction period. Annual attrition rates for beginning teachers are approximately twice that of experienced teachers (Odell & Ferraro, 1992) suggesting that the needs of first-year teachers must be addressed. Carver and Feiman-Nemser (2009) declare prescriptions about induction and mentoring abound, but the research on the character, quality, and effects of induction programs and policies remains limited at both the research and policy levels. Current research provides evidence that mentoring has a positive effect on teacher retention, but does not include information regarding what components should be included, how much assistance is needed, what the content of that assistance should include (Huling-Austin, 1986; Little, 1990;

Whitaker, 2000b) therefore questions remain about what mentors should do, what they actually do, and what novices learn as a result (Evertson & Smithey, 1999; Gratch, 1998).

The extant literature has been described as fragmented, lacking a cohesive conceptual framework (Feiman-Nemser, 2001a; Griffin, 2010), and containing numerous methodological limitations that "are liable to compromise the implications one is able to draw" (Strong, 2005, p.192). Reasons for this include that many studies are qualitative with a small number of participants (Billingsley & Tomchin, 1992; Kilgore & Griffin, 1998), are case studies (Boyer & Lee, 2001; MacDonald & Speece, 2001), focus on specific programs, or are surveys. Few large-scale quantitative studies offering generalizable findings of induction on actual teacher retention, teaching practices, and student learning exist (Lopez, Lash, Schaffner, Shields, & Wagner, 2004; Whisnant, Elliott, & Pynchon, 2005). Only two studies, Gehrke and McCoy (2007) and Gehrke and Murri (2006) were located that used mixed methods. Gehrke and McCoy (2007) examined factors related to professional growth and job satisfaction with eight special education teachers through mailed questionnaires and telephone interviews; and Gehrke and Murri (2006) examined how work-related variables influenced decisions to remain in teaching with six special education teachers using open ended questions and 10-item Likert scale. Only one of the studies gathered data from both the mentor and the mentee. Allen, Eby, O'Brien, and Lentz (2008) found limited triangulation of data sources citing few studies collected data from multiple sources. The use of multiple sources of data helps combat mono-method bias and improves construct validity through triangulation (Jick, 1979).

Studies examining the perceptions of mentoring, teachers' satisfaction with mentoring, perceived effectiveness and helpfulness, perceptions of job manageability, and intentions to

remain in teaching have been examined mainly through the use of surveys administered to mentees. Most studies have failed to balance the views of the mentor and mentees, which greatly limits our understanding of mentoring (Eby, Rhoades, & Allen, 2007). Mentoring relationships are inherently dyadic and a complex process with the mentor and mentee enacting different roles and responsibilities in the relationship (Allen, 2007). Mentors and mentees report different benefits (Eby, Durley, Evans, & Ragins, 2006; Ragins & McFarlin, 1990) and costs (Eby, 2007) in a mentoring relationship suggesting that data from both perspectives is necessary to fully understand a mentoring relationship. Methodologically, surveys are subject to social desirability and measure beliefs only at the time of completion (Billingsley et al., 2009). Due to the heavy emphasis on survey methodology, Ingersoll and Smith (2004) stated they are hesitant to claim any particular conclusions concerning the mentoring of beginning teachers can be established.

While mentoring has been recommended as a means of facilitating the entry of beginning teachers into the profession, the current research provides limited information about how much assistance is needed, and what the content of that assistance should include (Huling-Austin, 1986; Little, 1990; Whitaker, 2000b). Although the importance of mentors is well established, detailed information on the roles of mentors and how mentors actually do this are limited (Carver & Katz, 2004). Descriptive research is needed to illuminate critical needs, problems, and issues from the perspectives of beginning teachers and their mentors. Extended engagement with beginning teachers and their mentors is needed to help identify the specific supports and the work contexts that help to develop and sustain special educators' commitment and growth. Such analysis is necessary if members of the education community

are to make informed decisions about support practices within the context of teacher professional development (Bay & Parker-Katz, 2009) and will increase knowledge about the formation of school and district-level policies and state initiatives (Bay & Parker-Katz, 2009).

Electronic Mentoring (E-Mentoring)

Online mentoring expands traditional new teacher support by bringing novice and expert educators together in a web-based professional learning community. There are multiple definitions of e-mentoring and its role in facilitating the mentor-mentee relationship. DeWert, Babinski, and Jones (2003) noted that computer mediated communication (CMC) has the potential to change the way mentoring support is conceptualized and designed as well as to overcome some of the limitations of face-to-face (FtF) mentoring. This study adopts the definition provided by the creators of the program under examination. Specifically, they define e-mentoring as "a relationship between a more experienced individual [mentor] and a less skilled or experienced individual [mentee], primarily using CMC that is intended to develop and improve each mentee's skills, confidence, and cultural understanding" (Jaffe et al., 2006, p. 90).

Miller and Griffiths (2005), examining e-mentoring, state that e-mentoring complements and extends what is achieved by FtF mentoring. Findings from several FtF mentoring studies also have implications for e-mentoring. Klug and Saltzman (1991) used random assignment design to compare mentoring by a team (mentor, school administrator, and university faculty) and mentoring by a buddy (experienced teacher within the same school). They found that new teachers inducted using a team approach had significantly higher positive attitude changes than those in the buddy program on 5 of the 10 scales examined. Boyer (1999) found that mentors located outside the school offered an "objective viewpoint that was not tainted by knowledge

of the building culture or that dynamics of the staff within the school" (p. 69) and personal conversations were less likely to be repeated in the mentee's building. Jaffe et al. (2006) suggested that a mentor in the building may assist with school and district information and provide emotional support, whereas an e-mentor may assist with curriculum and pedagogical issues; thus a mentor in a different town, region, or state with the same teaching assignment has more to offer a mentee than a mentor in the same building who teaches a different subject. Finally, attainment of mentoring goals in e-mentoring is dependent upon the quality and quantity of the interactions between mentors and their mentees rather than physical proximity (Bonnet, Wildermuth, & Sonnenwald, 2006) with instructional needs, cultural needs, and content standards serving as a cornerstone for the process (Hebert, Clift, & Wennerdahl, 2008).

Advantages of E-Mentoring

E-mentoring offers several advantages: (a) the mentee's immediate needs can be supported, (b) mentors can be assigned based on expertise rather than availability within the building, and, (c) no one needs to leave the classroom. E-mentoring fosters integration of learning and novices have the ability to ask questions of multiple voices of experience, within the e-mentoring program, and seek out others experiencing similar problems (Davis & Resta, 2002). When designed as a group forum, online mentoring can provide more opportunities to network with others and to draw on the support and expertise of a virtual community (Gareis & Nussbaum-Beach, 2008) creating a sense of community and shared learning (Bruffee, 1993) while combating teachers' feelings of isolation (Hawkes & Romiszowski, 2001; Naidu & Olson, 1996). Jaffe et al. (2006) finds that, for the most part, the mentoring relationship does not appear to be impeded by technology and beginning teachers appear to engage e-mentors in

the typical mentoring process—asking questions, seeking advice, and generally looking for support stating, “The only apparent difference is the time of day, the manner in which the information is provided, and the ability to archive answers or comments” (Jaffe et al., 2006, p. 92). Digital accessibility allows for easy use from home, school, the community, and possibly cell phone. The fact that e-mail and discussion forum postings require an individual sign-in allows users to track correspondences by the users, and provides a record of interaction that can be studied (Billingsley et al., 2009).

Levin and Cross (2002) found e-mentors have the advantage of time to develop responses that are more thoughtful and reflective, in contrast to those communicated “on demand” in FtF mentoring situations. Additionally, mentors may answer mentees’ email at convenient times with little disruption to daily schedules. Through online collaboration, novice teachers may develop stronger professional voices to express their views (Jervis, 1996), and find inspiration in being members of a collaborative community (Selwyn, 2000). The process of articulating thoughts and beliefs may help novices closely examine what they believe and why (Koschman, 1997) or create of a more reflective learning environment (Mueller, 2004) due to the time-delayed nature of communication. Archiving e-mails offers flexible and ongoing access on the part of the mentor or mentee so both may review previous conversations.

Mueller (2004) found that email exchanges between mentor and mentee facilitate the learning process because e-mail is a medium for thinking and writing conversationally, rather than writing a finished piece that requires correction and evaluation. Furthermore, he states that the pairs learn more than they would from oral conversations partly because they must clarify first for themselves and then in words the dilemmas, questions, or topics for discussion

for which they seek input from a mentor. Eik-Nes (2002) contends that the mentee must clearly formulate his or her questions and describe the scenario to the mentor and that this careful planning requires the sender to effectively communicate the core problems and questions. This process helps the mentees clarify the issues for themselves in the process. Strong professional communities are built on teachers who regularly engage in discussions with colleagues about their work (Newmann, 1993).

By engaging in extended conversations that hold beliefs about teaching, learning, and instructional practice under scrutiny, teachers can examine the assumptions that underlie their practices (Newmann, 1993). Reflection upon practice leads to deepened understandings of instruction and of the products created within the teaching and learning process (Byrk, Camburn, & Louis, 1999). The opening up of one's practice to scrutiny also encourages teachers to ask questions about their practice and to view it in a more analytical fashion. In addition, online mentoring may reduce the pressure of close scrutiny on beginning teachers at their school site by allowing a degree of anonymity in the mentoring process (Dempsey, Arthur-Kelly, & Carty, 2009). Paulus and Scherff (2008) reported that the anonymity of online communication can provide opportunities for beginning teachers to vent their frustrations and to seek support or to raise questions that they do not feel confident asking within their schools, especially if their school-based mentor is involved in their evaluation process (Klecka, Cheng, and Clift, 2004). Single and Single (2005) suggest that the benefits associated with e-mentoring are similar to those associated with FtF mentoring, including information and subject-matter transfer and psychosocial benefits such as self-esteem and confidence building with e-mentors

providing feedback on curriculum issues, personalized attention, educational advice and encouragement.

Disadvantages of E-Mentoring

Not all findings about e-mentoring have been positive and many of the same challenges exist that have been identified in FtF mentoring (Kasprisin et al., 2003). Single and Single (2005) warn that e-mentoring is not a panacea neither is it an inexpensive alternative to FtF mentoring. E-mentoring has unique challenges and six major challenges have been identified: (a) the likelihood of miscommunication (Eby & McManus, 2004); (b) slower development of relationships (Eby & McManus, 2004; Henri, 1992; Sproull & Kiesler, 1986); (c) required competency in written communication and technical skills (Dobbs, 2000; Eby & McManus (2004); Henri, 1992; Kiser, 1999; Mueller, 2004; Shrestha, May, Edirisingha, Burke, & Linsey, 2009); (d) the possibility of computer malfunctions (Eby & McManus, 2004); (e) issues of privacy and confidentiality (Eby & McManus, 2004; Emery (1999); and (f) declining usage over time (Bonnett et al., 2006; Kasprisin et al., 2003; Klecka et al., 2004; Price & Chen, 2003). An additional concern is the technological requirements of completing observations or in some cases, the lack of observations.

O'Neill and Harris (2004-2005) warn that because the mentor and mentee work and learn in different settings, both must consider the contextual perspective of the other before applying advice or insights from one's own context. Another concern is the role of nonverbal communication which is traditionally regarded as carrying more weight than verbal codes. Since that is eliminated in CMC, personal interactions may be inhibited (Ma, 1996). Henri (1992) and Segall (2000) also warn that the lack of nonverbal cues may provide an incomplete

picture of the problem that leads to a higher rate of inappropriate diagnosis or suggestions. Bonnett et al. (2006) cited the removal of visual communication cues as a particular disadvantage because this nonverbal behavior generally carries relational information. Ridout (2006) also states that because body language and voice tone are missing, careful wording of e-mails is essential; likewise, Van Gelder (1999) notes that it is easy to be careless in email resulting in messages being misinterpreted and the relationship between mentor and mentee may falter. The delay intrinsic in e-mail and reduction of information exchanged in CMC eliminates the usual give-and-take of verbal communication that may be confusing or frustrating (Ensher et al., 2003). Burke and Kraut, (2002) concluded that e-mail messages do not seem to be as useful as telephone calls or FtF meetings for developing and sustaining strong social relationships. Ridout (2006) reports that "using technology requires a complete re-thinking of people-to-people interactions and the ways in which technology can and will support programs" (p. 47).

Mentees in any context learn from their mentors by directly or indirectly observing their behaviors and receiving performance related feedback (Bell, 1996; Kram, 1985; Scandura & Schriesheim, 1992). Because the observational component is difficult to replicate in a virtual context, mentees in e-mentoring are not likely to receive the role modeling available in FtF settings. Role modeling is thus the function of mentoring that is "least" efficiently done in a virtual setting (DeJanasz, Ensher & Huen, 2008). However, new technologies may alleviate this issue (Miller & Griffiths, 2005). During the pilot program that will be examined in this study, virtual opportunities were not present; however, communicating via Skype and conducting online classroom observations are being incorporated into the second iteration of the program.

Interactivity

Interactivity, the pattern of online communications between mentor and mentee, has been predominantly researched as a key to understanding and evaluating CMC's effectiveness providing consistent results. Interactivity has been defined in numerous ways, but the importance of frequent and continued communication is well documented. Bonnett et al. (2006) analyzed the interactivity between pairs of corporate research scientists and university biology students during two consecutive implementations of an electronic mentoring program. They found mentoring pairs with high levels of interactivity were rated as effective by both mentors and mentees overall. DeJanasz et al. (2008) found that the more interaction mentees had with their mentors, the more psychosocial and career support they received and that interaction was directly related to satisfaction with the mentor relationship.

The quantity of the messages is not the only factor; Bonnet et al., (2006) found that the quality and content of the messages play in a role in efficacy ratings. Mentor-mentee pairs rated effective had well-structured threads, had postings that were similar in topic coverage and message length, and were described as "horizontal relationships" in which the mentor treated the mentee as an equal participant (p. 56). According to Harris, Rotenberg, and O'Bryan (1997), the development of successful e-mentoring relationships depends on: (a) frequent, regular contact; (b) active, inquiry-based and mentee-centered communication; and (c) multidimensional communication utilizing intellect and emotion, balancing personal and scholastic information shared in the exchange. O'Neill (2004) suggests that diversity in the types of assistance and support provided may itself be the defining characteristic of

e-mentoring, but warns that lag time—time between a post and a response—is important stating quality e-mentoring requires a timely response and when this does not occur, it can damage the mentoring relationship because the assumption is that the replier is not really interested in the mentoring relationship.

E-mentoring With Teachers

The College of William and Mary in partnership with the Center for Teacher Quality created Electronically Networking to Develop Accomplished Professional Teachers (ENDAPT), an asynchronous online forum that brings together novice teachers and teacher leaders in a virtual mentoring community. Eleven veteran teachers, selected from a national group of accomplished professionals, serve as the online mentors, ranging in teaching experience from 5 to 31 years. The online mentoring took place in an asynchronous group mentoring environment with discussions taking place in a common area among all mentors and novices. Gareis and Nussbaum-Beach (2008) examined the function or purpose of the posts to the online forum to ascertain reasons why mentors and novices posted. Using separate, but parallel, sets of functions for mentors and novices, the content analysis revealed clear patterns of use: Three-quarters (76%) of the posts by novice teachers either posed direct questions (37%), or described a problem that novice teachers were experiencing (39%), about which they were seeking guidance (39%). Thus, novice teachers clearly used the online forum to solicit the support and assistance of others and to share experiences that were not considered problems (42%) (Gareis & Nussbaum-Beach, 2008). Within online communities, some members are lurkers, a term used to refer to members who do not actively participate by communicating, but who visit and presumably read and may benefit from the postings in the forum. Comparing

lurkers to quiet students in classrooms, one does not know if the student's reticence is indicative of a lack of interest or of an introverted mode of learning (Gareis & Nussbaum-Beach, 2008).

Modeling, a mentor describing his or her own experience or thinking but not giving direct advice, answers, or interpretations of a given situation, was the most frequent mentor posts (63%) far exceeding the second most frequent function which was offering guided advice (38%) (Gareis & Nussbaum-Beach, 2008). Veteran and novice teachers alike discussed topics related to planning for instruction, delivering instruction, assessing student learning, managing the classroom, and meeting responsibilities of professionalism (Gareis & Nussbaum-Beach, 2008). More specifically, 4 of the 5 content areas were evident with near-equal frequency with assessment of student learning discussed least frequently. Examining frequency of posts by mentors and novices, these researchers found the discussion of topics was closely balanced between mentor and novice teachers, with the only notable exception being planning for instruction, in which novices tended to post more frequently than mentors (Gareis & Nussbaum-Beach, 2008). Gareis and Nussbaum-Beach (2008) also analyzed the direction of posts finding that participants communicated in a networked fashion rather than a linear fashion and discussions were not typified by one-to-one dialogues. Instead, mentors and novices alike discussed topics with each other individual-to-individual, as well as using broadcasts posts to the entire group in this asynchronous group environment. Gareis and Nussbaum-Beach (2007) found that the discussions moved beyond a conventional mentor-to-novice exchange with novices responding to other novices and mentors addressing other mentors. The authors suggested that the online forum may provide a venue that is

complementary to the school and the online group mentoring forum may be a source for consistent, constructive engagement with other professionals.

Studies of eMSS Program

The eMSS program is intended to encourage reflectivity, inquiry, and acquisition of shared professional standards (Little, 1990). Dalton (1994) described the program as a "collegial, nonjudgmental approach to professional development" (p. 5) based on the understanding that many novice teachers are not prepared to provide meaningful instruction and organize classrooms to enhance students' learning. The eMSS program provides content support to special education teachers based on best practices and research in teacher development. Newmann (1993) stated that creating new educational structures is not sufficient for improving education; instead activities guided by content, commitment, and competence to optimize opportunities for teachers to share perspectives, values, and forms of practice are needed. The program offers mentees a range of online activities that mentees can participate in. The mentee chooses the activities that best suit his or her own learning needs. Through eMSS, new and veteran teachers collaborate in an interactive and facilitated professional learning community to exchange information, ideas, and experiences in order to advance high quality special education instruction for all students (NTC, 2010). The Santa Cruz Model recognizes that when people assume new roles, they need assistance and the kinds of assistance needed will vary with context, role, and prior knowledge (Wagner, 1990). Moir, founder of the New Teacher Center, states: "Support for new teachers can transform our nation's schools" (2009, p. 15). The NTC developed a Formative Assessment System to ensure that mentor discussions are grounded in standards-based instructional practice and are driven

by data. New teachers are matched with exemplary teachers who analyze practice using classroom data and offer constructive suggestions for improvement (Moir, Barlin, Gless, & Miles, 2009). Furthermore, Moir et al. (2009) states that when mentors with similar content knowledge are unavailable in the local school system the "local induction mentors can focus their support of the new teacher on pedagogy and an online mentor can focus on connecting subject matter to content-specific pedagogy" (p. 17).

Three dissertations and two published articles have focused on discourse within the eMSS mentoring site. Simonsen, Luebeck, and Bice (2009) analyzed discourse from the eMSS site involving science and math teachers to examine the co-construction of knowledge among participants to determine if CMC environments are effective for the social co-construction of knowledge about content and pedagogy. Analyzing over 1,600 messages in a private paired discussion area, 940 messages were coded by knowledge type, 719 contained materials representing pedagogical knowledge, 520 contained pedagogical content knowledge, and 165 addressed content knowledge leading the researchers to conclude that teachers experienced growth. Further examination comparing new mentors to continuing mentors revealed a noticeable shift in the primary focus of the messages from pedagogical knowledge among the beginning pairs to pedagogical content knowledge among the continuing pairs supporting that first-year teachers are mainly concerned with coping and maintaining control which tends to take precedence over concerns related to content and instructional practice. In contrast, there was no significant growth in the mentees' active co-construction of knowledge between their first year and second year in the program, which is consistent with mentor training, and the eMSS program's definition of a mentor's role. Mentors are trained to facilitate and promote

reflection to provide support without immediately solving problems for mentees, and to be encouraging without taking the lead in discussions (Simonsen et al., 2009).

The purpose of Farrar's (2009) dissertation was to identify the elements of nonreflective and reflective discourse used by facilitators, mentors, and mentees in Inquiry, Content, Dilemma, and Topic of the Month discussion areas of eMSS. The vast majority of messages were found to be nonreflective discourse with a high percentage of the messages being procedural, with only 0.96% of messages submitted by mentors and 16.84% submitted by novices considered reflective. In this study, mentors submitted more messages to the discussion areas than novices and many of the messages written were to provide advice, encouragement, assignment explanations and other procedural information. While novice science teachers submitted a lower volume of messages, a higher percentage of these messages were recorded as reflective. Additionally, Farrar noted that the novice teachers submitted answers to the questions, but did not expand on their answers stating that they completed what the facilitator asked them to do, but nothing more.

Bice (2005) completed discourse analysis of math and science teachers using discussions in Pair Place (now called *Our Place*) and the Diversity Module to determine if the online mentoring program can increase cultural awareness causing these teachers to subsequently alter their practice. Findings were that teachers increased their cultural awareness through participation, and case study data revealed that participants expressed increased teaching confidence in instruction and representation of materials because of the support received from mentors and peers.

McAller's (2007) dissertation focused on the professional growth of mentors involved in the math mentoring program. Data collected through surveys and six case studies revealed that mentors' growth was realized by providing opportunities for reflection on broader professional issues through supporting the community of learners. Survey results indicated the mentor teachers perceived they had grown professionally as a result of engagement in the program. Growth in reflective practices, professional engagement, leadership development, knowledge of pedagogy and content, and access to new instructional ideas, resources, and strategies was reported. Case study data confirmed growth in the same domains, and survey results found that participation in the Content Forums was particularly meaningful.

Grimberg (2006) examined online dialogue in the Dilemma section of the eMSS program involving science teachers. Discourse was analyzed to elicit teacher's subject matter and pedagogical content knowledge construction. Findings included that mentors tend to use incomplete argumentation structures and novices used fewer levels of argumentation in their discourse. Beginning teachers participated more in pedagogical conversations and the metacognitive and affective aspects of the discourse seemed to promote teachers participation. Mentors tended to provide general claims and claims without warrants. Mentees seldom used questioning to advance discourse and based their claims mainly on descriptive data, lacking content data.

Summary and Limitations of Existing E-Mentoring Research

Most research on electronic mentoring has focused on informing the design of future programs (Bonnett et al., 2006) and despite the growth of e-mentoring in business organizations, little is known about the efficacy of e-mentoring in educational settings

(DeJanasz et al., 2008). No studies exist that examine e-mentoring with special education teachers. In sum, little is known about the processes and outcomes related to e-mentoring beyond descriptive statistics describing participant reactions to and satisfaction with e-mentoring programs (Knapczyk, Hew, Frey, & Wall-Marencik, 2005; Single, Muller, Cunningham, Single, & Carlsen, 2005). The patterns of interactivity have been consistently studied and compared with outcomes, but the actual content of that discourse has had limited review. Murphy and Ensher (2007) state that e-mentoring has exploded in the business world; however, research studies exploring electronic mentoring programs effectiveness, challenges, and possible drawbacks are lacking. Billingsley et al. (2009) states that e-mentoring is untested in special education primarily because funded research has focused on e-mentoring in math and science. Smith and Israel (2010) warn that special education concerns need to be addressed in an e-mentoring environment site because in math and science sites the focus is on content.

Content analysis has revealed that mentors provide vocational, psychosocial, and role modeling support to novices and postings were substantively related to professional competencies. Teachers talked about planning for teaching, delivering instruction, assessing student learning, managing the classroom, and performing as professionals (Gareis & Nussbaum-Beach, 2007). While mentoring aims to provide emotional support and encouragement to beginning teachers, mentoring should also aim to improve professional practice (DeWert et al., 2003; Pitton, 2006; Portner, 2003; Rudney & Guillaume, 2003). E-mentoring holds promise for the induction of beginning teachers because it is not bound by geographic location, it has the capability of providing quality mentoring support that extends

beyond the school day, and it has the potential to address the isolation new teachers' experience. E-mentoring studies in business have repeatedly found that mentees report it beneficial to be paired with a "complete stranger" from a different organization, rather than an individual with vested interest in the mentee's decisions. This impartially allows the mentee to share self-doubts, express concerns, and ask "silly questions" in a way that is almost impossible when the mentor and mentee are in the same organization (Single & Single, 2005).

The Current Study

The focus of this study is the nature of online, Internet-based interactions among novice special education teachers and their mentors. No studies exist in the current literature base involving e-mentoring with special education teachers. While the aim of mentoring programs is to retain and professionally develop novice teachers (Pitton, 2006; Portner, 2003; Rudney & Guillaume, 2003), the focus of this study is to determine the nature of the interaction and the substance of the conversations within this relatively novel venue. Analysis of extended discourse will provide a rich description of the content and frequency of the conversations between novice special educators and their mentors. Given the questions about the nature and effects of mentoring interactions (Wanberg, Welsh, & Hezlett, 2003), this study analyzed the content of e-mentoring interactions in relationship to the needs of new special educators, professional teaching standards, and a conceptual model for teacher development.

There are several limitations in this study. First, the data for this study were collected as part of a pilot e-mentoring program for special educators, and the researcher did not participate in the design of data collection methods. The data analysis, therefore, was based on archived data that could not be examined prior to Institutional Review Board (IRB) review and

study approval. A second limitation is that the beginning special educators participating in this study were also participating in mentoring programs within their respective states and these programs may have affected the results; however, that data was not available for this study. To address this limitation, caution has been exercised in any interpretation of mentees' responses and perceived outcomes. Third, the number of study participants (50 mentees and 22 mentors) is a large number for in-depth descriptions characteristic of qualitative studies, but limiting for certain quantitative analyses. To address these concerns, coding systems based on the literature were developed to structure the qualitative content analyses, and survey results were analyzed using descriptive statistics that are appropriate for the sample.

CHAPTER 3. RESEARCH METHODOLOGY

Introduction

The purpose of this chapter is to describe the context of the study and the research design, as well as the data collection, and data analysis methods. The research design used mixed methods, including both qualitative and quantitative analyses. Two primary data sources were used: the archived transcripts of mentors' and mentees' discourse as well as mentees' and mentors' postsurveys. The one-to-one interactions between mentor and mentee occurring in the eMSS site (called *Our Place*) were examined using discourse analysis and representative examples are provided. Descriptive data and survey responses were analyzed simultaneously.

This chapter begins with a discussion of the context of the study including the duration of the mentoring program, participant selection, and the research questions that guided this study. Next, a description of the research design is provided beginning with the quantitative methods followed by the qualitative components. Finally, the researcher discusses the limitations of the study.

Context of the Study

The eMSS program began in 2002 after the National Science Foundation awarded a 5-year grant to the New Teacher Center at the University of California-Santa Cruz for mentoring math and science teachers. After a year of developing the online components of the program, the eMSS program formally began in fall, 2003. During 2009-2010, a pilot program was

initiated for special education teachers and that pilot program is the focus of this study. eMSS is a web-based professional development program designed to provide opportunities for support, primarily in the form of online mentoring to special education teachers with 3 or less years of classroom experience. eMSS was designed to support and improve the practice of early career special education teachers through mentoring and participation in a structured curriculum. The site is a computer mediated asynchronous communication platform within a Sakai web-based platform. In 2010-2011, the eMSS program designed for special educators was expanded to teachers in seven states.

In the discussion areas, mentors, mentees, content specialists and facilitators engage in dialogue designed to stimulate beginning teachers' progress along "a professional continuum from survival to focused problem solving to critical reflection on teaching practices" (NTC, 2007, p. 2). The program is multifaceted, using modules to promote learning through a specified curriculum and guided and nonguided interactive discussion threads. Content specialists interact with mentor-mentee pairs to assist mentees with acquisition of content and pedagogical knowledge. Figure 3 outlines the main topical areas contained in the eMSS pilot programs' website.

Beginning special education teachers were recruited for the pilot program from the states of Louisiana and Nevada. In Nevada, all interested special education teachers were invited to participate, while in Louisiana, special educators working in low performing schools were encouraged to participate. Mentors received stipends of $800 to $1,000 dependent on the number of mentees they were matched with and successful completion of the Beginning

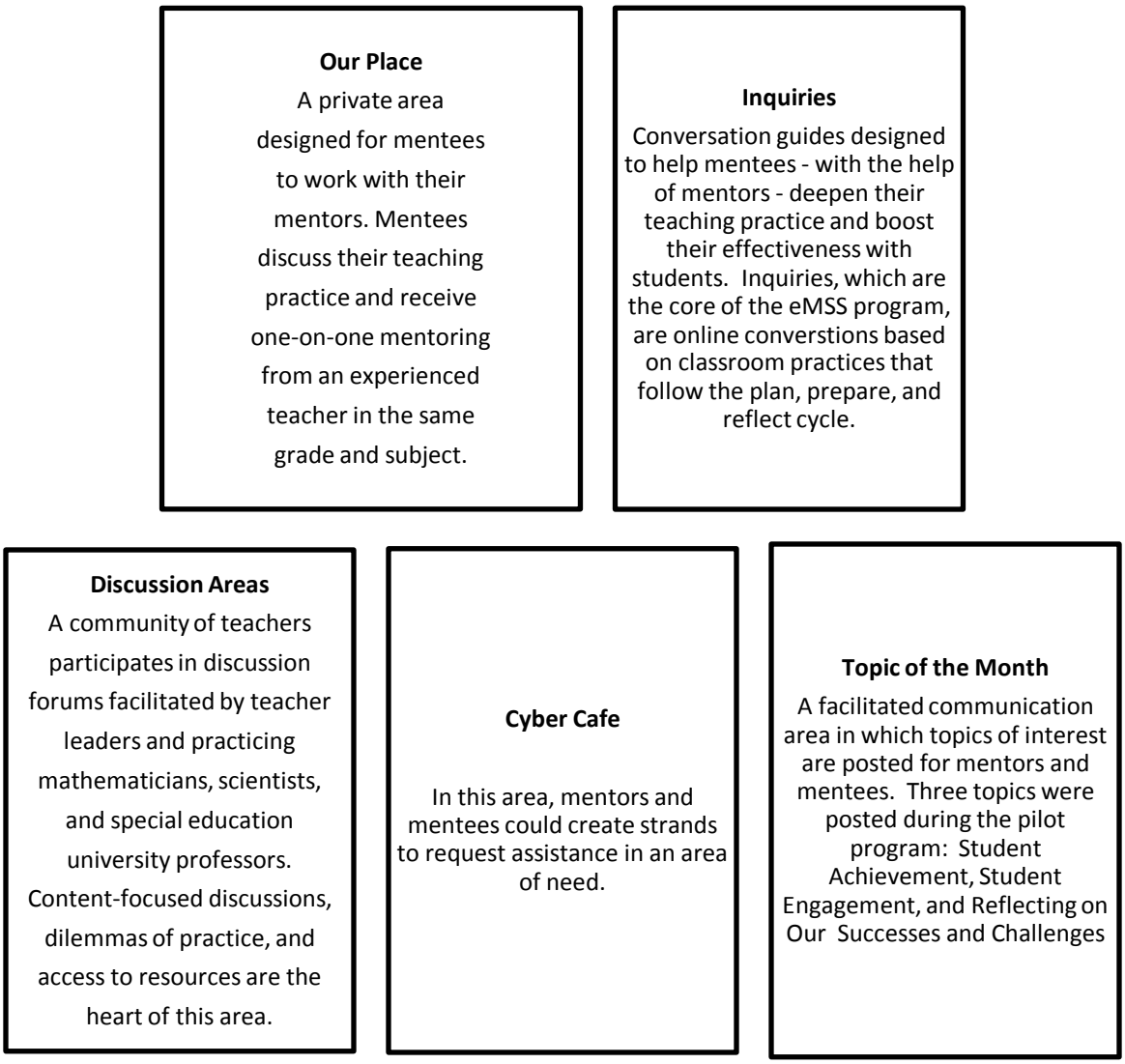

Figure 3. Topical areas within eMSS website

Mentor Institute. Typically, stipends for the full year of participation range from $2,400 to $3,000 dependent on the number of mentees assigned. Participants worked in private and common discussion areas within the online program. Mentors were matched with mentees from the same state who taught students in the same disability category and similar grade levels. Mentors were asked to work with 1 to 4 beginning teachers in a one-to-one site called *Our Place* within the eMSS site. *Our Place* was designed for private discussion between a mentor and their mentees.

Expected Data and Actual Data

When the research project was originally proposed, it was anticipated that the survey data for individual mentors and mentees could be linked to their online discourse in the mentoring site to identify perceived changes; however, this was not possible because the collected data were archived by group rather than individual. Since group level data were available, posttest survey data were analyzed to describe the sample of participants at the end of the first year. Additionally, the researcher anticipated using the pre-survey results to examine discourse to determine if the areas of perceived and reported weaknesses were the actual focus of discourse occurring between mentor and mentee; however, with group data this was also not possible. Furthermore, analysis of cases based on level of discourse by category were going to be focused in this research; however, due to the lack of interactivity between mentoring pairs in general, the researcher felt that representative examples of each category better represented the discourse occurring at the site. Due to the inability to link individual survey data to discourse transcripts to examine relationships between perceived needs, novice characteristics, and discourse content the researcher expanded the analysis of interactivity

between mentors and mentees across the entire site to better describe the frequency and content of interactions at the group level. Finally, due to only being able to analyze group differences based on the pre- and postsurvey responses, correlations were not able to be performed. It was proposed that correlations would be used to examine the relationship between years of teaching experience and perceptions of preparedness addressed in the survey including lesson planning, students' demonstration of knowledge, assessment of students' knowledge, managing paperwork, discipline, and knowledge of CEC standards, and IDEA. Confidence intervals were going to be reported and for any statistical significant findings practical significance was going to be discussed.

Research Design

Gunawardena, Lowe, and Anderson (1997) assert that no single method can adequately assess the processes comprising an online learning experience for the social construction of knowledge; therefore a concurrent mixed method design was utilized to converge both quantitative and qualitative findings (Creswell, 2003). Patton (2002) states that analysis can be mixed and matched in the search for relevant and useful information and Johnson and Onwuegbuzie (2004) define this approach as "the class of research where the researcher mixes or combines quantitative and qualitative research techniques, methods, approaches, concepts or language into a single study" (p. 17) in a way that offers the best opportunities for answering research questions. While both quantitative and qualitative approaches were used, qualitative methods were the predominant method used in this study, since the primary objectives were to "describe what is going on" and to address "topics [that] need to be explored (Creswell, 1997, p. 17). Because this study used online dialogue to determine the content of

conversations in a relatively new medium, qualitative research methods were important for answering the research questions.

Mason (1992) reviewed the research techniques used in CMC and concluded that while qualitative studies may be value-laden, not generalizable, nor easily replicable, quantitative analysis of messages may limit investigations to easily measurable aspects such as number of messages sent and by whom, number of logons, and number of replies. Mason (1992) stated that quantitative methods do not reflect the complexity of group interactions and do not provide contextualized interpretations of why certain behaviors occur and also acknowledged the difficulties involved in isolating the important factors from the abundance of details emerging from such studies. Researchers have found that content analysis of verbal data occurring in online mediums this expands studies from mere descriptions to meaningful interpretation (Chi, 1997; Merriam, 2001). Schrire (2006) stated that merging quantitative analysis within qualitative methodology yields an analytic and holistic perspective of examining the knowledge-building process in asynchronous discussions.

Therefore, this study employed a combination of methods to describe the participants, examine the frequency of interactions, and analyze the discourse content to more fully describe the interactions of novice and mentor special educators in this pilot online mentoring program. In addition, descriptive statistics were used to characterize participants' perceptions of their preparedness for teaching special education. Table 1 reviews the research questions, the data sources, and the data analysis procedures for each question. To aid the reader's understanding, research questions 1 and 2 will be explained in the Quantitative Methods

Table 1

Summary of Data Sources and Analyses

Research questions	Data source(s)	Data analysis
1. What are the characteristics of the participants in the pilot online mentoring program?	•Mentor surveys •Mentee surveys	•Frequency •Percentages o Response rates o Teaching experience o Degrees held o Certification areas o Mentoring experience o Computer usage and experience o Perceived levels of preparedness
2. What are the perceived outcomes of the participants in the pilot online mentoring program?	•Mentor surveys •Mentee surveys •End of year reflection postings	•Frequency •Percentages o Perceived levels of preparation o Qualifications to teach students with exceptionalities o Importance of pedagogical issues o Perceived level of preparedness •Qualitative analysis o End of year reflections postings

Table 1 - continued

Research questions	Data source(s)	Data analysis
3. What is the frequency of interactions between beginning special educators and their mentors?	•All areas of eMSS site o Our Place o Topic of Month o Inquiries o Cyber Café o Disability discussion areas (11 total)	•Frequency •Percentages •Mean •Range •Standard deviations
4. What is the content of the discourse among novice and mentor special educators by key concerns, InTASC standards, and the HPL framework?	•Our Place	•Frequency •Content o HPL o InTASC o Beginning special educators' needs and concerns

section and research questions 3 and 4 will be explained in the Qualitative Methods section of this chapter.

The researcher understands that "only true experiments offer definitive evidence of causal inferences" (Thompson, Diamond, McWilliams, Snyder, & Snyder, 2005); however random assignment was not possible in the phenomena under study. Most research on mentoring has been conducted through either the use of qualitative methods or survey results. Evidence is provided based on the research review completed by Billingsley et al. (2009); of the 37 studies reviewed only one study (Gehrke & Murri, 2006) used mixed methods to evaluate the mentoring experience. Gehrke and Murri (2006) gained information from eight special education graduates from the same program in their first or second year of teaching through open-ended interview questions and a 10-item Likert scale. Therefore, survey responses will also be used to confirm or deny the qualitative findings. By comparing qualitative and quantitative results, the researcher insures reliability, depth, and descriptive detail (Creswell, 2003). Similarities and discrepancies found are discussed.

Participants

A 5-month pilot project (February through June) was conducted in 2009-2010 involving 78 special education teachers, mentors, facilitators, and one university faculty member. This study examined survey data from participants and the conversations that occurred between mentors and mentees during the pilot. Online mentoring for beginning special education teachers was provided by trained mentors who teach the same type of disability and approximate grade level. Facilitators, who were experienced mentors, provided support to participants during the pilot. Beginning special education teachers (defined as a teacher with 3

years of experience or less) were recruited from the states of Louisiana and Nevada to participate in the eMSS pilot program and completed an online mentee orientation. Experienced special educators from the states of Louisiana and Nevada agreed to be mentors in the program and attended a 3-week online mentor training institute to develop and enhance their online mentoring practices. All mentors were first year eMSS mentors. Facilitators in online discussion areas were experienced special education teachers and university level special education professors. The facilitators participated in a 3-week facilitator training program. Interactivity occurring within the entire site was analyzed; however, the interactions that occurred between mentors and novice teachers in *Our Place* were the primary focus of this work.

The NTC recommends that mentors and mentees log on three to four times weekly to participate in the eMSS online collaborative learning environment. Furthermore, their expectations are that mentors and mentees will participate for three to four hours weekly within the online e-mentoring site. Additionally, mentors have access to a facilitated area, Mentor Place, which offers ongoing support and includes monthly discussions about improving mentoring practices.

Instrumentation

Data about participants and their interactions were collected through an online survey completed at the end of the pilot program. Additional data were gathered using interaction measures and examination of the content of their archived asynchronous conversations in *Our Place*. The survey, developed by the New Teacher Center, was based on previous surveys

utilized with eMSS participants. The content measures were developed by the researcher and based on the literature to characterize the content of interactions among participants.

Survey

The survey included 23 questions with 18 forced choice responses and 5 open-ended questions. The survey was based on previous surveys developed by Horizon Research for the eMSS science and math programs, and modified based on "contextual differences in special education and the research and literature" (A. Mike, personal communication, July 4, 2011). The primary purpose of the mentee questionnaire was to collect information about who was participating in the eMSS program and to assess the quality and impact of the program.

Descriptive statistics, frequency charts, and graphic displays of data are used to report years of teaching experience for mentors and mentees, grade level taught, certification, and degrees.

Interaction Measures

To address the question about the frequency of interactions, interactivity was examined to determine the frequency of interactions within the site. First, each of the five main areas of the site was examined and frequencies of interactions were tallied for mentors and mentees. Next, all areas of the site were tallied to determine total interactivity levels for mentors and mentees.

In addition, to answer question four concerning the content of interactions, all interactions occurring in *Our Place* between mentor and their mentees were analyzed using the following: (a) InTASC standards, (b) Needs and Concerns of Beginning Teachers, and (c) the rubric for the HPL framework. Twenty-five percent of all content analysis was coded by a

second rater. Interrater reliability, reported as percentage agreement and Cohen's Kappa was calculated. Finally, the researcher examined the discourse for emerging themes not previously outlined.

Procedures

First, the postsurvey data were analyzed to describe the characteristics of participants and to describe participants' perceptions of their levels of preparedness. Then, the frequency of interactions was measured to determine the total number of posts made by the mentor, the mentee, and the content specialists across all five sections of the website. Next, the content of participants' interaction in *Our Place* was analyzed using the researcher-developed coding system, based on key concerns, InTASC standards, and the HPL framework. Additionally, the researcher examined the discourse for emerging themes that were not previously captured through the coding system.

Quantitative Research Procedures

Participant postsurveys were used to gather data from all the mentors and mentees during the pilot implementation. The same survey was administered prior to and at the conclusion of the program (see Appendix C). The survey included 23 questions, 18 required forced choice answers and the remaining 5 questions were open-ended. Response rates for the postsurveys depicted a higher return rate and were therefore deemed a more accurate representation of the participants and were therefore used to describe the population. The program designers developed the survey and estimated completion time as approximately 15 minutes. The directions to the survey state that "no information which could identify you will be provided to anyone without your permission," therefore identifiable information is not

reported in this study. Survey questions included total years of teaching experience, years teaching special education, grade levels taught, and exceptionality taught, the total number of preparations, and the amount of daily planning time. Perceptions of preparedness in variety of teaching areas were also examined. All forced choice questions were analyzed to obtain descriptive statistics. Open-ended survey questions were examined qualitatively.

To answer question two, which addresses perceived outcomes, survey responses were analyzed and reported. Questions about prior computer usage were also asked including the number of online courses, seminars, or discussion groups the person had previously taken and a separate question asking how many of these were related to special education. The location of the computer and the type of connection at each location were asked. Prior computer usage was asked using forced choice answer ranging from *new to it* to *quite experienced*. Participants were asked about:

- using computers,
- surfing the internet for educational purposes,
- use of email and Listservs,
- participating in synchronous chat rooms,
- participating in asynchronous discussion boards,
- attaching files to email,
- uploading and downloading files to/from a server,
- completing and submitting online forms and or questionnaires,
- monitoring and posting messages to a threaded discussion group, and
- participating in online seminars and/or courses.

Familiarity with legal requirements of the Individuals with Disabilities Education Act (IDEA), state standards, benchmarks, the comprehensive curriculum, and CEC standards were asked using forced choice answers including: *new to it*, *a little experienced*, *moderately experienced*, and *quite experienced*. Perceptions of qualifications to teach students from a list of disability types was also asked using four forced choice answers including *not well qualified*, *adequately qualified*, *qualified*, and *very well qualified*. Level of preparedness for a list of areas was solicited through the use of four forced choice answers. The areas included:

- managing student grades, record keeping and paperwork;
- student discipline;
- lesson planning and time management;
- effectively deal with and communicating with parents;
- using group work effectively;
- setting and achieving student goals as written on IEPs; and
- setting and achieving professional goals.

Level of preparedness in the following areas was assessed through forced choice answers including: *not adequately prepared, somewhat prepared, fairly well prepared, and very well prepared*.

- Question students for understanding.
- Have students demonstrate higher order thinking skills.
- Motivate students to learn and become actively involved in classroom activities.
- Use real world/functional skills in lessons.

- Examine student work in order to assess student thinking and reflect on classroom practice.
- Provide instruction for multiple learning styles of my students.
- Identify/develop lessons aligned to instructional goals of the students' IEPs.
- Identify/develop lessons to address individual student needs.
- Identify/develop lessons aligned to state and national standards.
- Formally assess student learning within the content area in which you are teaching.
- Informally assess student learning within the content area in which you are teaching.
- Identify how students think about the content you are teaching.

Quantitative Data Analysis

Quantitative data analysis was used to answer research questions 1, 2, and 3. Survey responses provided demographic information and perceived outcomes for all participants. Frequency counts of interactivity were used to define frequency of interaction by participant role. Descriptive statistics were used to describe the mentors and mentees by years of teaching experience, grade level taught, and disability area taught. Additionally, the perceived level of preparedness to teach students from various disability categories, the level of preparedness for areas of teaching (questions 13 and 15), and level of importance question (14) are reported. Also, frequencies of interactions in the five main areas of the eMSS site are reported.

Descriptive statistics from the analysis of the survey data were used to answer question 2: What are the perceived outcomes for mentors and beginning teachers who participated in the eMSS mentoring and induction program? Additional information was examined

qualitatively from discourse occurring within the eMSS site within the End of Year reflections for mentors and mentee strands and is also reported.

Active engagement in professional development is hypothesized to be a precursor to professional growth and development. Active engagement is measured in online environments by the frequency of interactions between mentors and mentees. This process is called interactivity which has been widely researched as leading to successful e-mentoring relationships. Analysis of interactivity across all mentoring partners and throughout the online mentoring site, which is the focus of research question 3, are provided in chapter 4. Messages that contained only discourse associated with eMSS such as technical issues or of social nature, no further actions were taken in the coding process. Totals, reported by standard and strands are also outlined in chapter 4.

In-depth Qualitative Analysis

Descriptive statistics were used to describe the population and to compare results with the qualitative findings. The statistical program SPSS Version 17 was used for quantitative methods and nVivo 19 was used for qualitative methods. For the purpose of this study, further in-depth qualitative analysis provided an appropriate methodology to understand how the content of the conversations relates to common concerns outlined in existing mentoring literature, to InTASC standards, and the HPL framework. Excerpts from conversations between mentoring partners were analyzed and used to depict the population under study. The discussions between mentoring partners were analyzed in greater detail to identify themes within and across partners to address research question four, which involved a detailed content analysis of the messages to identify patterns among them. For instance, conversations were

analyzed to determine how career and content related topics were integrated into the overall discussion. The in-depth analysis investigated the type of knowledge constructed.

Yin (2003) and Merriam (2001), state that qualitative methods are the most appropriate to answering research questions that focus on *what* happens in a given context and *how* the events take place. The use of multiple cases will provide more convincing data than the use of an individual case (Yin, 2003). Schrire (2006) proposes using a qualitative approach to provide in-depth analysis using content analysis of discourse done at a number of levels, focusing on the discussion forum itself, the discussion threads, the messages, and the exchanges and moves among the messages. Schrire used this approach to analyze three cases stating that by performing a fine-grained content analysis of the discourse in each conference within the broader context of the conference as a whole, it was possible to move from one level of explanation to another and to "arrive at an understanding of the learning process that was both analytic and holistic" (Schrire, 2006, p. 50). The technique outlined by Schrire will be used to qualitatively analyze data for further inquiry. Additionally, insightful quotes or excerpts from dialogue are used to describe and depict exchanges.

In Henri's (1992) analysis, individual statements within messages corresponding to units of meaning were coded. Therefore, each message could contain several different coded units, but Henri, as well as other researchers, has argued against breaking messages into statements for analysis. Several researchers have argued that breaking messages down into statements can generate superficial results without informing the collaborative building of knowledge (Garrison, 2003; Gunawardena et al., 1997; Henri, 1992; Newmann, 1996). Pilkington (2001)

contends that detailed analysis of dialogue and its position within exchanges can suggest common themes for understanding the reasoning that builds learning.

Discourse analysis occurred through analysis of the text-based discussions that occurred between the mentoring partners to determine the content of the conversations. Content analysis of online discourse is crucial in understanding the learning that takes place in an online discussion area (Angeli, Bonk & Hara, 1998). To successfully use content analysis, you must first carefully define your coding categories. Since this is a new phenomenon under study and existing coding categories do not exist, the researcher developed rubrics for coding data based on InTASC standards, the HPL framework, and key concerns of beginning special educators' needs and concerns found through a review of the literature. Due to the lack of data availability prior to Institutional Review Board approval and the rarity of the e-mentoring design, a pilot study was conducted using 10% of the data to determine if the data coding schemas are sufficient to continue coding data. The researcher was the first coder and coded data by all categories outlined in question 4. Examples depicting each category were extracted from the remaining 90% of the data and added to the coding rubric

Wang and Odell (2002) state that mentor-novice conversations about teaching are important to the development of teachers' professional knowledge and thus to the improvement of teaching practices. By examining the content of conversations between individual mentor-novice pairs; the content and focus of mentor and novice interactions about teaching can be examined (Achinstein & Villar, 2002; Strong & Baron, 2004; Wang & Paine, 2002). To address research question four content analysis of all communications occurring in *Our Place* between beginning special educators and their mentors were coded for three

purposes. The purposes are: (a) coding for Beginning Special Educators Needs and Concerns; (b) coding for InTASC Standards; and (c) coding for HPL framework.

First, the content analysis was compared to existing literature outlining the needs and concerns of beginning special educators outlined by Billingsley et al. (2009) including the three broad categories: (a) inclusion, collaboration, and interactions with adults; (b) pedagogical concerns; and (c) managing roles (see Appendix D). To teach according to standards, "teachers are asked to develop knowledge and teach in ways that help children acquire knowledge, skills, and dispositions for their future" (p. 804) (Wang, Strong, & Odell, 2004). In order to meet these goals, teachers need to understand the subject matter they are required to teach (Ball & McDiarmid, 1989) and develop flexible representations of subject matter to various groups of students (Grossman, 1990; Shulman, 1987). The purpose of eMSS program is to build professional knowledge based on standards; therefore the second content analysis was based on professional standards, the InTASC Teaching standards. The InTASC Teaching Standards, developed by the Council of Chief State School Officers, and based on the HPL framework (see Appendix E) were used to code the conversations that occurred in the online mentoring site.

Discourse analysis is a well-tested method for study of online learning (Jarvela & Hakkinen, 2002; Kanuka & Anderson, 1998) and has been applied by a number of researchers to online discourse to gauge participant learning (Garrison, Anderson & Archer, 2000; Gunawardena et al., 1997; Gunawardena, Plass & Salisbury, 2001; Hara, Bonk & Angeli, 2001; Henri, 1992; Kanuka & Anderson, 1998). Currently, there is not agreement on what the unit of analysis in discourse analysis should be (Garrison & Archer 2003; Henri, 1992; Kanuka & Anderson, 1998).

To address issues of reliability in the content analysis of online discourse, second coders were used to code the discourse. Both of the second coders are currently doctoral candidates completing dissertations using qualitative methods and have experience teaching online courses. Both were trained on the coding schemes by the researcher. One of the secondary coders coded the InTASC standards and the other coded the Needs of Beginning Special Educators and the HPL rubrics. Both coded independently and percentages of agreement and disagreement were 100% agreement for InTASC standards and HPL framework and 99% for Special Educators Needs and Concerns. Specifically, Agreements were 1,081 segments of 1,085 segments for InTasc, 630 of 632 segments for the HPL framework, and 624 out of 634 segments for Beginning Special Educators Needs and Concerns. The second coder independently coded the same data into categories and interrater reliability measures using Cohen's kappa were determined. Additionally, the researcher and the secondary coders discussed the coding schemes and it was determined that changes did not need to be made prior to coding the remaining data independently. Based on initial interobserver reliability ratings, additional training was not necessary and therefore was not provided to the second coders and the coding schema did not require changes to better represent the data.

The initial plan was to have the coders exchange data if disagreements occurred, but this was not necessary due to high interrater reliability ratings. Interrater reliability is a measure used to examine the agreement between two raters on the assignment of categories of categorical variables and is an important measurement for determination of implementation of the coding system. Reliability measures are reported in percentage of agreement between the two coders. The statistical measure of interrater reliability used in this study is Cohen's

Kappa. Cohen's Kappa ranges from 0 to 1.0 where larger numbers mean more reliability, values near or less than zero suggest that agreement is attributable to chance alone. Cohen's Kappa was performed and reported. The results of interrater analysis are: Kappa = 0.93 with $p < 0.001$ for InTASC, Kappa = 0.94 with $p < 0.001$ for HPL, and Kappa = 0.94 with $p < 0.001$ for Beginning Special Educators Needs and Concerns.

Ball and Cohen (1999) state that if teachers are to do the type of teaching and facilitate standards-focused student learning then sustained professional development opportunities for teachers focused on student learning must occur. By identifying which standard was the focus of each message, it was hoped that the researcher would be able to determine if the online environment provides a medium for focusing on standards-based learning. Teachers cognizant of the nature and processes of learning can significantly increase the facilitation of learning and development for each student (Bransford et al., 2000; Peterson et al., 1990); therefore, the final content analysis was coding the data for evidence of knowledge centered, assessment centered, learning centered, and community centered communication based on the schema found in Appendix D. Based on the HPL framework, the three essential competencies for effective teaching include: (a) knowledge of teaching; (b) knowledge of subject matter; and (c) knowledge of how students learn.

Rourke, Anderson, Garrison, and Archer (2001) based on their review of 19 content analysis studies, summarized the five units previously used in discourse analysis including: (a) the paragraph; (b) the sentence; (c) the meaning unit, or speech segment; (d) the speech act; and (e) the message. Since there are tradeoffs between the grain size and the amount of information derived from the data, Chi (1997) proposes a dynamic approach in which data can

be coded more than once, each time according to a different grain size, depending on the purpose and the research question to which examination of data is related. This approach was used by Kneser, Pilkington, and Treasure-Jones (2001) who used a larger unit for coding the role of the message and the fine-grained unit was used for coding the purpose of the discourse unit. According to Chi (1997), the advantages of the dynamic approach to unitization are that it increases the reliability of the coding and that units can be determined post hoc. The dynamic approach will be utilized in this study.

Credibility measures for qualitative research include triangulation, disconfirming evidence, researcher reflectivity, member checks, collaborative work, external auditors, peer debriefing, audit trail, prolonged field engagement, thick detailed descriptions, and particularizability (Brantlinger, Jimenez, Klinger, Pugach, & Richardson, 2005). Data triangulation occurred through using a variety of sources in the study including pre- and postsurveys, analysis of discourse, and comparison of discourse analysis and perceptions from surveys. Multiple perspectives were used to interpret the data increasing theory triangulation. Methodological triangulation will be increased through using qualitative and quantitative methodologies. Preliminary themes and categories were established for this study a priori; however the data was examined for emerging themes and disconfirming evidence by the initial and second coders. Coding is based on connections with an established research field and that information was re-examined throughout the data analysis process. Excerpts are reported qualitatively through the use of quotations to illuminate the population. The researcher attempted to self-disclose pre-study assumptions by writing a reflectivity statement and "being forthright about position and perspectives" (Brantlinger et al., 2005, p. 201). First and second

level member checks were performed for each area under examination by the first and second coders. Interrater reliability was determined in percentage of agreements and Cohen's kappa. Peer debriefing occurred with both the second raters and persons knowledgeable about mentoring. Audit trails including dates and times of examination and researcher's inferences throughout the examination of data were recorded to document that substantial time was "spent to claim dependable and confirmable results" (Brantlinger et al., 2005, p. 201). An audit trial was used to document the researcher's reactions, personal position, perspectives, and coding to establish and add to credibility and trustworthiness. Thick detailed descriptions of each participant are provided through information gathered from discourse analysis. These descriptions may assist the reader in determining the degree of transferability to their own situation or circumstances.

Reflectivity

In this section, I describe my position as a researcher. How we account for ourselves as researchers is important to assuring believability in research (Altheide & Johnson, 1998). Patton (2002) contends that the credibility of the researcher is advanced by the presentation of self.

Currently, I am teaching in a university setting, but have 12 years of classroom experience in special education at the elementary level. While in the classroom, I taught students in resource, consultative, collaborative, and self-contained models from the following disability categories: other health impairments, specific learning disabilities, autism, developmental delays, intellectual disabilities, emotional disabilities, traumatic brain injury, multiple disabilities, orthopedic impairment, and hearing impairments as primary disability

categories and students with speech language impairments as secondary disabilities. I am certified to teach students with specific learning disabilities from pre-kindergarten to 12th grade and general education students from kindergarten to sixth grades (although I have never been a general education teacher).

When I began my first year of teaching, I had 22 self-contained students on my caseload. Although I was assigned a school-level mentor, I only met with her twice during the academic year. My first year of teaching would be described as survival. Not only did I have a difficult caseload with multiple grade levels and content areas to plan for, but I was also responsible for introducing the collaborative model of teaching to all teachers at the school in which I was employed. I was supposed to serve as a role model for collaborative teaching, but during that first year the teachers that I worked with were not receptive to the collaborative model.

After teaching for 3 years, I became the grade level chairperson responsible for a staff of 11 special educators and 17 instructional assistants. I was also charged with again presenting collaborative teaching to the school with a yearlong series of professional development delivered monthly at faculty meetings. I became a peer coach in my fourth year of teaching and continued with these duties until I left the classroom. As a peer coach, I attended five all day training sessions annually with the two teachers I coached during the year and was responsible for completion of their teaching observations. Also, in my fourth year of teaching, I became the mentor coordinator at the school level for all new teachers at the school. In this position, I prepared beginning of the year training and information sessions for mentors and mentees, monthly training sessions for mentors, monthly informational sessions for mentees, monthly

calendars for both, and compiled notebooks for all participants to allow them to collect data that I provided them throughout the year.

I am also trained in the Clinical Faculty model, having completed training at both level I and II. After completion of Level I training, I was a supervisor of student teachers that were placed in my classroom and as Level II trained personnel, I was responsible for supervising teacher candidates in their externship experience to receive their Master of Education degree.

After being a classroom teacher and prior to beginning teaching at the university level, I was a lead teacher specialist for 2 years. In this position, I was mainly responsible for legal compliance and attended eligibility and Individualized Education Plan meetings for students in preschool through adulthood at 5 preschools, a private daycare center used as a reverse inclusion model for county students, 5 elementary schools, 1 middle school, 1 high school, 1 alternative high school, and a jail program. There were 1,288 students on my caseload. I was also responsible for teacher observations for all beginning teachers in my corridor. While in this position, I created an online training module for all beginning special education teachers and also initiated and conducted a 5-day training program for beginning special educators. I was also responsible for presenting professional development to all special education teachers in the county. Lastly, I began a professional learning community for teachers of students with autism.

My only participation in online mentoring has been that I have participated as a mentor to college level students for the past 3 years through the Council for Exceptional Children. All four of these mentees have been full-time students and have not been employed in the school system.

Summary

To date, no studies of e-mentoring have been performed with special educators and few studies exist with general educators; therefore this study is exploratory in nature. The existing literature base is comprised of mainly qualitative studies and survey methodology soliciting only the perceptions of the mentee. There are limited studies using qualitative and quantitative designs; therefore the concurrent mixed methods design of this study addressed the perceptions of mentors and mentees involved in an e-mentoring site during a pilot program. This study targeted special education teachers with three or less years of experience in the classroom involved in a pilot e-mentoring program. In addition, the study examined dialogue in the context of asynchronous online discourse between novice and experienced special educators in a professional development program. Evidence of the communication was maintained and all messages posted online were archived. Through the examination of electronic discourse this study examined the content and frequency of discourse found in messages written by participants. Additionally, conversations occurring in this site were compared to national standards and needs and concerns of beginning special educators to determine if the conversations addressed standards and concerns.

Postsurveys provided descriptive findings of perceptions of teachers concerning their levels of preparedness at the completion of the pilot program. The data gathered adds to the mentoring literature base as well as to the mentoring and induction literature by examination of perceptions of preparedness on classroom discipline issues, planning, computer usage, and issues surrounding national standards. In-depth qualitative analysis was used to further explore

the discourse for national standards, needs and concerns, and the HPL framework. The researcher also examined the discourse for emerging themes.

Limitations of Study

Extraneous variables may have affected the conversations that occurred in the formal e-mentoring environment with an online mentor. Each mentee also had a school-based mentor with whom it is assumed that they conversed. The conversations between school-based mentors were not the focus of this research and were not examined. The researcher recognizes that the content of these conversations may have included topics and categories analyzed in this work, but that are not accounted for. Secondly, the CMC medium is relatively new and participants may have worried about the confidentiality of the medium, may have been inhibited by their lack of computer usage, type of computer connection, or perceptions of computers. Thirdly, school settings are social settings with many informal conversations occurring in the hallways and teacher's lounge, and they are not accounted for in this study. Professional development opportunities are offered in school systems and training provided through professional development opportunities as well as classes taken are not accounted for in this work.

A pre- and postsurvey was available to mentors and mentees in an online format. Survey responses were archived for groups of mentors and mentees. Several mentor and mentee survey respondents completed the survey twice, but those individual responses could not be identified and removed since the data was archived at the group level. The survey was used to gather data about participants in this pilot program. In addition, the original study proposal was based on the expectation that the survey answers could be matched with

individual participants' discourse; however this did not prove to be the case. Further clarification was needed for some questions, and additional questions would have been helpful, such as, perceptions about the e-mentoring experience, the levels of assistance received, the match of mentors-mentees, demographic data such as ethnicity and race, and the use of CMC for mentoring. Additionally, each beginning teacher had a school-based mentor in addition to an eMSS mentor. Questions about the conversations that occurred with each mentor would have been helpful to determine variability in supports across mentees. The survey was developed by the program administrators and additional studies of construct validity and reliability of the instruments are needed.

Generalizability is not claimed for this study. Like all qualitative research, rich descriptions were given of the program and the participants and the reader must determine if the results are applicable to their setting. The participants in this study were selected from two states and the sample size is relatively small for quantitative analyses and may not be representative of a broader population. Furthermore, the novelty of an online mentoring and induction program for special educators may have affected outcomes; while there were some questions on the survey addressing previous computer usage, connection speed, and experience in online learning environments, there may have been other factors, such as concerns about lack of confidentiality of the discourse.

The participants were from a voluntary sample and the volunteers may differ from non-volunteers in important ways. The more representative the sample, the more external validity the results will have, but this sample was not representative so generalization of results will be left to the reader's interpretation. Also, sampling bias is possible since random sampling

techniques were not used. The study was relatively short in length although many studies examining online learning were located that lasted for one semester in duration.

Another limitation is the researcher's inexperience with both qualitative and quantitative research methodology, since the researcher is a doctoral student conducting her first study. Additionally, the coding rubrics were researcher-created and the categories proved to not be mutually exclusive. While a pilot test of the coding schema was conducted with 10% of the discourse, the rubrics were not independently evaluated or field- tested; however independent raters were able to reliably use the coding system.

Most researchers have reviewed relatively small amounts of discourse occurring and have focused on the interactivity between participants. Analysis of the discourse between mentoring pairs will add to the body of research for both FtF and e-mentoring. Additionally, studies involving mixed methods are significantly lacking in the current literature so this study will add to the body of literature. A mixed-method approach allowed the converging of qualitative and quantitative data (Creswell, 2003), which increases the internal validity of the study. Multiple forms of triangulation were used to increase the validity of the study. Triangulation involved comparing findings from the survey with the in-depth qualitative analysis providing methodological triangulation. Theory triangulation occurred by comparing the survey and content analysis results with the existing literature base. Researcher triangulation occurred through the use of three coders for the content analysis. Patton (2002) describes triangulation as "contributing to the validation of qualitative analysis" (p. 557). According to Patton, triangulation involves checking the consistency of different data sources within the same

method. Other data collection might contribute to triangulation, such as direct classroom observations of mentees, was not conducted for this pilot program.

Quality assurance measures in qualitative research leads to increased believability of results (Huberman & Miles, 1998; Lincoln & Guba, 1985; Patton, 2002). Patton (2002) provides criteria for evaluating a study's quality recommending that the researcher presentation of self which was presented earlier in this chapter be included. Lincoln and Guba (1985) add trustworthiness and credibility associating trustworthiness with data collection and analysis measures and credibility with the process of interpreting results. Lincoln and Guba (1985) state that trustworthiness should convince the readers that findings are worth paying attention to. They suggest maintaining a journal, mounting safeguards, developing and maintaining an audit trail, gathering referential adequacy materials, and triangulation. Maintaining a journal during the research process, the researcher reflected on personal bias; which provided introspective information about the researcher's state of mind (Lincoln & Guba, 1985). Journaling was also used to provide insight into the researcher's understanding of information from analysis of the data which assisted with the realization of biases and created an audit trail. An audit trail is designed to allow the researcher to retrace the process of conducting the study.

Trustworthiness involves comparing emergent information from one data source with data from other sources, which was aided by the concurrent mixed methods design of the study. Additionally, data from qualitative and quantitative measures were compared for similarities and differences that are noted in chapters 4 and 5. Triangulation is a "process of using multiple perceptions to clarify meaning" (Stake, 1994, p. 241) or as Patton (2002) states it is multiple ways of looking at the same phenomenon, which adds confidence when looking at

conclusions. Lincoln and Guba (1985) describe credibility measures as assuring that the data and the findings are aligned. Dereshiwsky (2003) states that providing rich, thick descriptions of the setting, participants, program and procedures increase credibility. Descriptions of the program, the participants, and the setting are described.

CHAPTER 4. FINDINGS

Existing literature examining face-to-face mentoring has explained little about the content of interactions between beginning special educators and their mentors. Additionally, e-mentoring is a relatively new concept in the field of education; therefore the purpose of this study was to determine the type of support special educators seek and receive from their online mentors and to characterize the interactions occurring between beginning special educators and their mentors. This chapter presents the characteristics and perceived outcomes of the participants, the frequency of interactions occurring within the site, and finally through the application of teacher development models, professional standards, and the unique concerns of special educators to the discourse occurring in an e-mentoring site messages were examined and classified into categories based on the HPL framework, InTASC standards, and a literature review of needs and concerns of beginning special educators documented in literature.

This chapter presents the results of this mixed methods study with analysis of archived data from a web-based survey and online discourse between novice and experienced special educators. Results are presented to address the following research questions:

1. What are the characteristics of the participants in the pilot online mentoring program?

2. What are the perceived outcomes of the participants in the pilot online mentoring program?
3. What is the frequency of interactions that occurred in an online asynchronous e-mentoring site between beginning special education teachers and their mentors?
4. What is the content of the discourse among novice and mentor special educators by the following content areas: concerns of beginning special educators, the Interstate Assessment and Support Consortium (InTASC) standards, and the How People Learn framework?

Results from the survey data describe participants' demographics, current teaching position, degrees held, experience with online environments, and perceived levels of preparedness.

Survey Results

The survey results are based on responses provided by mentors and mentees involved in the eMSS program sponsored by the New Teacher Center at the University of California-Santa Cruz during the 2009-2010 pilot program. Due to the method of online distribution through the eMSS site, it was not possible to ascertain the number of potential survey participants who received the survey invitation, but did not participate. The same survey was used to gather information prior to and at the conclusion of participation in the site. Based on a more accurate response rate, postsurvey data were used for mentors and mentees to reflect beliefs and attitudes of participants. Mentees completed 45 surveys, with one mentee completing the survey twice yielding a response rate of 90% (including the mentee that

completed twice, or 88% excluding her). Twenty-three surveys were completed by mentors but one mentor completed the survey twice; therefore the return rate is 100% for mentors.

Surveys for both mentors and mentees were completed online utilizing the Inquisite® program and group data were provided to the researcher; therefore answers from participants completing the surveys twice could not be removed. This is an obvious limitation of the study, but results will be presented to characterize the mentors and mentees involved in this pilot e-mentoring program. Survey responses were used to examine years of teaching experience, subjects taught, disability categories taught, degrees held, and experience with online coursework and use of computers. To provide an understanding of the participants in this study, frequencies of the educational and experiential variables reported by the mentors and mentees are provided in Tables 2 and 3.

Participants' Education Background and Experience

Mentors. More than 60% of respondents had 11 years of teaching experience with almost 21% reporting 21 years of experience or more. Most mentors held a master's degree. Six of the mentors did not have previous mentoring experience. Additionally, similar numbers had mentored special educators (52%) and nonspecial educators (48%) previously.

Mentees. Mentees were queried on experience teaching and experience teaching within special education. In response to years of teaching experience within special education, the majority of teachers (44%) reported that this was their first year of teaching and seven (32%) reported that this was their first year of teaching special education. Overall, 18 participants (78%) reported that they had taught special education for 3 years or less and 14

Table 2

Frequency Distribution of eMSS Mentors' Preparation (N = 24)

Preparation	Frequency	Percent
Years teaching		
1 - 5 years	1	4
6 -10 years	8	33
11 - 20 years	10	42
21 or more years	5	21
Degrees held		
Bachelors	6	25
Masters	9	38
Masters + 30	8	33
Doctorate	1	4
Previous mentoring experience		
None	6	26
Mentoring nonspecial educator	11	48
Mentoring special educator	12	52

(64%) reported having less than 3 years of teaching experience including the current school year. Interestingly, 22% reported that they had been teaching special education for 4 years or longer and 36% reported 4 years or longer of total teaching experience despite the program being designed for teachers with 1 to 3 years of teaching experience. An interesting finding is that more mentees reported holding doctorate degrees (13%) than mentors (4%). To provide a clear understanding of the mentees in this study, frequencies of the educational and experiential variables reported by mentees are provided in Table 3.

One mentee reported not holding a degree and 10 reported not being certified in the disability area taught. In response to an open-ended question asking respondents to explain if they were not certified in the areas of special education for the exceptionality that they taught, 4 participants indicated that they were currently enrolled in alternative teacher certification programs, 1 indicated that she planned to enroll in an alternate certification program, and 2 indicated that they were in the process of adding endorsements to their certification. However, none of these participants indicated their current endorsement areas or degrees.

Mentees responded to a question about grade levels and area of exceptionality taught during the academic year of involvement in eMSS. Thirteen mentees (57%) taught students with Specific Learning Disabilities, 12 (52%) taught students with Mild/Moderate Mental Disabilities; 10 (43%) taught students with Autism; and 8 (35%) taught students with Emotional Disabilities. Additionally, many of the mentees indicated that they taught students in particular grade levels. Respondents could choose more than one answer for this question so it is assumed that they picked multiple disability categories as well as grade levels. Fifteen mentors (65%) indicated that they taught students with Specific Learning Disabilities; another 15 (65%)

Table 3

Frequency Distribution of eMSS Mentees' Preparation (N = 45)

Preparation	Frequency	Percent
Years teaching special education		
1 year	10	44
2 years	4	17
3 years	4	17
4 or more years	5	22
Overall years of teaching experience		
1 year	7	32
2 years	4	18
3 years	3	14
4 or more years	8	36
Degrees held		
Bachelors	15	65
Masters	4	17
Doctorate	3	13
None	1	4
Certification in area taught		
Yes	13	57
No	10	43

indicated that they taught students with Mild/Moderate Disabilities; 16 (70%) indicated that they taught students with Emotional Disabilities; and 13 (57%) indicated that they taught students with "Other." A wide variety of grade levels and disability categories were indicated showing that mentors were highly experienced in a variety of grade levels and disability categories. The results are summarized in Table 4.

Table 4

Grade Level and Area of Exceptionality Taught (Mentees)

Disability area	Frequency	Percentage
Specific learning disability	13	57
Mild/moderate mental disability	12	52
Autism	10	43
Emotionally disturbed	8	35
Severe/profound mental disability	3	13
Other health impairment	2	9
ADD and OD	2	9
Deaf	1	4
Other health impaired	1	4

Mentor responses were varied when questioned about the number of students taught daily with responses indicating that they taught between 0 and 180 students daily. Mentees responded that they taught between 2 and 75 students daily with an average of 13 students taught daily. Mentees were asked number of periods and subjects taught daily and amount of

planning time and almost half (*n* = 11; 48%) responded they taught six periods per day and most (30%) reported that they taught five subjects daily with the average of four preparations daily. In response to a question about individual planning time allotted daily, 11 (48%) indicated that they had between 46-60 minutes; 4 indicated 16-30 minutes; another 4 indicated 31-45 minutes; and 1 respondent for each of the categories indicated that they had 0 minutes, 61-75 minutes, 76-90 minutes, and more than 2 hours daily. Mentors were not queried about courses taught or amount of planning time.

Previous Computer Usage and Experience

Mentors were asked about previous participation in online courses, seminars, and discussion groups prior to involvement in the eMSS program. Additionally, they were queried about how many of these online courses seminars or discussion groups were related to special education content. The majority of mentors (65%) reported involvement in five or more courses utilizing the online format. The results are provided below in Table 5.

Table 5

Frequency Distribution of Previous Online Experience for Mentors

Courses	Frequency	Percent
Number of courses		
0	4	17
1-2	3	13
3-4	1	4
5 or more	15	65

Mentees were also questioned about involvement in online courses, seminars, and/or discussion groups prior to involvement in special education and how many of these were related to special education content. Unfortunately, the answer choices were reported in amount of minutes so comparisons cannot be made. However, eight mentees (35%) reported no previous involvement (or 0 minutes) in online courses. Additionally, 11 (48%) reported that despite previous involvement in online seminars, courses, and discussion groups, 0 were related to special education.

Both mentors and mentees were asked about previous experience with using computers as well as experience surfing the Internet for educational purposes, using e-mail, using Listservs, and participation in synchronous chat rooms and discussion boards. Most respondents reported that they were *quite experienced* with using computers; in fact, 75% of mentors and 65% of mentees responded this way. Similarly, 74% of mentees and 79% of mentors responded that they were *quite experienced* surfing the Internet for educational purposes. High percentages of experience were also reported for using e-mail with 87% of mentees and 92% of mentors responding that they were *quite experienced*. However, participation in synchronous chat rooms was much lower for both mentors and mentees. Nine mentees (39%) reported that they were *quite experienced*; 6 (26%) reported that they were *moderately experienced*, and 7 (30%) reported that they were *a little experienced*. One mentee (4%) reported that they *were new to* synchronous chat rooms. Mentor responses were similar with 6 (25%) reporting they were *quite experienced*; 8 (33%) *moderately experienced*; 9 (38%) *a little experienced*; and 1 (4%) reported they were *new to it.* Results are reported in Table 6. In addition, a thread was created in Cyber Café entitled, Difficulty Seeing Entire List of Resources,

Table 6

*Reported Participation in Asynchronous and Synchronous Discussion Boards by Mentors and Mentees**

	New to it	A little experienced	Moderately experienced	Quite experienced
Synchronous chat room				
Mentor	4	38	33	25
Mentee	4	30	26	39
Asynchronous chat room				
Mentor	3	4	29	54
Mentee	0	17	39	44

*Reported in percentages.

in which two mentors wrote three messages about difficulties viewing resource lists and videos within the site. Two NTC staff responded stating that Firefox 3.0 or lower was the most compatible with the platform utilized in this forum and a link to a download was provided for the mentors experiencing difficulties. These postings occurred between February 16-17, 2010, and no subsequent postings were added to this area implying that these mentors and other mentors were able to view the site after these initial concerns were raised.

Mentees were asked to report the amount of time spent on eMSS activities each week. The majority of mentees (48%; *n* = 11) reported spending less than 1 hour; 30% (*n* = 7) reported spending 1 to 2 hours weekly; and 22% (*n* = 5) reported spending 3 to 4 hours weekly in eMSS activities. This question was not asked of mentors.

Perceived Outcomes

Mentors and mentees were questioned about their familiarity with the Individuals with Disabilities Education Act (IDEA) and the Council for Exceptional Children (CEC) Standards. Most mentors reported being either *very* familiar (21%) or *fairly* familiar with CEC standards. Similarly, 44% (*n* = 10) of mentees reported being *fairly familiar* or *very familiar* (22%; *n* = 5) with CEC standards. All mentors reported being *fairly familiar* (25%; *n* = 6) or *very familiar* (75%; *n* = 18) with IDEA. Mentee perceptions of familiarity with IDEA varied with 4% reporting they were *not at all familiar*; 13% reporting they were *somewhat familiar*; 52% reported *fairly familiar*; and 30% reported being *very familiar*.

Mentees were asked how well qualified they felt to teach students with a variety of exceptionalities. Mentors were not asked this question. More than half of the mentee respondents (52%) reported they were *not well qualified* to teach students with

severe/profound mental disabilities and 44% reported that they *were not well qualified* to teach students with emotional disabilities; however, it is unknown how many of these respondents actually teach students in those categories. When initially questioned about disability areas taught during the 2009-2010 academic year 8 mentees (35%) responded that they taught students with emotional disabilities and only 3 (13%) stated that they taught students with severe/profound disabilities. The results are reported in Table 7.

Table 7

*Mentees' Perceptions of Qualification to Teach Students by Exceptionality**

	Qualified	Not well qualified	Adequately qualified	Very well qualified
Specific learning disabilities	9	4	39	48
Mild/moderate mental disabilities	9	4	48	39
Severe/profound mental disabilities	9	52	26	13
Autism	17	30	39	13
Emotionally disturbed	13	44	35	9
Other	24	38	38	0

*Results reported in percentages.

Mentees were also questioned on the importance of a variety of pedagogical issues in their teaching. Most reported that it was *fairly important* (39%) or *very important* to identify how students may think about the content being taught. Mentee responses were more varied when questioned about questioning students for understanding with 1 respondent (4%)

indicating it was *somewhat important*; 3 (13%) indicating it was *fairly important* and the majority, 19 respondents or 83% indicating it was *very important.* In all categories, respondents indicated it was *very important* to have students demonstrate higher-order thinking skills (65%); motivate students to learn and become actively involved in classroom activities (78%); use real world/functional skills in lessons (87%); examine student work in order to assess student's thinking and reflect on classroom practices (78%); provide instruction to multiple learning styles (74%); identify and develop lessons aligned to instructional goals on the students IEP (91%); identify and develop lessons to address students' needs (83%); identify and develop lessons aligned to state and national standards (65%); formally assess student learning within the content area in which you are teaching (61%); and informally assess student learning within the content area taught (78%). The responses were from an online survey and respondents may have been responding in socially desirable ways.

Mentees were also questioned about their perceived level of preparedness for a variety of activities and while the majority in each case indicated that they felt *very well prepared*; the responses were more varied. The responses are reported in Table 8.

Mentees were also asked how well prepared they felt in each of the following areas of their own teaching: managing student grades, record keeping, and paperwork; student discipline; lesson planning and time management; effectively dealing with and communicating with parents; setting and achieving student goals as written in IEPs; and setting and achieving professional goals. Many of these areas are included in the literature review as concerns of beginning teachers. No respondents indicated that they were not adequately prepared in any

Table 8

Mentees' Reported Levels of Preparation

	Level of preparedness reported			
Item	Not Adequately	Somewhat	Fairly well	Very well
Identify how students think about the content taught.	4	17	30	48
Motivating students to learn and become involved.		9	44	48
Use real world problems/contexts in lessons.		5	32	64
Examine student work to assess student thinking and reflect on classroom practice.		9	39	52
Provide instruction for multiple learning styles.		13	44	44
Identify/develop lessons aligned to IEP goals.		13	17	70
Identify/develop lessons to address individual student needs.		18	18	64
Identify/develop lessons aligned with state and national standards.		14	23	64
Formally assess student learning within content area in which you teach.		13	35	52
Informally assess students within the content area in which you teach.		9	22	70
Question students for understanding.		13	22	65

areas queried. Student discipline was the area that the highest number indicated that they were somewhat prepared and mentees indicated that they were comfortable with setting and achieving IEP goals with 35% indicating they were *fairly well prepared* and 61% indicating they were *very well prepared*. Table 9 summarizes the results.

Table 9

Mentees' Reported Levels of Experience

	Level of experience reported			
Item	Not Adequately	Somewhat	Fairly well	Very well
Manage student grades, record keeping, and paperwork.		13% (3)	35% (8)	52% (12)
Student discipline.		27% (6)	23% (5)	50% (11)
Lesson planning and time management.		13% (3)	48% (11)	39% (9)
Effectively communicating with and dealing with parents.		13% (3)	44% (10)	44% (10)
Using group work effectively.		9% (2)	52% (12)	39% (9)
Setting and achieving student goals as written on IEPs.		4% (1)	35% (8)	61% (14)

Using an open response format, mentees were also asked why they participated in the eMSS Special Education program. Twenty-two participants answered this question. Five participants indicated that they were required to participate, 4 stated that they were encouraged to participate, 1 decided to participate because she did not have an assigned mentor within her school, another stated this was their first year as an autism teacher and she

requested to have a mentor who would be available to answer questions. The majority of responding mentees (*n* = 11) reported that they thought it would be beneficial, and wanted to gain knowledge and professional growth.

Mentees were asked to report what they gained from participation in the eMSS electronic mentoring program through an open-ended survey question. Responses to the open-ended survey question were similar to three of the four categories included in the Needs and Concerns Rubric of Beginning Special Educators. Many mentees shared generally that they gained, techniques, ideas, classroom strategies, and resources for teaching students. One mentee stated, "I am more prepared to teach." Table 10 provides examples of mentees' reported gains from participation.

Participants Across the eMSS Site

Participants included 50 mentees, 22 mentors, 4 New Teacher Center staff members, 2 facilitators, and 1 content specialist. A total of 1,928 messages related to mentoring content and posted in the discussion areas were analyzed for this study. Announcements and technical assistance postings (such as Summer Inquiries, Facilitator Forum, Louisiana Mentors Survey, Online Masters in Special Education, Difficulty Seeing Entire Screen, and Help) were not included in the analyses for this study. Website areas entitled "End of Year Reflections for Mentors and Mentees and Mentor Place" are discussed in Chapter 5.

Frequency of Interactions

Of the 1,928 postings in the online mentoring forum, 66% (*n* = 1,277) were made by mentors, 24% (*n* = 465) were written by mentees, and 10% (*n* = 186) were made by facilitators,

Table 10

Mentees' Reported Gains From Participation in the eMSS site

Reported gains within inclusion, collaboration, and interaction with adults.	• Collaboration with professionals in my field. • A sense of camaraderie with others. • To collaborate with my colleagues.
Reported gains with pedagogical concerns.	• Helpful information on classroom behavior (3). • Teaching techniques I can use to help my students better understand content. • Teaching strategies. • Resources. • Options for transition services.
Reported gains within emotional/ psychological needs.	• Confidence to teach content. • That many of us face the same challenges in the classroom. • Self-confidence. • Confidence in teaching students with disabilities.

content specialists, and New Teacher Center staff. The postings by the facilitator, content specialist, and NTC staff are not included in later analyses since the primary focus of this study is the dialogue of mentors and mentees. The overall means for postings by mentors were 58, mentees were 9, and for NTC staff, facilitators, and content specialists were 27 postings.

The online mentoring site was divided into five main sections: Our Place, Topic of the Month, Cyber Café, Dilemmas, and Discussion threads for Early Childhood/Elementary Education and Middle/High School (see Appendix E for a screen capture of the home page). The purpose of the main sections were as follows: Our Place (discussion area for mentees and their mentor), Topic of the Month (topics of interest to mentees), Cyber Café (area designed to request assistance in perceived area of need), Dilemmas (short scenarios about specific teaching issues), and Discussion threads for Early Childhood/Elementary Education and Middle/High School students (this area is divided into multiple disability categories).

In all areas of the site, mentors posted more messages in each section of the site than mentees. Postings by mentors, mentees, facilitators, and New Teacher Center (NTC) staff were examined for frequency of postings. Results are reported in Table 11. Mentor postings per section ranged from 4 to 161 postings. Mentee postings per section ranged from 0 to 27.

Our Place. *Our Place*, the location that mentees are paired with veteran teachers in their content area as mentors, is a private discussion area for mentors and a small group of mentees. During the pilot program, 21 of the 22 mentors created *Our Place* pages. One mentor was not paired with any mentees and did not create an *Our Place* page. This mentor participated in other areas of the site and posted a total of eight postings, therefore this mentor is not counted in *Our Place* but is in other areas of the site. Mentors were paired with 1

Table 11

Frequency of Posts in the eMSS Site

Area	Mentor	Mentee	Facilitator/ NTC staff	Total
Our Place	675	322	0	997
Emotional disability				
Early childhood - 5	7	1	5	13
Grades 6-12	11	6	5	22
Developmental delay	11	1	4	16
Autism spectrum disorder				
Early childhood - 5	34	4	13	51
Grades 6-12	5	7	10	22
Mild moderate				
Early childhood - 5	21	2	11	34
Grades 6-12	24	5	10	39
Significant				
Early childhood - 5	19	2	3	24
Grades 6-12	4	0	6	10
Early childhood	161	27	47	235
Middle/high school	68	25	17	110
Topic of the Month				
March	49	16	7	72
April	36	10	11	57
May	35	8	15	58

Table 11 - continued

Area	Mentor	Mentee	Facilitator/ NTC staff	Total
Dilemmas				
Overwhelmed	27	9	4	40
Test anxiety	40	6	4	50
At risk	16	1	3	20
Cyber Café	34	13	11	58
Totals	1,277	465	186	1,928

to 4 mentees each in *Our Place*. Mentors created discussion threads outlining topics of discussion. Mentors created between 4 and 31 thread titles for discussion in *Our Place* (Mean = 15.14; SD = 6.7). Common threads created by all mentors at the site are contained in Appendix F.

Within *Our Place*, there were 997 total posts of which 675 (68%) were made by mentors and 322 (33%) were made by mentees. All mentors made broadcast posts for all mentees, and the number of mentees assigned to a mentor ranged from 1 to 4. Most mentors also posted to each mentee's response, which accounts for some of the differences in postings. The mean for postings was 32 (SD = 15.44) and the mean for mentee postings was 6 (SD = 6.51). Table 12 depicts the range in frequency of mentors' postings based on the number of mentees they were assigned.

Table 12

Range by Number of Mentees Assigned

Number of mentees assigned	Total postings
1	6 - 39
2	15 - 22
3	35 - 47
4	27 - 61

Mentors had varying numbers of mentees assigned to their *Our Place* pages ranging from 1 to 4. Five mentors were assigned one mentee each. Six mentors were assigned two

mentees each. Five mentors were assigned three mentees and five mentors were assigned four mentees.

The range of postings by mentors and mentees provides further insight into the involvement of individual members of the forum. Notably, among mentors and mentees, participants appeared to be distinguishable from one another based on the number of posts. Mentee postings within *Our Place* also varied from 0 postings (*n* = 7) to 24 postings and 20 of the 50 mentees only posted in *Our Place* and did not post in any other area of the site. Additionally, only five of the mentees posted more times in all other areas of the site combined than in *Our Place.* These mentees postings in *Our Place* ranged from 1 to 9 postings and 5 to 20 total postings at the site. Also, there were seven mentees that never made an entry into *Our Place*, sometimes referred to as lurkers. Additionally, two mentees never posted at the site during the pilot program. Table 13 summarizes the posts made by mentors and mentees in *Our Place*.

Table 13

Frequency of Mentor and Mentee Posts in Our Place

Role	Mean	Range	SD
Mentors	32.14	6 - 61	15.44
Mentees	6.44	0 - 24	6.51

The number of mentor and mentee postings was highly variable across the areas of the mentoring site. See Appendix G for analysis by mentor and mentee.

Twelve (57%) mentors posted in *Our Place* more frequently than in all other areas of the eMSS site combined; conversely, 36 (72%) mentees posted more frequently in *Our Place* than all other areas of the site combined. Furthermore, of the mentees, only 10 posted more elsewhere than in *Our* Place and 4 had equal amounts of postings in *Our* Place and all other sites combined. Two mentees never posted at the site. Figure 4 depicts the patterns of mentor and mentee postings in *Our Place* and all other areas of the site combined.

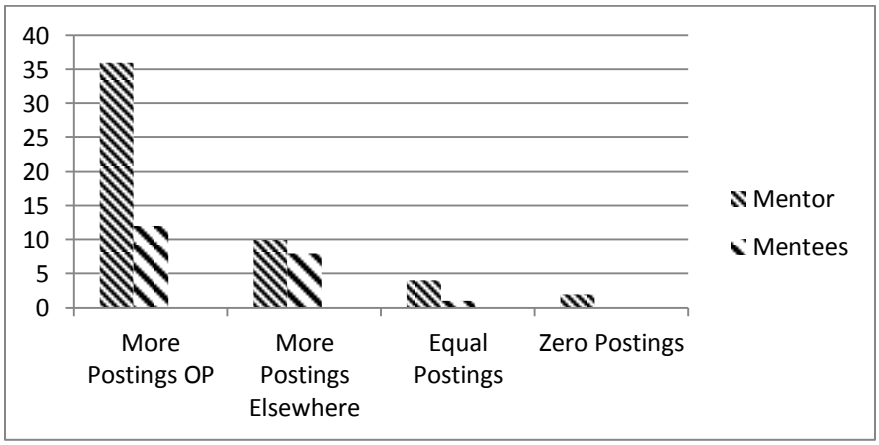

Figure 4. Mentors' and mentee's postings in *Our Place* versus all other sections of the eMSS site.

Topic of the Month. The Topic of the Month (TOM) section was available for March, April, and May (see Appendix H). The topics were Student Achievement, Student Engagement, and Reflecting on Our Successes and Challenges. The topic of the month for March had the most overall postings.

Three prompts were created by NTC Staff to discuss Student Achievement (see Appendix H). For Student Achievement, the number of mentee postings ranged from 0 to 3, with a mean of .32, and mentor postings ranged from 0 to 6, with a mean of 2.23. Student Engagement and Reflections had similar participation patterns with 57 and 58 total postings,

respectively. By participant role, mentors accounted for 36 of the postings about Student Engagement, with mentees accounting for 10, and content specialists for 11. Mentors accounted for 35 postings in Reflections, mentees accounted for 8, and Content specialists, NTC staff, and facilitators accounted for 15 postings (see Table 14).

Table 14

Total Mentor and Mentee Postings by Topic of the Month

Student achievement (March)	
Mentor	49
Mentee	16
Content specialists	7
Total	72
Student engagement (April)	
Mentor	36
Mentee	10
Content specialists	11
Total	57
Reflections (May)	
Mentor	35
Mentee	8
Content specialists	15
Total	58

Cyber Café. The Cyber Café was the area of least participation for both mentors and mentees; therefore, posts in this area were collapsed into one category. There were a total of 58 postings in all areas of the Cyber Café. In this area, mentors and mentees could create strands to request assistance in an area of need. This discussion area was begun by a member of the NTC staff and the opening message states:

> Cyber Café is a discussion area where you are welcome to start new topics about anything you would like to discuss with your fellow special education teachers, sort of like a teacher's lounge. It is a place where you can post funny stories, good news, items of interest, or anything else you'd like to chat about. We strive to develop a close-knit community and support system and this is where people can relax and get to know each other.

Of the Cyber Café postings, 34 were made by mentors, 13 by mentees, and 11 by content specialists and facilitators. Titles of threads created included confidentiality, firelight books, Wright's Law, testing, CEC, concern, and thanks.

Dilemmas. Dilemmas were short, open-ended scenarios posed as a question about a specific teaching issue. Mentors and mentees could conduct online discussion about possible solutions to a dilemma. Dilemmas were optional and were designed to be quick, interesting, and useful ways to participate in the eMSS site. The first week of a Dilemma is reserved for mentees to respond and share their thoughts. During the second week, the mentors may join in the Dilemma conversation as the facilitator guides the discussion into new areas based on the responses from the first week. During the third week, the facilitator summarizes the key points of a Dilemma discussion.

Three dilemmas were presented: Overwhelmed with Paperwork, Test Anxiety, and Working with Students at Risk. The dilemma Test Anxiety had the majority of postings by mentors, whereas, mentees posted most to the paperwork dilemma. Table 15 summarizes the frequency of postings by mentors, mentees, and content specialist in the dilemma section.

Table 15

Frequency of Participant Postings in Dilemmas

Dilemma title	Mentor	Mentee	Content Specialist
Overwhelmed with paperwork	27	9	4
Test anxiety	40	6	4
Students at risk	16	1	3

Finally, an optional discussion area for mentors, mentees, and content specialists was available to discuss students in Early Childhood through Elementary School and Middle and High School. Within these categories, there were subcategories for specific disability areas including emotional disability, autism spectrum disorder, mild moderate, and significant disabilities. The results for these analyses are reported by Early Childhood and Middle/High School.

Early Childhood/Elementary K-5. A facilitator for the NTC described this section in an opening posting on February 3, 2010, stating:

My name is Diane [pseudonym] and I will be facilitating our discussions within this area. This forum is for: asking questions, finding teaching suggestions and resources to work

with children with mild to moderate disabilities, helping each other increase our successes by sharing suggestions, and helping us increase the quality of their education. We look forward to discussing the issues unique to special education teachers. Please introduce yourself and let us know about your current role in supporting special education students/teachers.

The Early Childhood section contained the most postings with mentors accounting for 161 postings, mentees 27, and content specialists/facilitators 47. The facilitator posted 28 times.

In response to participants' requests the Early Childhood/Elementary section was further divided into specific disability categories during the pilot program. The following categories were included within Early Childhood: Mild/Moderate Disabilities, Significant Disabilities, Autism Spectrum Disorder, and Emotional Disability. In these areas, mentors, mentees, or facilitators began message threads on topics of their choice. Also, there was a discussion section for students with Developmental Disabilities. An overview of mentor, mentee, and facilitator/content specialist activities is included in Table 16.

Middle/High School. The Middle/High School discussion area originally contained a general area for postings on students in middle and/or high school, which was divided into specific disability categories at participant requests during the pilot program. The disability areas included were: emotional disabilities, autism spectrum disorder, mild/moderate disabilities, and significant disabilities. Table 17 summarizes the postings in these areas by mentor, mentee, and content specialist.

Table 16

Frequency of Participant Postings in Early Childhood Discussion Areas

Discussion areas	Mentor	Mentee	Content facilitator/NTC	Total
Early childhood	161	27	47	235
Developmental delay	11	1	4	16
Autism spectrum disorders	34	4	13	51
Emotional disability	7	1	5	13
Mild/moderate	21	2	11	34
Significant disabilities	19	2	3	24
Totals	253	37	83	373

Table 17

Frequency of Participant Postings in Middle/High School Discussion Areas

Discussion area	Mentor postings	Mentee postings	Content postings	Total postings
Middle/high school	68	25	17	110
Emotional disability	11	6	5	22
Autism spectrum disorders	5	7	10	22
Mild/moderate	24	5	10	39
Significant	4	0	6	10
Total	112	43	48	203

The Content of Discourse

The content of the dialogue among mentors and mentees provides further insight into the nature of the issues and support provided within this e-mentoring environment. Using the researcher-created rubrics for How People Learn, the Interstate Teacher Assessment and Support Consortium standards, and Beginning Teachers Needs and Concerns, all postings were coded by these key content areas. Chi's (1997) dynamic approach, in which data is coded more than once, each time according to a different grain size, dependent on the purpose of the research question, was utilized with all coding rubrics. Segments, defined as groups of words with meaning were coded using the above named rubrics. This approach allows for coding of the same segment across categories within and between rubrics. A total of 9,381 segments were coded.

In addition, the frequency of postings by content codes was also calculated to further characterize the discussions. In this section, results were totaled by mentoring team rather than by mentee and mentor because the discussions involved multiple participants.

Postings Related to HPL Framework

According to the HPL framework, effective learning environments have four features: they are learner centered, knowledge centered, community centered, and assessment centered. The content analysis results are presented next, with posting frequencies in Table 18, followed by examples of specific postings that characterize each category. There were a total of 2,527 segments (27% of all coded segments) within conversations occurring in *Our Place* between mentors and mentees corresponded to the HPL framework. Table 18 presents frequencies of postings by the four main categories.

Table 18

Frequency of Postings by HPL Framework

Framework	Total postings
Learner centered	909
Knowledge centered	818
Community centered	213
Assessment centered	587
Total	2,527

Learner centered. Learner centered environments "refer to environments that pay careful attention to the knowledge, skills, attitudes, and beliefs that learners bring to the education setting" (Bransford, et al., 2000, p. 133). Students' background knowledge, interests, and social and cultural values are accounted for within these environments (The IRIS Center for Training Enhancement, 2009).

The majority of the postings within this coding area were within the learner centered framework. A total of 909 postings were coded as learner centered. Examples of postings coded as learner centered include:

- Can I ask a few clarifying questions? Is this student choosing to be lazy due to his slow processing or is he being perceived as lazy by others due to his processing? Under the accommodations section of the IEP, is it specified that he gets extra time on tests or assignments due to processing?
- Many of my ideas came straight from my students. So, I take no credit for how I arranged things. I pretty much let the kids do it and we explored and had a lot of fun. I also tend to include one art or building project for each unit—whether it's a volcano, a kite, airplane, house draft, garden design.
- Most of the students I work with are boys. . .90% of them. Boys love insects, bugs, building things, and seasonal sports activities. So, I presented units this year seasonally. We read and learned vocabulary related to activities, sports, and personal interests that each student provided to me as their teacher.
- One of my students [3rd. grade] doesn't know how to read. He is in Language Exclamation program. Until now we are still in Dolch sight [k-3] words and word

families. He can answer his test correctly in ELA given test read aloud. The problem is with reading comprehension test, since he cannot read. According to his Language teacher, he refused to do his work. He scored 0 in Dibels test as well. He is really good in math, he can do mental math and solve word problems independently given test read aloud and small group testing. So in order to help him be successful in the gen education classroom, I modify his tests, asking lower level questions. As time goes on and he understands what exactly I'm asking when I ask 'why', through modeling and repetition, I'm hoping he'll be able to catch on.

- One of my students with autism would shut down about half way through reading class and refuse to participate any longer. This resulted in a battle of wills. One thing that really helped was making a schedule. Every day I make a schedule for reading class, which is kept on her desk, as each activity or task is completed, she removes that item from the list. At the bottom of the schedule is a preferred activity—she loves to do Kid Pics on the computer. When she completes all of the required activities, she gets to use the computer. This helped tremendously. She still has good and bad days, but the good days are more frequent than bad ones.
- I do have one student that is difficult to motivate and has many issues pertaining to his home life that contribute to his academic performance. Knowing this helps me understand why he acts out and struggles so much with concentration. Getting to know your students' background and prior knowledge is key to helping them succeed.

Knowledge centered. Knowledge centered environments are standards based, organized around big ideas, and focused on information and activities that help learners develop an understanding of a subject or discipline. Metacognitive skills and sense making are emphasized as well as learning with understanding rather than restating factual information.

A total of 818 segments were coded as knowledge centered. Examples of items coded as knowledge centered include:

- My class attended our second annual all district roller skating party last week. It was great! We had lots of opportunities to work on mobility skills, communication skills, making purchases, and other life skills we've been working on in class.
- This year, I did far more work [at the 3rd and 4th grade levels] with nonfiction material. This decision resulted in more challenging work for students [with learning disabilities]. The selection of nonfiction resulted from seeing how much fictional reading the students received in their homeroom classes.
- Next year, to improve the themes of each unit, I will do a better job making explicit connections for the students. At present, there was a natural thread of seasonal interest material that could easily be linked in one's understanding. However, I think that I missed some learning opportunities to not point out this *thread* more clearly.
- By giving your students a Learning Styles Inventory, you were able to hone in on the learning styles of your students. Activities that address these specific learning styles of your students create interactive lessons in which they can become active participants. These strategies that you are using also address long term comprehension, which allows your students to build upon their knowledge.

Assessment centered. Assessment centered environments consist of environments that provide feedback on misconceptions, allowing learners to reflect and revise, and involves the self-assessment of learning. A total of 587 segments were coded as assessment centered. Examples included:

- Keep a student portfolio full of sample work and assessments of a variety and this will make it easier for you to keep up with progress.
    - I use a management binder, I have it sectioned off by student. For each student, there are copies of regular ed. progress and report cards as each nine weeks ends, special education progress reports state testing results, achievement test results, etc. [put whatever your system requires] behavior plan if applicable and copies of behavior referrals, health plan if applicable, testing accommodations page from IEP, the first two pages of the IEP [general student information, a chart for timelines [ex. re-evaluations due, IEP revisions].
    - I make charts using Excel for charting my objectives. I also teach my paras how to document effectively.
    - To monitor student progress, each student has an individual file with their targeted objectives for each academic area. I graph their daily activities—the percentage, date, and brief description [ex. two digit add no regrouping]. At the end of the 9 weeks, I use this data to write progress reports. Very manageable and not time consuming. I can use the graph for regression/recoupment and critical point of instruction #1. This is also useful for parent conferences, as you can use this info for all kinds of tracking purposes.

- I also used a binder to keep up with the progress of each student. I made a form and give to each teacher who taught the students in the general curriculum to give to me the week grades. I place them in the binder so that there were no surprises at the end of the 6 weeks.

Community centered. A community centered environment is where goals and expectations are explicit and defined, involves active participation within the community and with learning goals and is a supportive, stimulating, and safe environment where students challenge themselves and become lifelong learners. A total of 587 portions of messages were coded as community centered. Examples include:

- This school has a very supportive atmosphere and strives to work together to increase student performance.
- I just wanted to post and ask you both to introduce yourselves to each other. You are both my mentees for the year and I would like to establish a true community among the three of us. Linda and I have been working together for several weeks, so Cristy you will get the benefit of reading all that has come before you. I would encourage you to respond to each other's posts as well as to post original questions. I am not the only one with good ideas, and I am hoping that we can all learn from each other.
- My class attended our second annual all district roller skating party last week. It was great! We had lots of opportunities to work on mobility skills, communication skills, making purchases, and other life skills we've been working on in class.

- This was my first time attending the event. One of the most pleasant surprises I had was watching my boys make new friends. Out of about 75 kids attending there were maybe 10 that were verbal. No matter how limited their communication skills were the kids enjoyed meeting and interacting with new friends. They communicated with facial expressions, gestures, and vocalizations in addition to any augmentative communication they may have been using. They loved it! I won't miss it again!
- Discussing both with your group can help you celebrate what has gone well, share ideas with others, and discuss areas upon which you need support.

Posts Related to InTASC Standards

Within the InTASC standards there are 10 standards (see Appendix I). A total of 4,322 segments (46% of all coded segments) within conversations occurring within *Our Place* were coded as pertaining to the InTASC standards. Each standard will be discussed individually below. Table 19 summarizes the posts by standard. The standards, in order are: learner development, learning differences, learning environments, content knowledge, application of content, assessment, planning for instruction, instructional strategies, professional learning and ethical practice, and leadership and collaboration. These standards, created by the Council of Chief State School Officers, created the Model Core Teaching standards "that outline what teachers should know and be able to do to ensure every K-12 student reaches the goals of being ready to enter college or the workforce in today's world" (CSCCO, 2011, p. 3). The standards are applicable to all subject areas and grade levels.

Learner development. The Learner Development standard entails the teacher understanding how learners grow and develop while simultaneously recognizing that these

Table 19

Posts by InTASC Standards

Standard	Total postings	Mean by group	SD
Learner Development	449	21.38	14.68
Learning Differences	391	18.62	10.01
Learning Environments	850	40.48	19.43
Content Knowledge	60	2.86	3.34
Application of Content	115	5.48	4.51
Assessment	93	4.43	3.38
Planning for Instruction	306	14.57	9.46
Instructional Strategies	274	13.05	9.95
Professional Learning and Ethical Practice	878	41.81	20.02
Leadership and Collaboration	906	43.14	20.36

patterns of development vary. A total of 449 segments were coded within this standard. Examples include:

- I have started an informal behavior plan with the autistic boy [sic]. I broke the day down in sections and encourage him to earn happy faces. This has been working as a motivator for getting his work down but it hasn't changed the hitting. I get a sad face when he does that. I have been sending a copy home to mom each day so she knows how his day is going.

- Finally, one way that I hope you and I will help each other this year is by providing and sharing with each other valid educational resources that may be utilized in any classroom setting. I am looking forward to discovering new approaches to 'average and/or everyday' lessons. I want to create new and creative ways for students to receive and maintain information being presented to them.
- The special ed teachers meet once a week to collaborate with each other. I try to stay on top of what is going on with all of our special students and we help each other with lesson preps, behavior, IEP's, etc. . . .This is so very helpful for all of us. We learn so much from each other.
- Determine the level of the student through test data collected, each parish uses different types of tests, the students' weekly tests and work samples. Choose specific areas of concern. Many of our students have gaps in their learning, skills that are building blocks for them to reach the next level. Target these areas of importance to incorporate in your daily lessons.

Learner differences. Learner differences entail the teacher understanding the individual differences and diverse cultures within the learning environment. A total of 391 portions of messages occurring within *Our Place* were coded to this standard. Examples include:

- Many of the students have support needs in self-help and social skills so a portion of the instructional day is spent on social and self-help skills in addition to functional math and reading skills. The older students participate weekly in what is called PAES lab activities, which is a career exploration type of program that consists of kits that address a variety of different career interests.
- Make sure your students can actually understand the instructional materials. Privately and calmly discuss the behavior with the student. Do not ask 'Why' or take a threatening stance. Provide an incentive for positive behaviors. Show appreciation for small successes. Expect small, slow changes. Show acceptance. Build trust!
- I have developed a very good relationship with my students, and I can generally see potential explosions coming before they happen, often thereby avoiding them or at least lessening the impact of them. As this relationship has grown, I've really seen them make a lot of academic gains.

Learning environments. Learning environments involve the teacher working with others to create supportive environments for learners. This category had 850 coded sections. Examples include:

- Have you considered co-teaching with your general education teachers? I know that push in can make you feel like a glorified aide if not done in a manner that utilizes

your skills. Let me give you a few examples of co-teaching. You can do a One Teach/One Support method. In this instance, one teacher is teaching while the second teacher is giving support to the rest of the students. It's the easiest model but also a model that can easily lead to the "glorified aide" issue. The key in this model is to switch the teaching. One week, or every other day, the general education teacher teaches while the resource teacher supports. Then they switch and the resource teacher teaches while the general education teacher supports. The nice thing about this is that you are a specialist in delivering instruction in a variety of ways to help support different learning styles. This can be useful to all students, not just sped students. Another method of co-teaching is parallel teaching. This is when the class is split down the middle. You teach one-half and the general education teacher teaches the other half the same concept. You may approach it differently if you have a lower half, but they are all learning the same thing. Yet another approach is station teaching. This style looks like a 'center' approach to teaching. You run your station, the general education teacher runs her station, and they may have an independent station. The students then rotate through all stations in a 30 or 45-minute period. The last style is team teaching. This is the toughest and requires good rapport and similar learning styles with the general education teacher. This is where you are literally teaching together. It may look like a tennis match with both teachers giving input, one teacher giving instruction while the other writes visuals on the board, etc. What are your thoughts on these methods? Do you feel this may be a better use of your time

and skills? Is this a possibility in your current placement? Just a few ideas to think about!

Content knowledge. Content knowledge is the teacher displaying understanding of the concepts and structure he or she teaches and creating meaningful lessons for learners. This standard contained the lowest amount of coded portions. This standard encompasses the teacher demonstrating and creating which may have occurred within the classroom, but it was not the topic of conversation within the site. Examples include:

- I also have a good many cut outs that I made, an elephant we feed peanuts to distinguish between short vowel 'e,' a tree that has leaves to add, apples to add and birds, for a variety of games, rhyming words, opposites, etc. . . . My boards are magnetic so I just stick magnets to the back of everything and they take turns. I used them throughout the years and have refreshed many of them because the students love to play games and take turns and it provides movement in the room that they so desperately need. It provides practice of specific skills. I have an apple cut out, we add worms to it, I cut a hole in whatever it is I draw, color and cut out and tape a piece of plastic to the back so the pieces won't fall out and it is easy to take the pieces out after.
- The math practice is great for the students on the computer. Many of my students learned their basic facts on the computer.
- In my classroom, I have a lot of center activities for all subject areas. I have file folder games, flashcards, puzzles, charts, books, computer games etc. I always start my lesson with a whole group introduction or review of concepts and we spend

most of our time in small groups. When I get my small group [which is by grade level], my para [sic] monitors the other students in center activities. We rotate every 25 minutes to make sure that I meet all my students in small groups or one on one every day.

Application of content. Application of content entails the teacher understanding how to connect concepts and use differing perspectives to engage learners in critical thinking, creativity, and collaborative problem solving related to authentic local and global issues. A total of 115 segments were coded within this standard. Examples include:

- I use SMARTboards! I love using SMARTboards and the students love using them also. A SMARTboard is like a dry erase marker board except it is computerized. I do my best to let the students come up to the class and use the board. Also, one of my students uses a computer that has a big keyboard because she has cerebral palsy. This type of keyboard is used to her advantage because all she does is uses a pencil to tap the keyboard so she can do her computer assignments.
- The field of severe disabilities is changing, and we are doing academic instruction in a very real and appropriate way with our kids for the first time. I see the potential in my students.
- Colleagues work together to learn to teach, but do not have adequate planning time to incorporate real world examples in instruction and assure that students are being taught application of basic skills. Also, the accomplishments of individuals and groups are not always recognized and celebrated.

Assessment. Assessment involves the teacher understanding and using multiple methods of assessment to engage learners in their growth, progress, and decision making. Again, this is a standard that involves a great deal of demonstration within the classroom. Within this standard, there were a total of 93 postings. Examples include:

- He is really good in math, he can do mental math and solve word problems independently given test read aloud and small group testing.
- Determine the level of the student through test data collected, each parish uses different types of tests, the students' weekly tests and work samples. Choose specific areas of concern. Many of our students have gaps in their learning, skills that are building blocks for them to reach the next level. Target these areas of importance to incorporate in your daily lessons.
- I modify his weekly story tests. Some students with autism struggle with reading comprehension. They can decode the words, but have a difficult time processing the information. My student does okay with simple who, what, when, and where questions, however, has difficulty with how and why.
- On Monday, the students were given an application as pretest. We wanted to know what skill we needed to work on.

Plan for instruction. The plan for instruction involves planning for instruction for every student. A total of 306 message segments were coded to this strand. Examples include:

- Perhaps when given a problem, he could have a timer and he knows that he needs to complete his assignment or problem within the allotted time. You could set the timer to give him enough time to process, but not enough time to 'take advantage.'

- What has gone well this year? I have seen tremendous growth in almost all of them. I work with ECE students in the mornings and Kindergarteners in the PM that are receiving a 'second shot' of kinder because they are on an IEP and needed additional support.
- Two other students, OHI and ED, cannot stop falling asleep during my reading instruction. So during the lesson we are changing seats periodically to keep everyone on task.
- I videoed him working in an effort to lure him to want to participate in group and show him behaving appropriately and inappropriately. This seems to be working for him. . . But you know what works for one does not work for another. He is reading in group and participating more on his good days, he has made tremendous gains in behavior and academics.
- Designing lesson plans that meet the needs of my diverse group [age and ability level] is where I could use some advice.

Instructional strategies. Instructional strategies involve using a variety of instructional strategies to encourage deep understanding of content areas. A total of 274 segments were coded to this standard.

- I just want to share what works for my class since I have two different levels at the same time. I am currently working with 1st and 3rd grade students. Basically, I can consider it a 3-leveled class since one of my students in first grade is nonverbal, so she has different needs.

- In my classroom, I have a lot of center activities for all subject areas. I have file folder games, flashcards, puzzles, charts, books, computer games etc. I always start my lesson with a whole group introduction or review of concepts and we spend most of our time in small groups. When I get my small group [which is by grade level], my para [sic] monitors the other students in center activities. We rotate every 25 minutes to make sure that I meet all my students in small groups or one on one every day.
- My students are experiencing many behavior concerns; it is the time of year that I have to make some adjustments in my reward systems and lessons as well.
- I got permission from the parents to video some of the students working. . . .One autistic student in particular with severe behavior/conduct issues. . .hits, kicks, screams. . .I videoed him working in an effort to lure him to want to participate in group and show him behaving appropriately and inappropriately. This seems to be working for him. . . . But you know what works for one does not work for another. He is reading in group and participating more on his good days, he has made tremendous gains in behavior and academics.
- One of my students with autism would shut down about half way through reading class and refuse to participate any longer. This resulted in a battle of wills. One thing that really helped was making a schedule. Every day I make a schedule for reading class, which is kept on her desk, as each activity or task is completed, she removes that item from the list. At the bottom of the schedule is a preferred activity—she loves to do Kid Pics on the computer. When she completes all of the

required activities, she gets to use the computer. This helped tremendously. She still has good and bad days, but the good days are more frequent than bad ones.

Professional learning and ethical practices. These practices involve the teacher engaging in ongoing professional learning accounted for a total of 878 segments being coded to this standard. Examples include:

- Since you've been involved in this program for several weeks now, it's time to reflect on this experience so far. A tool that is used regularly in eMSS is the Self - Assessment. Reflecting on your practice is essential to advancing your teaching success. Directions for completing Self-Assessment: Click on Self-Assessment on the left Menu bar. Please complete the Getting Started Self-Assessment, as it is a valuable tool for assessing and reflecting on your progress. It's really important to know what's working for mentees and what might need to be changed. Check back in a few days, an eMSS facilitator will be reviewing your assessment and providing you feedback.
- In addition to the support of an individual mentor, mentees have the opportunity to engage in online discussions with other mentees and mentors as well as program facilitators and content specialists from across the country. Our discussion areas, resource sections, Inquiries, Dilemmas, and content areas are designed to help beginning teachers advance their pedagogical and content expertise.
- eMSS provides a nationwide online content focused mentoring program that links beginning special education teachers with a rich network of online support. First, second, and third-year teachers in the program are known as mentees. An

outstanding veteran teacher from his or her academic discipline and grade level mentors each mentee.

Leadership and collaboration. The teacher is involved in collaborating with others to ensure learner growth due to the nature of the online mentoring site, and the interactions that occurred within the site between mentors and mentees. This accounted for the largest number of postings within the InTASC standards. Within this area there were a total of 906 coded segments. Examples include:

- Determine the level of the student through test data collected; each parish uses different types of tests, the students' weekly tests and work samples. Choose specific areas of concern. Many of our students have gaps in their learning, skills that are building blocks for them to reach the next level. Target these areas of importance to incorporate in your daily lessons.
- I wanted to make a suggestion for your parents, since summer will be here before we know it. Lack of parent involvement has always been an ongoing issue for me and you as well, as many of you have expressed. I never give up on parents even at the end. I usually send them a closing of the year letter with suggestions of activities for them to help their children during the summer.
- I collaborate primarily with my students' regular education teachers also with the rest of the special education team, who have been extremely helpful in showing me the ropes. Three ladies in particular, one a speech teacher, one an alternative PE teacher, and the other the lower elementary resource teacher, provide guidance on

a daily basis when I go into their room to use the copying machine. They have been wonderful.

- Finding age-appropriate, interesting reading materials that are at the right reading/listening level for our students is a challenge. Here is a website that can help: www.tarheelreader.org. This website provides free on-line access to thousands of emergent level readers most of which are appropriate for older students with significant disabilities. You can search the database for books on specific topics. There are books that provide curriculum access, books of social stories, books that address life skills, and books that are just for fun. You can set up and bookmark a favorites page so that you can preselect books for your students to use. The program allows you to read independently or to have the computer read the book aloud in one of three voices. There are options for access for students who can't use a typical mouse or keyboard. You can even download the books as Power Points so that you can modify them or print out paper copies.

Posts Related to Beginning Teachers Needs and Concerns

Overall, the area of beginning teachers' needs and concerns accounted for 2,532 coded (27% of all coded categories) segments at the eMSS site. Managing roles accounted for 791 coding, pedagogical concerns 774 coded segments; Inclusion, Collaboration, and Interaction with Adults 683 coded segments; and Emotional and Psychological concerns 284 coded portions of messages.

Inclusion, collaboration, and interaction with adults. Inclusion, collaboration, and interaction with adults include collaborative teaching with general education teachers;

inclusion of students with disabilities into the school environment; and interacting with parents, instructional assistants, and administration. The range of occurrences of discussions concerning this area within *Our Place* was from 6 to 53 within mentoring partners. A total of 683 segments were coded in this area with Our Place. Examples of coded messages include:

- Another aspect that has gone quite well for me is teacher/parent communication. As a second-year teacher, I am much more willing to communicate more with my students' parents via newsletter or telephone conferences. When I first began to teach I was so afraid that I would say the wrong thing to a parent or that a parent would receive what I was attempting to tell them the wrong way.
- Another big challenge that I have faced this year dealt with parent/guardian participation in annual IEP meetings. It is so imperative that the parent or guardian understands the services allotted to them and why the services are being provided to students.
- Not to mention when another teacher would talk to me in a way that I was not accustomed to.
- My observations are going well this year from both my school and my practitioner advisor.
- I have a very difficult partner teacher. I have a lot of behavior problems in my group, which interrupts the lesson almost on a daily basis.
- They gave me my own classroom because my students were not getting the individual time they needed. I had a very small table at the back of the room and basically the regular education teacher wanted me to just sit at the back table all day

long no matter what the IEP said. It became a problem because the children were crowded so that would trigger behavior problems plus they could not hear me over her. When I tried talking louder so they could hear she would make comments about how my group didn't belong in a regular education setting.

Pedagogical concerns. The category of pedagogical concerns encompasses curriculum and teaching, assessment, materials, and student behavior. Total postings in this area were 774 ranging from 4 to 87 within mentoring partners. Representative examples of discourse include:

- Another challenge is that in my self-contained classroom, I am working with three students in three different grades. I need help preparing for each of these students and remain aligned with the comprehensive curriculum.
- For one of my autistic students, I have changed his schedule to add an additional PE time. His aggression was becoming so severe. It seems to help [not a cure all by any means], however, it is providing an additional activity outlet for him.
- I really have trouble reaching the children with 'old school' techniques. They seem to respond better to computer generated techniques but I am worried that they are not grasping everything because to the students it's a game and not a lesson. In other words are they really learning from all the computer generated literacy programs? Any input?
- I use Sight Words That Stick. I ordered it from one of our online vendors. It is a book that has a sight word listed with a story that goes along with it. It will take the sight word and turn it into a picture to go along with the story. It seems to help and the children love it.

Managing roles. Managing roles includes dealing with paperwork, meetings, and IEPs; caseloads; timing and scheduling issues; and role confusion. This area accounted for the majority of postings within this category. A total of 791 segments were coded to this area within *Our Place*. Examples include:

- One or two challenges: Juggling paper work, lesson plans, prepping materials for the lesson plans, paper work, writing New IEPs, Revising IEPs, jumping through hoops to get additional assessments and the list goes on. Another challenge or stress is wondering if I will even have a job next year because of budget cuts and being so low on the totem pole.
- The biggest challenge I've been facing is helping my teachers get all their paperwork done for this time of year. My teachers are doing so many revisions and trying to get ESY [Extended School Year] paperwork in on time. We also have a new web-based IEP program [Easy IEP], which has been a learning curve for us all!!
- One of my biggest challenges is keeping up with my workloads both as a special education teacher [only 23 students on my case load] and as a doctoral student.
- Currently work at an elementary school as a Special Education Inclusion Teacher K-5. My role is fun and exciting yet very difficult to keep up with everything from paperwork to working with kids, teachers and parents.

Emotional and psychological concerns. Coded response ranged from 2 within mentoring team to 40. Total postings in this area accounted for 284 segments to be coded to this category, which is by far the lowest amount within this category. Perhaps, mentees relied

on local mentors and fellow teachers for emotional and psychological support. Examples of items coded in this category include:

- I'm feeling disorganized, overwhelmed, and want to spend time with students not filling out paper work
- I have given up many activities and interests he used to enjoy after school to work on the mountain of paperwork he has to complete to stay in compliance.
- Leave your work at school. Bringing work home after school can cause problems in that it often interferes with personal and family life. One way to break that cycle is to avoid bringing work home.
- I spent February-May wondering why I ever wanted to be a teacher in the first place. I didn't feel I had been prepared for having my own classroom at all.

Other Themes That Occurred

Many mentees were concerned with confidentiality within the eMSS site and asked multiple questions concerning confidentiality. One of the features of the site was also Private Messaging (PM), which allowed mentors and mentees to engage in one-to-one conversations that the other mentees were not privy to. There were quite a few references to PMs, emails to school accounts rather than within this site, and phone calls involving personal issues or issues that mentees specifically did not wish to share with other members within *Our Place*. One mentee asked her mentor when discussing a troubling relationship with her collaborative teacher, "Is there a more private way of discussing things on here? I don't want to post everything under the sun for others to see!"

Summary of Results

This study explored the frequency and content of interactions between special education mentors and mentees in an online mentoring pilot program conducted by the New Teacher Center. Participants in the eMSS site included 22 mentors, 50 mentees, and 7 facilitators, content specialists, and NTC staff. All but one mentor reported 6 or more years of teaching experience. In comparison, 32 of the 45 mentees responding to the survey reported that they had 3 years or less experience, with 17 of those stating they were completing their first year of teaching. The majority of mentors held master's degrees and the majority of mentees held bachelor's degrees; however, more mentees had doctorate degrees than mentors. The majority of mentor and mentee respondents taught students with specific learning disabilities. Mentors reported higher levels of involvement in online courses; however, both reported high levels of experience with using computers, email, and the Internet. Three mentors and no mentees reported previous involvement in asynchronous chat rooms.

Perceived outcomes on a variety of areas including perceptions of qualifications to teach students with a variety of exceptionalities and reported levels of preparedness for routine classroom activities were gathered from mentees. Perceived levels of familiarity with IDEA and CEC standards as well as perceptions of participation in the eMSS site were gathered from mentees and mentors and reported. Most mentors and mentees reported that they were *fairly* to *very familiar* with CEC standards; however, mentees reported lower levels of familiarity with IDEA. The majority of mentor and mentee comments about participation in the eMSS site were positive and both stated that they gained knowledge, skills, and resources from their participation.

Interaction patterns were provided for the entire site including the five main discussion areas. Patterns of interaction revealed that mentors initiated more messages than mentees in all areas of the site. Mentors, based interaction patterns, appeared to be more comfortable posting at a variety of discussion areas. Mentees posted mainly in the small group discussion area designed for conversations between mentors and a small group of mentees, called *Our Place.* Cyber Café, an area that mentors and mentees could create strands to request assistance in areas of need, received the least amount of postings by both mentors and mentees. Mentors had the highest number of postings in the Early Childhood discussion area.

The content of dialogue among mentors and mentees within *Our Place* was examined using the InTASC standards, and researcher-created rubrics for HPL and beginning teachers' needs and concerns. The InTASC standards accounted for 46% of all coded segments, needs and concerns 27%, and the HPL framework 27%. Confidentiality was identified as an additional theme that many mentees were concerned about. A more detailed summary of findings and discussion will be included in the next chapter.

CHAPTER 5. SUMMARY AND DISCUSSION

Despite increased mentoring and induction programs for beginning special educators, attrition statistics remain high. Existing literature documents this continuing trend, but is lacking in recommendations for addressing this concern. Little information exists about the content of mentoring conversations, the interactions that occur between mentor and mentee, and how the mentor guides the mentee. This mixed methods study was conducted to extend understanding of the mentoring process and specifically to examine a new phenomenon, electronic mentoring with special educators. Additionally, rubrics were created and used to identify needs and concerns of beginning special educators, evidence of learner-centered environments, and professional standards in order to examine discourse occurring between novice special educators and their mentors.

This chapter begins with a brief review of the research questions, methodology, and significance of the study. Next, an interpretation of results, discussion of findings, and limitations of the study are discussed. The chapter concludes with implications of the study for further research and practice.

Research Problem and Methodology

Teacher attrition has a negative impact on the educational outcomes of students with disabilities and causes “disruption of the coherence, continuity, and community that is essential to strong schools” (NCTAF, 2010, p.32). The first year of teaching is especially difficult for a

variety of reasons and greatly influences a teacher's decision to remain in the field. During this time, the teacher is transitioning from being a student of teaching and learning to being a teacher, however support is needed for development as a competent professional (Reynolds, 1990). No matter the quality of the teacher preparation program, no program can fully prepare a teacher for the realities and complexities of daily life in the classroom. While the preservice program lays the foundation, it is not until entering the classroom that learning to teach begins in earnest (Feiman-Nemser, 2001b).

This study focused on the eMSS program which is designed to support the needs of beginning teachers with goals of greater teacher retention, improved practice, and ultimately increased student achievement. This unique e-mentoring program matches beginning teachers with experienced teachers who work with students with similar disabilities in the same grade level, despite geographic location. Beginning teachers have access to teachers with content and pedagogical knowledge that may not otherwise be available in their local schools. In addition to the mentoring conversations that occur in private and small group areas, mentees had access to multiple discussion areas that allow them to customize their learning experiences. The site has been in existence since 2002 serving math and science teachers, but this pilot program was the first expansion to special educators. The eMSS site, while focusing on emotional/psychological and survival skills of beginning teachers, also has a strong content focus.

The specific research questions for this study were:

1. What are the characteristics of the participants in the pilot online mentoring program?

2. What are the perceived outcomes of the participants in the pilot online mentoring program?
3. What is the frequency of interactions between beginning special educators and their mentors?
4. What is the content of the discourse among novice and mentor special educators, by key concerns, InTASC standards, and the HPL framework?

In order to examine the characteristics and perceived outcomes of the participants, archived data from the web-based survey were analyzed. In addition, archived discourse between special education mentors and their mentees was analyzed to examine the frequency of interactions and the content of that discourse. Since special educators teach a variety of subject areas across grade levels, academic content focus can be more difficult to define; therefore, InTASC professional standards were used to analyze their discourse as well as documented needs and concerns of special educators. Specifically, rubrics were created based on documented needs and concerns of beginning special educators, the HPL framework, and the newly released InTASC standards to code the discourse occurring in the e-mentoring site between 22 mentors and their 50 mentees.

Significance of the Study

The quantity, quality, and stability of the teaching force is essential for appropriate educational services for students with disabilities (Guarino et al., 2004). The quality of our nation's schools is dependent on the quality of teachers. Existing literature documents special educator attrition trends despite mentoring and induction programs. Teacher attrition continues to be the major contributing factor to the inadequate supply of special educators.

Although preservice programs may address critical knowledge, skills, and dispositions, studies show that teacher candidates need practice and assistance to transfer the knowledge to practice. New teacher support is essential to achieving excellence in teaching quality. Existing mentoring programs, which focus mainly on emotional and psychological support, do not provide sufficient scaffolding for expert practice. Beginning teachers need comprehensive, systematic programs with trained mentors who provide structured support to improve new teachers' instructional skills (NTC, 2007).

Although mentoring literature recommends support for new teachers' entry into the profession, guidance about the quality and content of this assistance is lacking (Huling-Austin, 1986; Little, 1990; Whitaker, 2000b). Descriptive studies are needed to illuminate critical needs, problems, and issues from the perspectives of beginning teachers and their mentors to further inform the design of support programs (Bay & Parker-Katz, 2009). The text-based nature of e-mentoring allows examination of the mentor-mentee discourse and the focus on the needs and concerns, issues discussed, as well as professional competencies of beginning special educators. Feiman-Nemser (1996) stated that the question remains of "what mentors should do, what they actually do, and what novices learn as a result" (p. 2). The current study provides further information about what mentors and mentees actually do in an electronic mentoring site.

This study examined discourse and survey results to describe the pilot e-mentoring program with special educators. To address teacher development principles, the HPL framework, needs and concerns of beginning special educators, and professional standards were utilized to code segments of the discourse. Electronic mentoring, a popular alternative

and addition to existing mentoring programs in other fields, has been studied and synchronous electronic mentoring of general educators has been examined; however, asynchronous communication sites with special educators, their mentors, and content facilitators needs further examination. This study provides rich descriptions of special educator e-mentoring within the eMSS program to inform training, practice, and research.

Induction and mentoring programs have been examined from a variety of lenses, but this is an initial examination using the HPL framework and the newly updated InTASC standards to examine the content of the conversations occurring within the field of mentoring and specifically within an e-mentoring site for beginning special educators. Built around examples of teaching and learning in practice and understanding of students' background knowledge and cultural understandings, eMSS offers an environment to construct knowledge, build on prior knowledge, and organize one's learning. This allows teachers to make sense of what is going on in their classrooms and provides a lens for understanding students' growth and development. Learning, which involves drawing connections between what is known and new information, occurs in environments rich with stimuli and useful feedback to a learner's efforts (Darling-Hammond, 2007). Despite various studies of mentoring programs, little is known about the interactions that occur between mentor and mentee. Teaching requires not only knowledge of subject matter, but also knowledge of learning, students, and pedagogy and these are critical areas for mentoring programs to address. In addition, Gehrke and McCoy (2007) found that having a strong network of support positively influenced teachers' ability to focus on student learning and their intent to remain in the field. Thus, high quality, accessible

mentoring programs have the potential to increase new teachers' confidence, competence, and effectiveness.

Interpretation of Results

Survey participants were mentors and mentees involved in an electronic mentoring pilot program sponsored by the New Teacher Center, the Electronic Mentoring for Student Success (eMSS). Surveys completed by 45 mentees and 21 mentors were analyzed to describe the 72 participants in this study and discuss perceived outcomes. Archived discourse occurring in the e-mentoring site was examined for frequency of postings of mentors and mentees in each area of the site. In addition, conversations occurring in *Our Place* were further analyzed using the researcher-created rubrics based on the literature and teaching standards to characterize the content of the discourse.

Participants

The majority of mentors held master's degrees or higher (78%) and had previously mentored special educators (52%) or nonspecial educators (48%) although six mentors (26%) stated that they had no previous mentoring experience. The majority of mentees (44%) reported that this was their first year of teaching and 32% reported that this was their first year of teaching special education. Interestingly, more mentees (13%) reported holding doctorate degrees than mentors (4%). The majority of mentees (65%) held bachelor's degrees. The majority of mentees (56%) and mentors (79%) taught students with specific learning disabilities. Eight mentees (35%) indicated that they taught students with Emotional Disabilities and 16 mentors, or 70%, indicated that they taught students with Emotional Disabilities. Both mentors and mentees also indicated that they taught students with Autism (70% of mentors and 43% of

mentees). Ten mentees stated that they were not certified to teach students in disability area they were currently teaching.

Billingsley et al. (2004) found that 71% of the special educators, in their examination, were not fully certified for their main assignments, but also found that the percentage of fully certified teachers increases each year over the first 5 years of teaching, further finding that 94% of special educators with 3 or more years of experience were certified. Several mentees in this study stated that they were currently enrolled in initial certification programs or were adding additional endorsements. Suell and Piotrowski (2007) attributed school districts hiring uncertified teachers to high attrition and low retention among special educators. Several researchers have reported higher levels of attrition among uncertified teachers than certified teachers (Boe, Bobbitt, Cook, and Whitener, 1997; Miller, Brownell, & Smith 1999). Furthermore, Ingersoll (2007) stated that few teaching positions are left unfilled, instead they are filled with uncertified or out of field teachers trained in another subject or grade level. Mentoring is particularly important for the high percentage of novice teachers who are not qualified for positions that they hold (Billingsley, 2002b; Carver & Feiman-Nemser, 2009).

Perceived Outcomes

Mentors reported higher levels of previous involvement with online courses than mentees; however, four mentors and eight mentees reported no previous involvement in online courses. Furthermore, the mentees, who reported previous involvement in online courses, stated that none were related to special education. Most mentors (75%) and mentees (65%) reported they were *quite experienced* surfing the Internet for educational purposes. High percentages of experience were also reported for using e-mail with 87% of mentees and 92% of

mentors responding that they were *quite experienced*. However, previous involvement in synchronous chat rooms was much lower for both mentors and mentees. One mentor and one mentee reported they *were new to* synchronous chat rooms; only one mentor reported that she was *were new to* asynchronous chat rooms, the format examined in this study. The time mentees reported they spent in eMSS activities varied from 48% reporting less than 1 hour per week to 22% reporting spending 3 to 4 hours weekly.

Mentees, in response to perceived qualifications to teach students with a variety of disabilities, reported that they were *not well qualified* to teach students with severe/profound mental disabilities and 44% reported that they were *not well qualified* to teach students with emotional disabilities. One mentee responded that she did not feel adequately prepared to identify how students think about the content taught. All mentors reported either being *fairly well* to *very familiar* with IDEA, but only 82% of mentees reported similar levels of knowledge and one mentee stated she *were not familiar at all*.

When questioned about a variety of pedagogical areas, the majority of mentees responded that they were *fairly well prepared* to identify how students think about content taught; to motivate students to learn and become actively involved; to use real world problems/contexts in lessons; to identify and develop lessons aligned to IEP goals, state standards, and to address individual students learning needs; and to examine student work to assess student thinking and reflect on classroom practice. Mentees' rated their abilities to provide instruction for multiple learning styles evenly between *fairly well prepared* and *very well prepared*. Additionally, mentees responded that they were *fairly well prepared* to use

group work effectively, to complete lesson planning and time management, and effectively communicate and deal with parents.

Mentors and mentees were also asked to provide feedback about their involvement and learning through a discussion strand on the site. The next section outlines these online reflections and the survey responses.

Mentees' end of year reflections. Mentees and mentors were asked to respond to a strand entitled, End of Year Reflection. Mentees were asked by a facilitator:

1. What worked – What did you find most useful about the program? Be specific
2. Participation – Did you participate as much as you had planned? If you weren't able to spend as much time as you wanted with eMSS this year, what participation challenges did you face?
3. Suggestions – What suggestions do you have as we look forward to preparing the eMSS program for next year?

Five mentees posted replies under this strand. Two mentees stating that the Inquiry entitled *Managing Student Behaviors* was especially helpful. One stated, "I found the special education inquiry for managing student behavior very helpful. All of the ideas and encouragement that I received helped me to keep my head on days that I felt overly frustrated." The other replied that "The various suggestions and perspectives of the teachers enabled me to combine the ideas and come up with a plan suitable for my management difficulty in my classroom." Other mentees responded that they found "practical suggestions for increasing student engagement," receiving "great tips, hints, and suggestions for anything troubling in the classroom," " all the suggestions," "especially the reward system which helped

my students be motivated and behave during class," and lastly, "information on parental involvement in IEP meetings."

Four of the five mentees stated that they participated as much as planned or was required by the program. One stated that she "logged in three to four times weekly, but only for 20 minutes because my planning only lasted for 30 minutes and I had to make copies, etc." One respondent stated, "No, I did not participate as much as I had planned. I participated more in the beginning, but the paperwork was getting hectic at the end."

Finally, suggestions included notification that can be emailed when a person comments or responds to a posting. To this, a facilitator responded that this feature already existed and explained how to access it. Another mentee suggested a reminder email when postings are due to "jar the memory." The final two responses both reflected lack of responsiveness from mentors. One mentee stated that mentors should email their mentees about updates stating that she rarely received emails from her mentor. The other mentee stated that "When a mentee has indicated an area of concern, make sure that person is emailed. Participation in the thread is important and could be helpful ".

Mentors' end of year reflections. Mentors were also asked what worked and suggestions for the following year. Eighteen mentors posted in this forum. In response to the query "what worked," numerous mentors stated that the responsiveness of the facilitators in assisting with questions and concerns, the training provided, "tips provided by NTC for mentoring," "the stems created by the NTC for mentoring conversations were the most beneficial." One mentor commented that she ran out of topics given for use in *Our Place* and "found myself scrambling to figure out what to post and the wording I wanted to use." This

mentor also added that "The stems were valuable and provoked thoughtful answers from the mentees." One mentor specifically commented on the interactions with other mentors stating, "the collaboration between mentors was outstanding. The suggestions were outstanding and the wealth of information that was shared was terrific."

Suggestions made by mentors included weekly reminders or prompts of things to be covered during the week, "creating a pool of situations to post," "clarification of expectations," "additional topics to post in *Our Place,"* and "more strict rules for mentees outlining expectations." Numerous mentors commented on the frustration felt by the lack of responsiveness of their mentees. Several contributed this to the program beginning late in the year when mentees "appeared to be on their own and very busy." Another mentor commented:

> I was assigned my mentees very late in the process and very late in the year. None of them participated in this process I think by the time they were assigned, the year was mostly finished and they had too much on their plates.

Another mentor commented on needing more specific information about the mentees, stating that she had only received the mentee's name, where he or she taught, and what level. This mentor stated:

> It would be helpful to know more about them, especially if they aren't all that active. It would be helpful to know what type of class and what exceptionalities they serve; that way, even if they aren't responding, we can make sure the information we share is specifically targeted to what they're doing because the more on target our posts are the more likely they are to reach out to us!

Finally, a mentor stated:

> Continue to expand on topics to issues specific to students with disabilities. . .I would love to see much of the discussion center on specific instructional strategies since often these teachers are entering the classroom with little or no background. I'd like to see us having good discussions about curriculum standards.

The last section asked mentors about skills and professional development. Responses to skills required include empathy, patience when waiting for responses, time to read and respond to postings, the ability to stay positive, and resources. One mentor commented, "I found that at times the mentees were my support." Numerous mentors commented about the frustration of posting and waiting for replies or posting and receiving no response, one mentor summed it up by stating, "There were times that I felt like I was posting to air and no one was listening." Several mentors again commented about expectations, guidelines, or quick guides for participation, and getting lost in the site.

Mentors were asked about professional development needs, specifically they were asked: What skills do you think are most important to be an effective online mentor? What areas of professional development would you like to see offered to mentors by eMSS. Responses included specific strategies for working with students with autism, addressing curriculum for students with significant disabilities and strategies to use with low incidence disabilities, co-teaching strategies, assistive technology, and suggestions for how to "talk in an online environment." Again, numerous comments about the comprehensiveness of the professional development provided, the mentoring institute, and the ongoing help and support from the NTC staff were often mentioned.

Frequency of Interactions

According to research, effective professional development opportunities for teachers involve active learning and collaboration, and reflection, and are congruent with teachers' daily lives (Darling-Hammond & McLaughlin, 1995; Garet et al., 2001). Engagement, defined by the number of posts to the eMSS site, was examined. The ease of communication has been presented as an advantage to online mentoring environments, which allows participants to log in from multiple locations at a convenient time and place. Rourke et al. (2001) stated that "online support can be structured to encourage frequent, focused interactions among participants, while providing for temporal and spatial independence" (p. 10). Furthermore, Brufee (1993) stated that networked technology can provide an opportunity for novices to have continued and frequent contact with mentors and each other, thereby creating a sense of community and shared learning which can help combat new teachers' isolation (Hawkes & Rosmiszowski, 2001). During the 5-month pilot program, mentors posted 1,277 messages at the site and mentees posted 465. Interestingly, Gareis and Nussbaum-Beach's examination of a synchronous mentoring site lasting for one academic year, revealed a total of 526 postings between 11 mentors and 80 mentees. This examination's duration of a 5-month period and during that time almost four times the amount of posts were made. Previous studies involving math and science teachers revealed that participants rated the influence of their participation in the Content Forums section of the eMSS site more highly than their participation in *Our Place* (McAleer, 2008). However, Pasley and Madden (2007) documented that mentees overwhelmingly post in *Our Place* more than any other discussion area.

In this examination, mentors participated in all portions of the site more frequently than mentees, in fact mentors accounted for 66% of the total postings at the site and mentees accounted for 24% of the postings. Gareis and Nussbaum-Beach (2007) reported similar results with 71% of the postings made by mentors and 29% written by novices in their 10-month examination. One reason for the discrepancy is that mentors made sure to encourage or thank every mentee who submitted a message. Additionally, mentors frequently asked questions to be answered by anyone to keep the discussion moving. Bice (2005) reported that participants posted 9,307 messages during the academic year within the eMSS site suggesting that participation rates may be higher in the eMSS site than other e-mentoring sites involving teachers.

Mentee participation declined towards the end of the pilot program in all areas of the site. While this phenomenon was not examined during this study, participation by week and month should be examined in further studies. One mentee reflecting at the end of the year stated that she was not able to participate as much as she had hoped because although she started out participating frequently, the end of the year paperwork prohibited her from participating as much as she would have liked to. Gareis and Nussbaum-Beach (2007) also found that "participation began to drop in March, with very little activity occurring during the final months of the school year" (p. 238). Among mentors and mentees there was huge variability in the amount of postings with mentors ranging from 0 to 161 postings and mentees ranging from 0 to 27.

Mentors and mentees displayed varying patterns of participation within the site. Mentees sought out the one-on-one interaction with mentors and predominantly posted in *Our*

Place. In fact, 20 of the 50 mentees or 40% only posted in *Our Place* and in no other area of the site. Only five mentees posted more in all other areas of the website combined than in *Our Place.* Interaction patterns also revealed that seven mentees never posted in *Our Place* and two mentees never posted at the site. Conversely, mentors were more likely to post in other areas of the site more frequently. Nine mentors posted in areas other than *Our Place* more often and were much more likely to interact in multiple sections of the site than mentees. Mentors interacted with each other sharing curriculum resources, websites, processes, and insights into students. Mentors readily asked others for help and assistance and received multiple replies to these requests. Findings from studies examining face-to-face mentoring programs document that beginning special educators prefer mentors who are special educators (Boyer, 1999; Whitaker, 2000b; White, 1995) who teach students with similar disabilities and teach in the same grade level (Boyer, 1999). Furthermore, White and Mason (2006) found that beginning special educators did not seek help in modifying instruction if their mentors did not teach students with similar disabilities and they did not ask for help with preparing lessons and interpreting assessment data if their mentors did not teach similar age groups.

Postings in the areas of the site dealing with specific disability areas were predominantly made by mentors and mentee postings were minimal. For example, only one mentee posted in the emotional disability section which contained 15 mentor postings and one mentee posted in the mild/moderate section twice. In these areas, mentors discussed a variety of topics including: modifications and accommodations, tensions between general and special education teachers, assigning homework, specific instructional strategies, and numerous resources were shared. Within the significant disabilities section, only two mentees responded throughout the

forum. Mentors especially enjoyed conversing in the Early Childhood section of the site where they mainly conversed about specific curriculum used, forms of assessments, implementation of Response to Intervention (RtI), and shared websites. In this area mentors accounted for 161 of the 235 total postings. Facilitator participation was also high in this forum with 47 posts made by NTC staff. NTC staff began discussion threads in this area and also posted summaries of postings for each thread. Interestingly, after six exchanges between mentors about RtI, a mentee posted stating that she had never heard of RtI and asked the mentors to explain it to her.

Content analysis was conducted within three main frameworks: How People Learn; InTASC, and alignment with beginning teachers' needs and concerns based on a literature review. Summaries of frequency and content of interactions for each area are shared below.

Content Related to Beginning Teachers Needs and Concerns

Based on a literature review completed by Billingsley et al (2009), four main areas of beginning special educators' needs and concerns were documented. These areas included: interacting with adults including parents, administration, other teachers, and instructional assistants. The second area is pedagogical concerns, which include curriculum and teaching, assessment, obtaining materials, and student behavior. Managing roles is the third major area and includes caseloads, time and scheduling, and role confusion. Finally, emotional and psychological concerns are outlined as a major area of concern. Conversations occurring within *Our Place*, the area designed for small group interactions between beginning special educators and their mentors, were coded for these main topical areas. Mentors and mentees exchanged 2,532 remarks containing these outlined concerns. Examples are shared below.

Conversations about inclusion, collaboration, and interacting with adults accounted for 683 postings. Collaborative teaching, especially the difficulty with collaborative relationships with general education teachers, was the focus of many conversations. Mentors and mentees discussed models of collaboration, special education teachers being relegated to the back table to work with "their kids," and special educators being "down talked" daily by general educators. One mentee stated, "I finally have my own classroom instead of being in an inclusion classroom all day," stating she was given her own classroom because her students were not getting the individual attention they needed. She described the collaborative environment as "being given a small table at the back of the room and the general education teacher wanting her to just sit at the back table all day long no matter what their IEP said." The general education setting was described as a noisy, chaotic environment that required her to talk louder to her groups resulting in the general education teaching "making comments about how my group did not belong in a regular education setting."

Other areas of interacting with adults included difficulty with instructional assistants. Many mentees discussed that they didn't feel comfortable "bossing" the aide. Another mentee described her aide not taking instruction from her, exclaiming she could not wait "until this horrible year is over!" Most mentors encouraged mentees to develop a schedule for the instructional assistant and let the schedule guide the instructional assistant's day rather than the special educator having to give directions throughout the day. Interactions with parents were also mentioned by several mentees as an area of concern. These concerns ranged from a lack of care, students appearing at school in "unkempt conditions," lack of parental involvement, and lack of reinforcement at home both academically and behaviorally. Mentors

were encouraging and offered suggestions to mentees to use newsletters, phone calls, have students invite their parents to meetings at school, especially IEP meetings, and giving students extra credit points for parental participation. Many mentors also suggested to their mentees that they provide parents with a list of activities and resources during the summer.

Conversations occurring within *Our Place* concerning administration were generally positive with many referring to their administrators as great supporters. One mentee stated, "I realize that I am really blessed because my principal and co-teachers are very supportive." However, several mentees described challenging situations working with or relating to special education administration. One mentee stated:

> My challenges have been to understand the rules and laws in the state of Nevada. My supervisor is in another town and I am in an outlying town to the school, so I kind of do what I know, which isn't always kosher with her. I do what I understand and what I have studied in another state which doesn't always translate to Nevada.

Student behavior, a pedagogical concern frequently mentioned in the literature as an area of difficulty for beginning teachers, was frequently conversed about in this forum. In addition to a forum entitled, Managing Student Behaviors, many conversations in *Our Place* focused on student behaviors. In fact, one mentoring partnership focused predominantly on managing behaviors in the classroom and many other mentees described specific situations asking for assistance from their mentors. Most mentors stated that behavior management had been their biggest concern when they first began teaching. Total postings coded as Pedagogical concerns were 774.

Emotional and psychological concerns of beginning special educators are well documented in existing literature and have been cited as the primary interactions that occur between mentors and mentees; however, within the current study this category accounted for the least data being coded within the overall category of Beginning Teachers Needs and Concerns. Only 284 messages were coded to this area. Perhaps mentee participants relied on their in school mentors and colleagues to discuss this area.

Managing roles is another common concern expressed by beginning teachers. Mentees struggled with teaching students from multiple grade levels and with a multitude of disabilities. Mentees reportedly struggled with the time commitments required for teaching multiple grade levels, multiple subjects, grading, lesson planning, and multiple meetings. Maria, a mentee, described a variety of meetings that she was required to attend weekly. She stated that each week she met with general education teachers, special education teachers, and attended mandatory professional development due to their school currently being under Memorandum of Understanding Status due to low test scores. Her mentor shared a variety of resources that she had created with her mentees to keep abreast of lesson plans, tests, and other things that were occurring in the general education classroom daily and weekly. Managing roles accounted for the majority of postings within the broader category of Beginning Teachers' Needs and Concerns.

Content Based on How People Learn

The How People Learn (HPL) framework, which establishes principles of effective learning environments, was also used to examine the content of discourse occurring in *Our Place*. Specifically, learning centered, assessment centered, knowledge centered, and

community centered principles that guide knowledge development were utilized. The HPL framework involves groups of individual's collectively and singularly applying learning to relevant situations. Complex problem solving is a socially-mediated process in which persons test solutions through structured learning opportunities. Just as effective learning environments in the school setting focus on academic learning of students, effective learning environments for beginning teachers are built on testing, evaluating, and refining instruction and practice. Research suggests that online learning happens through active collaboration in online dialogue (Gunawardena et al., 1997; Kanuka & Anderson, 1998). The eMSS site proved to be conducive for conversations between mentors and mentees surrounding HPL.

Learning centered environments. Learning centered environments "pay careful attention to the knowledge, skills, attitudes, and beliefs that learners bring to the educational setting" (NRC, 2000, p. 133) as well as learning styles, attitudes, and unique characteristics of the learner. A learner centered environment uses learners' capabilities as a starting point for learning, and focuses on their prior experiences, preconceptions, current knowledge, skills, attitudes, and cultural perspectives (NRC, 2000). The learner centered framework also accounts for differences in educational backgrounds and experience of the mentees. All mentors asked mentees to describe their classroom makeup including categories of disabilities served, ages, ethnic and cultural backgrounds early in the mentoring relationship. The information provided was used to frame the remainder of the conversations, which probably accounts for this area having the largest number of postings.

Knowledge. In order for learners to acquire requisite knowledge and skills and develop an understanding for the discipline of teaching, critical examination of existing conceptions

through integration and sense making as new information is accumulated must be facilitated. Based on learner driven interactive environments, activities structured around exploring, explaining, extending, and evaluating progress facilitates the relevant use of knowledge to make sense of what is being learned (NRC, 2000) rather than focusing on memorization. Knowledge centered environments are focused on learning for understanding and organizing knowledge around key concepts, not memorizing facts. A strong content focus is required for a knowledge centered environment. Additionally, a strong focus on pedagogical content knowledge promotes learning of that content (NRC, 2000). This category had the second largest number of postings within the HPL framework accounting for 818 postings.

Assessment. Assessment centered environments, which include formative and summative forms of assessment, "provide opportunities for feedback and revision" (NRC, 2000, p. 140) in which feedback is an essential component. The learner makes his or her thinking visible so understanding can be refined as needed. In addition to all mentees completing self-assessments, a great deal of conversations also centered on assessments. There were 587 postings in this area. Mentors and mentees discussed state assessments as well as formative assessments and assessments used for IEP goal documentation and planning. Resources, such as list of assessments used, were shared amongst mentors and mentees.

Community-based environments. Community based environments are focused on shared learning within and through a community of learners with consideration of contextual factors. Communication and collaboration influence the learner's understanding and construction of knowledge and active learning involves using ideas by writing and talking about them and applying these ideas to complex problems requiring the integration of many ideas

and perspectives to promote deeper learning and reflection. The structure of the site created an advanced organizer for sharing ideas amongst its members; however, most mentees did not discuss implementation of these ideas accounting for the least amount of interactions being coded to this area. The concept of adaptive expertise was observed within the site. Mentees, through their interactions with mentors, saw how expert learners approached and encountered tasks' thus modeling and demonstrating their approaches to tasks and providing feedback to learners as they approach tasks.

> Theoretical frameworks provide a powerful lens through which to make sense of everyday experiences and observations; providing a way to organize and explain that which might otherwise appear mystifying or without reason. By providing this framework for understanding, such theories also then provide a framework for developing and implementing strategies to direct and manage our experiences (Woodard & Hinchliffe, 2002).

In addition to looking specifically at the discourse, the structure of the eMSS site is learner centered offering mentors and mentees choice of subject matter and the ability to create a discussion area surrounding a topic or concern of the learner's choice. Also, participants are given a variety of topics for possible interaction allowing them to test their preconceptions and integrate new knowledge and information in a safe, supportive environment. Through learner driven methods, the environment offered assistance in developing knowledge while assisting the learner in understanding the material of teaching within their particular context. The eMSS environment is also assessment centered with

mentors and mentees completing self-assessments to determine their unique learning needs. Content specialists and facilitators review the self-assessments with each mentee.

The focus of the site is on a community of learners sharing knowledge, skills, and values while simultaneously building new knowledge, skills, and dispositions within a safe, nurturing, and caring environment. Mentors and mentees interact within a larger community rather than learning in isolation which is how new teacher learning frequently occurs. Within the site, mentors and mentees take control of their own learning by defining learning goals and monitoring their progress in achieving them.

Based on content analysis of interactions occurring between special education mentors and their mentees in an online mentoring environment using the HPL framework, specifically the Learning to Teach in Community, evidence was found for each area. Professional development literature tells us that teachers need learning opportunities that are connected to the work of students, related to teaching and learning of subject matter, organized around real problems of practice, and sustained over time by conversation and coaching (Darling-Hammond & McLaughlin, 1996; Little, 1993). This site offered that environment.

InTASC Standards

Feiman-Nemser et al. (1999) stated that we must provide the conditions, support, and guidance to help construct a professional, standards-based practice in the context of teaching in order to promote teacher development. The Interstate Teacher Assessment and Support Consortium (InTASC) standards outline what teachers should know and be able to do to help students reach the goal of being college and career ready. These standards, designed to articulate what effective teaching and learning looks like, are intended as professional practice

standards. One goal is set as the standard for performance that looks different dependent on the teacher's developmental stage, which ranges from preparation to expert (CCSSO, 2010, July). These standards were also used to code discourse found in the site.

Support for all 10 standards was found within the eMSS site. Standards focused on learning environments, professional learning and ethical practice, and leadership and collaboration received the most support. Several standards were difficult to document through online discourse because they predominantly focus on implementation. For instance, the standard Content Knowledge requires teachers to "create learning experiences that make aspects of the discipline accessible and meaningful to learners to assure mastery of the content" (CSCCO, 2010, p. 13). While multiple interactions between mentor and mentee focused on content, the researcher was not able to code many strands because demonstration was required. Likewise the Assessment standard required demonstration of using assessments appropriately and was difficult to document solely through online discourse. Thus, frequency variability among strands was primarily related to the lack of opportunity for direct observation to document implementation in specific standards.

Study Limitations

There are several limitations in this study. First, this was a relatively small sample size for quantitative research, although sufficient for qualitative analyses. The variability in the frequency of postings across mentors and mentees may have affected measures of central tendency. Another limitation was the relatively short duration of the pilot program although the participants were very active compared to other studies. Additionally, the pilot period began in February and mentee participation declined sharply towards the end of the school

year, so studies of a full academic year may produce different results. Mentees involved in this study were presumed to have school-based mentors and information was not available about these mentoring relationships so the effects of other mentoring relationships may have influenced the findings. Since the participants were involved in a specific e-mentoring program and from two specific states (Louisiana and Nevada) caution must be exercised in generalizing these findings to other electronic mentoring contexts. Detailed descriptions of the site and the participants are provided to assist the reader in determining if the findings can be applied to their settings and populations.

Another limitation is related to the new survey instrument, which could be expanded and studied for further validity and reliability analyses. Expansions might include: participant demographics, information about other mentoring support, questions based on the three frameworks used for discourse coding, and further questions about e-mentoring. In addition, archiving survey responses by individual level would also permit comparisons between individuals' survey results (such as change over time) and the content of their online dialogue with mentors. This would permit individual level analyses, with attention to mentee characteristics and perceived needs with specific mentor supports, for further validation of the e-mentoring process.

Focusing on the number of postings has drawbacks such as participants may make frequent postings, but these postings may be short and lack reflection. Likewise, participants may post infrequently, but the posts may be in-depth and highly reflective in nature. Numerous researchers have relied on word count by interaction and area to account for these differences. Word count analysis was not summarized in this study and remains an area for

future examination. Also, many mentors stated that they sent mentees private messages that are not included in the content or frequency analysis and cannot be analyzed. Several mentors and mentees commented about phone calls that occurred between mentor and mentee. Those requests do indicate that mentees were turning to their mentors for assistance with areas of significant concern. Again, this communication was not accounted for in either frequency or content analyses.

As documented in other studies, there were probably participants visiting the site reading messages posted by others, but not corresponding themselves. One mentor, after several threads with no responses from mentees, created a thread entitled, "I sure would like to hear from you." Interestingly, after a period of inactivity, two mentees immediately responded to this thread implying that they may have been reading the postings and participating in the site throughout, but did not respond until specifically asked to do so. Klecka et al. (2004) reported that beginning teachers may be more likely to start as "peripheral participants" (or lurkers) and that many use this opportunity to learn the norms of the online environment. Given the short duration of this study, the phenomena of lurkers may have affected the interactions occurring at this site (e.g., number of mentor postings). Participants were not questioned about time spent online reading others postings, but not responding themselves. This question could be added to the postsurvey to gather self-reported measures of peripheral participation or to follow-up interviews. Thus, the phenomena of lurking could be investigated to explore what mentees learn from observing and how to engage them in online dialogue. Bice (2005), in his examination of the eMSS site, reported that numerous participants stated that they read threads and responses posted by others, but they did not respond. In

interviews, participants also reported reading ideas in one section of the site, but posting about it in another discussion area at the site. In fact, one respondent reported reading approximately 1,100 messages, but she responded infrequently. The lurker phenomenon is an important issue with online learning. Bice (2005), using interview data, documented the high occurrence of lurking behavior in the eMSS site with math and science teachers.

This study was completed by a single researcher, which is a limitation for qualitative research. The researcher was previously involved with beginning teacher mentoring, peer coaching, and was a special education teacher; therefore, it is impossible to divorce oneself from the past experiences, beliefs, and values. Bogden and Biklen (2007) state that the researcher must acknowledge this reality to address this limitation. A field journal was maintained during the study containing notes during interpretation of results. Guba's Model of Trustworthiness of Qualitative research (Lincoln & Guba, 1985) emphasizes the importance of neutrality or ensuring that the findings are based on information provided by the participants, not other biases, motivations or perspectives. To check the trustworthiness of the study, second coders were used in this study and high levels of interrater reliability were found.

Another challenge was the use of professional standards for coding because they are integrated and difficult to separate into discrete codes. For example, the standards presented knowledge as integrated along a continuum. This caused several of the standards within the InTASC frameworks to be grouped together. In addition, some of the standards are based on demonstration of teacher competencies and cannot be observed in online discourse; therefore these standards were not coded as frequently as other standards. In addition, the InTASC standards are based on the HPL framework and similar grouping was documented within this

area as was the lack of implementation. Furthermore, the rubrics were created by the researcher and this was the first time they were used. Additional studies using the coding system and other measures (such as direct observation) are desirable.

Desimone (2009) stated that researchers need to account for the relationships that exist among the core components of professional development, teacher knowledge and beliefs, classroom practice, and student achievement outcomes. The researcher acknowledges that longer-term program goals such as professional growth, teacher retention, and improved student achievement remain the intended program outcomes by which the efficacy of online mentoring can ultimately be evaluated (Gareis & Nussbaum-Beach, 2007). Sindelar et al. (2004) further stated that we need to identify factors that support special educators' implementation of knowledge they acquire in professional development. This information could be gathered through longitudinal studies and the use of classroom observations. This study lacks observations to determine teachers' implementation of strategies and standards within the classroom environment. Longitudinal studies can help illuminate whether e-mentoring among the same mentors and protégés is sustainable over time (Smith & Israel, 2010) as well as the outcomes of such programs. Additionally, a survey question inquiring about intent to remain should be considered for inclusion in the postsurvey.

Implications for Practice

Based on this examination, it was evident that both experienced and novice special educators enjoyed communicating, sharing resources, and gaining knowledge from one another in an online environment. School systems may consider creating online environments for teachers to converse and share resources and materials. E-mentoring can be viewed as a

complement to face-to-face mentoring, therefore school systems could implement e-mentoring amongst their teachers to create a community in which educators can communicate and share resources and information, allowing teachers with similar student populations to interact online when geography does not allow them to do so in person. In their literature review, Ehrich, Hansford, and Tennent (2004) concluded that the nature of mentoring support desired by novices was wide ranging including emotional support, how to manage their workload, minimize administrative tasks such as paperwork, work effectively with general education teachers, deal with scheduling, and receive instructional support. These wide ranging needs were documented in this study.

Professional development literature states that teachers involved in one day training with no follow up do not usually implement the content of the training. Teachers are busy individuals and when they return to their classrooms after training, the materials often are left on their desk or put in a file cabinet rather than implemented. School systems and professional development providers could create online follow up in which participants are asked to share their implementation of the training, share resources created, ask questions of other individuals that participated in the training, and continue the learning process while increasing accountability. Studies in content areas, specifically math and reading, have begun to look at positive student outcomes as a result of teachers' professional development, and online environments could be a meaningful way to promote implementation and sustain learning.

Some schools, especially those in rural areas, only have one special education teacher serving the school or with smaller schools there may be only one special educator teaching a particular content area. Forms of online communication with other special educators on a

routine basis may be beneficial to these special educators, thereby reducing the isolation reported while creating opportunities to collaborate amongst teachers. Mentors and mentees both discussed difficult collaborative relationships within this study; perhaps e-mentoring with both a general and special educator assisting the novice teacher may prove beneficial for all parties involved. This environment may lead to increased knowledge and understanding.

Future Studies

While this study has added to existing literature by providing a descriptive study of an electronic mentoring site for beginning special educators, there are many unanswered questions and areas for future study. Additionally, future studies could link survey responses to participation in the online environment to expand understanding of the relationship between the e-mentoring experiences and perceived growth. Studies of this nature were identified in the initial literature review as lacking. Bay and Parker-Katz (2009) speculated that due to the diverse nature of special education including students with varying disabilities, age levels, abilities, and the various instructional models that must be enacted to meet the needs of these students that support likely needs to vary in relation to what novices actually face. The ability to match survey responses with participants would allow an examination of this issue and further capture characteristics of mentoring pairs.

Effective mentoring programs aim to improve knowledge, skills, and dispositions that will subsequently impact student achievement. While the measurement of student achievement was beyond the scope of this study, establishing the effectiveness of eMSS through measurements of changes in student achievement would add to the understanding of the impact of participation in a mentoring program for beginning educators. Gentry, Denton,

and Kurz (2008) call for research that uses more empirical measures to confirm teacher's self-reported improvements as a result of technology-based mentoring. They also point out that the ultimate test of all forms of teacher mentoring will be measurable improvements in outcomes of their students.

Future research could also focus on using observational data collected from the mentees' classrooms to assist in determining changes and perceived changes. This would also allow for examination of learner outcomes and offer a more objective measure of growth in knowledge, skills, and dispositions. The program occurring during the 2010-2011 academic year is conducting observations via interactive video capability, so this type of study will be possible.

Gareis and Nussbaum-Beach (2007) suggest that further research could identify more clearly the differences between the communication that happens in online mentoring and in face-to-face mentoring. It would also be instructive to compare the nature of online mentoring and face to face mentoring. To begin examining the differences between the two, surveys and interview questions could be created to query participants about the differences between the two. In this study, it was speculated that the low percentage of postings for emotional and psychological concerns may have been because mentees relied on their in-school mentors for this. This could be examined directly through surveys, interviews, and observations. Additionally, e-mentoring represents a different context and medium from traditional mentoring, therefore it is important to understand what measures can be directly applied from FtF mentoring and what must be created (Gareis & Nussbaum-Beach, 2007).

Summary

This descriptive study provides information about the participants in a new e-mentoring program for special educators. Results indicate that special education mentors and mentees conversed about substantive issues during the pilot e-mentoring program. Survey results and qualitative data both revealed that mentors and mentees reported positive results from their participation in this program. This study analyzed online discourse between experienced and novice special educators for elements of HPL, InTASC standards, and Needs and Concerns of Beginning Special Educators and findings revealed numerous conversations around each area. Goals of eMSS program include meeting the immediate needs of beginning special educators while also improving content and pedagogical knowledge through reflection and collaboration. Through qualitative findings, this study revealed that mentees' immediate needs were met through acquiring resources, strategies, and ideas to enhance instruction and teach students with disabilities.

The findings from this study were similar to other studies of the eMSS program with math and science teachers; specifically that experienced teachers acting as mentors submitted more messages to all discussion areas at the site than mentees (Bice, 2005). Bice (2005) reported that 96 mentees posted 3,048 messaged compared to 84 mentors posting 6,259 messages in the course of an academic year. Gareis and Nussbaum-Beach (2007) found similar results with general education teachers and their mentees.

Costello-Dougherty (2008) predicted that "teachers in growing numbers are likely to continue to reach through their computers to offer one another a helping hand. And when they connect, they'll start factories of new ideas that, ultimately, should have a great impact on

learning" (p. 2). The eMSS site showed that what Costello-Dougherty predicted is coming to fruition.

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APPENDIX A. CODING FOR HOW PEOPLE LEARN FRAMEWORK

LEARNER CENTERED ENVIRONMENTS

Description: "Learner centered is used to refer to environments that pay careful attention to the knowledge, skills, attitudes, and beliefs that learners bring to the educational setting."(Bransford, Brown, & Cocking, 2000, p. 133). Learner centered environments take into account students' background knowledge, interests, and social and cultural values (The IRIS Center for Training Enhancement, n.d.).

Examples:

- Knowledge, skills, interests, and attitudes, and beliefs of learner are displayed
- Discussing misconceptions
- Attempting to discover what students think in relation to the problem
- Giving a situation that will allow the learner to readjust their ideas
- Recognizes the importance of building on cultural and conceptual knowledge
- Sensitivity to cultural practices
- Expressing multiple intentions
- Connecting everyday talk and school talk
- Building on what student already knows
- Initial assumptions

KNOWLEDGE CENTERED ENVIRONMENTS

- Standards based
- Organized around big ideas
- Focused on information and activities that help learners develop an understanding of a subject or discipline
- Introduces knowledge
- Emphasis on sense making and metacognitive skills
- Learning with understanding, not restating facts

ASSESSMENT CENTERED ENVIRONMENTS

- Providing feedback about misconceptions and performance
- Reflect and revise

- Formative and summative assessments
- Reflect on responses and approaches to activities
- Determining the effectiveness of their learning methods
- Self-assessment of learning

COMMUNITY CENTERED ENVIRONMENTS

Description: a collaborative learning environment where goals and expectations are explicit defined by active participation in the community and with learning goals. A stimulating, supportive, and safe environment where students challenge themselves and become lifelong learners.

Adapted from Bransford, Brown, and Cocking (2000 and Darling-Hammond and Bransford (2005) and The IRIS Center for Training Enhancement (n.d.).

Coding Sheet for How People Learn Framework

_____Mentor _____ Mentee Identifier _____

Code	Trait	Example	eMSS Example
LC	Learner Centered	• Knowledge, skills, interests, and attitudes, and beliefs of learner are displayed • Discussing misconceptions • Attempting to discover what students think in relation to the problem • Giving a situation that will allow the learner to readjust their ideas • Recognizes the importance of building on cultural and conceptual knowledge • Sensitivity to cultural practices • Expressing multiple intentions • Connecting everyday talk and school talk • Building on what student already knows • Initial assumptions	
KC	Knowledge Centered	• Standards based • Organized around big ideas • Focused on information and activities that help learners develop an understanding of a subject or discipline • Introduces knowledge • Emphasis on sense making and metacognitive skills • Learning with understanding, not	

		restating facts	
AC	Assessment Centered	• Providing feedback about misconceptions and performance • Reflect and revise • Formative and summative assessments • Reflect on responses and approaches to activities • Determining the effectiveness of their learning methods • Self-assessment of learning	
CC	Community Centered	• a collaborative learning environment • goals and expectations are explicit • learning goals • stimulating, supportive, and safe environment • where students challenge themselves • lifelong learners	

APPENDIX B. INTERSTATE TEACHER ASSESSMENT AND SUPPORT CONSORTIUM MODEL

CORE TEACHING STANDARDS

1. **Learner Development:** The teacher understands how learners grow and develop, recognizing that patterns of learning and development vary individually within and across the cognitive, linguistic, social, emotional, and physical area, and designs and implements developmentally appropriate and challenging learning experiences.

2. **Learning Differences:** The teacher uses understanding of individual differences and diverse cultures and communities to ensure inclusive learning environments that allow each learner to reach high standards.

3. **Learning Environments:** The teacher works with learners to create environments that support individual and collaborative learning, and that encourage positive social interaction, active engagement in learning, and self-motivation.

4. **Content Knowledge:** The teacher understands the central concepts, tools of inquiry, and structures of the discipline(s) he or she teaches and creates learning experiences that make these aspects of the discipline accessible and meaningful for learners to assure mastery of content.

5. **Application of Content:** The teacher understands how to connect concepts and use differing perspectives to engage learners in critical thinking, creativity, and collaborative problem solving related to authentic local and global issues.

6. **Assessment:** The teacher understands and uses multiple methods of assessment to engage learners in their own growth, to monitor learner progress, and to guide the teacher's and learner's decision making

7. **Planning for Instruction:** The teacher plans instruction that supports every student in meeting rigorous learning goals by drawing upon knowledge of content areas, curriculum, cross-disciplinary skills, and pedagogy, as well as knowledge of learners and the community context.

8. **Instructional Strategies:** The teacher understands and uses a variety of instructional strategies to encourage learners to develop deep understanding of content areas and their connections, and to build skills to apply knowledge in meaningful ways.

9. **Professional Learning and Ethical Practice:** The teacher engages in ongoing professional learning and uses evidence to continually evaluate his/her practice, particularly the effects of his/her choices and actions on others (learners, families, other professionals, and the community), and adapts practice to meet the needs of each learner.

10. **Leadership and Collaboration:** The teacher seeks appropriate leadership roles and opportunities to take responsibility for student learning, to collaborate with learners, families, colleagues, other school professionals, and community members to ensure learner growth, and to advance the profession.

Source: Council of Chief State School Officers (2011, April). Interstate Teacher Assessment and Support Consortium (InTASC) Model Core Teaching Standards. A Resource for State Dialogue. Washington, D.C.

APPENDIX C. eMSS SPECIAL EDUCATION MENTEE PRESURVEY 2009-10

The following eMSS Participant Pre-Survey will be used to construct a picture of the range of teaching experiences in the field of special education. This survey is used to collect data on the program's effectiveness. A follow up survey will be administered in May.

Please Note: You must complete the entire survey in order to receive a certificate of professional development hours at the end of the eMSS-Special Education year. The survey will take you about 15 minutes to complete.

All the information you provide is kept confidential. No information, which could identify you, will be provided to anyone without your permission.

1. First Name (Required) Last Name (Required) Email Address (Required) Program Code

2. Including the 2009-10 school year, how many years how you been teaching:
{Options include: 1, 2, 3, 4 or more]
Special education?
Overall? (Please include your entire teaching experience –all subjects, all grade levels)

3. In your current position, what grade level(s) and/or exceptionalities are you working with in the 2009-10 school year? (Mark all that apply)

K 1 2 3 4 5 6 7 8 9 10 11 12
And/or

- Specific learning disabilities
- Mild/moderate mental disabilities
- Severe/profound mental disabilities
- Autism
- Emotionally Disturbed
- Other_____
- _____
- _____

4. How many class periods/hours a day are you teaching or co-teaching in the 2009-10 school year?

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8

5. How many course/subject preparations do you have in the 2009-10 school year (including different subjects, grade levels)?

- 1
- 2
- 3
- 4
- 5
- 6
- 7

6. Please indicate the amount of individual planning time you are allotted during the school day in the 2009-10 school year.

- 0 minutes
- 1-15 minutes
- 16-30 minutes
- 31-45 minutes
- 46-60 minutes
- 61-75 minutes
- 76-90 minutes
- 91-105 minutes
- 106-120 minutes
- more than 2 hours

7. Do you:

- have your own classroom?
- Travel between classrooms?

8. Which of the following degrees do you hold?

- Bachelor's
- Master's
- Master's +30

- Specialists
- Doctorate

9. List the area(s) of certification or endorsement in special education that you currently hold:

---

10. Are you certified in the areas of special education for the exceptionalities that you are currently teaching in the 2009-10 school year? Yes No

11. If you are not certified in the areas of special education for the exceptionalities that you are teaching, please explain. If you are certified, enter Does Not Apply.

_____

12. Approximately, how many different online courses, seminars and/or discussion groups have you completed prior to your involvement with the eMSS-Special Education project?

- 0
- 2
- 4
- 5 or more

13. If you have participated in online courses, seminars or discussion groups, how many were related to special education content?

- 0
- 1
- 2
- 3
- 4
- 5 or more

14. For each location listed below, indicate the type of Internet connection that you will use to access the online portions of eMSS.
[Options include: won't use, Use high-speed most often, use dial-up most often]

- Through a computer at home
- Through a computer in my classroom
- Through a computer in the school media center, computer lab, or some other location within my school
- Through a computer at a local college, university, or library

15. How experienced are you with each of the following:
[Options include: New to it, A little experienced, Moderately experienced, Quite experienced]

- Using computers (e.g., using basic types of software)
- Surfing the Internet for educational purposes
- Using E-mail
- Using Listservs
- Participating in synchronous (live) chat rooms (e.g., everyone online at the same time)
- Participating in asynchronous discussion boards (e.g., participants read/post messages at their own convenience)
- Attaching files to e-mail/accessing attached e-mail files
- Uploading and downloading files to/from a server
- Completing and submitting online forms and/or questionnaires
- Monitoring and posting messages to a threaded discussion group
- Participating in online seminars and/or courses

16. How familiar are you with the following, at the grade level(s) for which you are responsible?
[Options include: New to it, A little experienced, moderately experienced, quite experienced]

- Individuals with Disabilities Education Act (IDEA)
- Your State's Standards, Benchmarks, and Comprehensive Curriculum
- Council for Exceptional Children Standards

17. Within special education, many teachers feel better qualified to teach students with specific exceptionalities than others. How well qualified do you feel you are to teach students with the following exceptionalities?
[Options include qualified, not well qualified, adequately qualified, very well qualified]

- Specific learning disabilities
- Mild/moderate mental disabilities
- Severe/profound mental disabilities
- Autism
- Emotionally Disturbed
- Other_____

18. Please indicate how well prepared you feel in each of the following areas in your own teaching.
[Options include: Not adequately prepare, somewhat prepared, fairly well prepare, very well prepared]

- Managing student grades, record keeping and paperwork
- Student discipline
- Lesson planning and time management
- Effectively dealing with and communicating with parents
- Using group work effectively

- Setting and achieving student goals as written on I.E.P.'s
- Setting and achieving professional goals

19. Please rate HOW IMPORTANT it is for you to do each of the following in your own teaching.
[Options include: not important, somewhat important, fairly important, important]

- Identify how students may think about the content you are teaching
- Question students for understanding
- Have students demonstrate higher-order thinking skills
- Motivate students to learn and become actively involved in classroom activities
- Use real world/functional skills in lessons
- Examine student work in order to assess student thinking and reflect on classroom practice
- Provide instruction for multiple learning styles of my students
- Identify/develop lessons aligned to instructional goals on the students' I.E.P's
- Identify/develop lessons to address individual student needs
- Identify/develop lessons aligned to state and national standards
- Formally assess student learning within the content area in which you are teaching
- Informally assess student learning within the content area in which you are teaching

20. Please indicate HOW WELL PREPARED you feel to do each of the following in your own teaching.
[Options include: Not adequately prepare, somewhat prepared, fairly well prepare, very well prepared]

- Identify how students may think about the content you are teaching
- Question students for understanding
- Have students demonstrate higher-order thinking skills
- Motivate students to learn and become actively involved in classroom activities
- Use real world/functional skills in lessons
- Examine student work in order to assess student thinking and reflect on classroom practice
- Provide instruction for multiple learning styles of my students
- Identify/develop lessons aligned to instructional goals on the students' I.E.P's
- Identify/develop lessons to address individual student needs
- Identify/develop lessons aligned to state and national standards
- Formally assess student learning within the content area in which you are teaching
- Informally assess student learning within the content area in which you are teaching

21. How much time do you anticipate being able to spend on eMSS activities each week?

- less than 1 hour
- 1-2 hours
- 3-4 hours
- 5-6 hours
- more than 6 hours

22. Why did you decide to participate in the eMSS-Special Education program?

_____

_____

23. What do you hope to gain from your participation in this electronic mentoring program?

_____

_____

APPENDIX D Coding Protocol for Beginning Special Educators' Needs and Concerns

Needs and Concerns of Beginning Special Educators

	Inclusion, Collaboration and Interaction with Adults					Pedagogical Concerns				Managing Roles				Emotional/Psychological	
	Inclusion	Collaboration	Parents	Aides	Administrators	Curriculum & Teaching	Assessment	Materials	Student Behavior	Paperwork, IEP's, & Meetings	Caseload	Time/Scheduling	Role Confusion		Emotional/Psychological
Boyer & Lee (2001)	X	X	X			X	X	X	X	X		X			X
Busch, Pederson, Espin, & Weissenburger (2001)	X		X	X		X				X		X			
Carter & Scruggs (2001)	X	X		X	X	X		X	X	X	X	X			X
Lovingfoss, Harris,			X			X		X	X	X		X			X

& Grahma (2001)															
MacDonald & speece 92001)		X				X	X	X	X	X					X
Mastropieri (2001)	X	X		X		X		X	X	X	X	X	X		X
Billinsgley & Tomchin (1992)	X	X				X	X	X	X	X					X
Conderman & Stephens (2000)	X	X	X					X	X				X		
Gehrke & McCoy (2007)	X	X		X	X	X	X								
Gehrke & Murri (2006)	X	X		X	X	X		X		X		X	X		X
Kilgore & Griffin (1998)	X	X		X	X	X		X	X	X	X				
Kilgore, Griffin, Otis-Wilborn, & Winn (2003)	X	X		X	X	X		X	X	X		X			X
Otis-Wilborn, Winn, Griffin, & Kilgore (2005)	X	X		X	X	X		X	X	X	X	X	X		X
Griffin,		X				X	X		X			X			X

Seitz (1994)		X				X	X	X		X	X	X	X		X
Whitaker (2003)						X		X	X	X					X
White & Mason (2006)		X	X			X	X	X	X	X		X	X		X

Source: Billingsley, B. S., Griffin, C.C., Smith, S.J., Kamman, M., & Israel, M. (2009). ***A review of teacher induction in special education: Research, practice, and technology solutions*****. (NCIPP Doc. No. RS-1). Retrieved November 1, 2009, from University of Florida, National Center to Inform Policy and Practice in Special Education Professional Development website: http:?/nicipp.org/reports/rs_1.pdf**

APPENDIX E. eMSS HOME PAGE

Discussions	Topics	Messages	Last Message
Facilitator Forum			
Facilitator Forum	7	53	06-01-2010 13:20:57
Facilitator Forum Archives	26	112	05-09-2010 15:01:15
Post Survey and End of Year Reflections			
Post Survey for Mentees	1	16	05-25-2010 13:38:56
Post Survey for Mentors	1	17	05-27-2010 08:12:04
End of Year Reflections for Mentees This area is only viewable to mentees and eMSS staff.	1	9	05-23-2010 11:17:31
End of Year Reflections for Mentors This area is only viewable to mentors and eMSS staff.	1	19	05-28-2010 11:40:17
Spring Inquiry Registration If you would like to participate in an 8 week inquiry focused on an area of your choice, please sign up now. Remember, both mentors and mentees can earn 2 graduate quarter credits for completion.	2	24	04-04-2010 13:53:30
Our Place Mentor 1 (name removed)			
Weekly Happenings	8	18	06-01-2010 18:47:17
Archives	6	41	04-16-2010 13:02:22
Our Place Mentor 2 (name removed)			
Weekly Happenings	8	20	05-22-2010 17:28:48
Archives	7	10	03-26-2010 18:16:19
Our Place Mentor 3 (name removed)			
Weekly Happenings	12	22	06-02-2010 06:42:09
Archives	22	83	04-21-2010 19:01:05
Our Place Mentor 4 (name removed)			
Weekly Happenings	7	31	05-08-2010 04:32:22

Archives	3	21	03-08-2010 16:34:02
Our Place Mentor 5 (Name removed)			
Weekly Happenings	11	26	06-01-2010 09:13:22
Archives	8	26	04-08-2010 10:09:42
Our Place Mentor 6			
Weekly Happenings	8	8	06-01-2010 14:32:29
Archives	19	35	04-26-2010 07:25:53
Our Place Mentor 7			
Weekly Happenings	3	16	05-11-2010 07:39:46
Archives	10	58	04-07-2010 06:32:51
Our Place Mentor 8			
Weekly Happenings	2	3	06-03-2010 17:34:11
Archives	29	106	05-28-2010 13:39:37
Our Place Mentor 9			
Weekly Happenings	9	54	06-04-2010 19:01:24
Archives	5	33	03-14-2010 19:27:26
Our Place Mentor 10			
Weekly Happenings	8	28	05-17-2010 11:31:48
Archives	5	43	03-15-2010 11:25:29
Our Place Mentor 11			
Weekly Happenings	3	4	05-24-2010 08:15:29
Archives	15	37	05-06-2010 10:52:19
Our Place Mentor 12			
Weekly Happenings	7	28	05-06-2010 14:16:15
Archives		0	No messages No messages

Our Place Mentor 13			
Weekly Happenings	9	12	05-26-2010 07:55:57
Archives	8	8	04-18-2010 07:26:23
Our Place Mentor 14			
Weekly Happenings	16	52	06-01-2010 18:17:00
Archives	7	19	03-25-2010 19:10:38
Our Place Mentor 15			
Weekly Happenings	7	13	06-01-2010 19:31:11
Archives	10	41	04-15-2010 16:57:34
Our Place Mentor 16			
Weekly Happenings	14	43	05-19-2010 18:52:10
Archives	0	No messages	No messages
Our Place Mentor 17			
Weekly Happenings	9	26	05-14-2010 14:12:30
Archives	0	No messages	No messages
Our Place Mentor 18			
Weekly Happenings	10	12	05-27-2010 10:26:55
Archives	0	No messages	No messages
Our Place Mentor 19			
Weekly Happenings	8	31	05-26-2010 09:56:18
Archives	10	35	04-02-2010 15:58:55
Louisiana Survey - please fill out ASAP			
Louisiana Survey from Dept. of Ed.	1	22	04-14-2010 07:40:25
Our Place (Mentor's Name)			
Weekly Happenings!	0	No messages	No messages
Mentor Place			
Mentoring Strategies	8	104	06-07-2010 10:57:48
Mentor Place Archives			
Archived discussions from Mentor Place	36	542	05-23-2010 15:03:39

Topic of the Month

Topic of the Month: May

Reflecting on Our Successes and Challenges 7 58 06-01-2010 13:40:30

Working with at-risk students at year's end Dilemma

How can we help at-risk students to do their best when they are facing hardships at home? 3 21 05-11-2010 08:23:373

TOM/Dilemma Archives

Archived discussions from Topics of the Month and Dilemmas 25 225 04-26-2010 14:55:42

Early Childhood/Elementary K-5

Developmental Delay (EC/K-5) 2 16 05-16-2010 06:50:46

Mild/Moderate Disabilities (EC/K-5) 5 35 06-02-2010 10:25:54

Significant Disabilities (EC/K-5) 5 24 05-12-2010 10:51:36

Autism Spectrum Disorders (ASD) (EC/K-5) 6 51 05-26-2010 05:24:01

Emotional Disability (EC/K-5) 3 13 05-21-2010 06:43:18

Early Childhood/Elementary K-5 Archives

Archived discussions from the Early Childhood topic areas. 27 226 04-18-2010 15:15:01

Middle/High School (6-12)

Mild/Moderate Disabilities (6-12) 6 39 05-28-2010 09:55:37

Significant Disabilities (6-12) 4 10 05-14-2010 06:55:57

Autism Spectrum Disorders (ASD)(6-12) 5 22 05-16-2010 19:02:55

Emotional Disability (6-12) 4 22 06-02-2010 13:59:30

Middle/High School Archives

Archived discussions from the Middle School topic areas. 22 127 04-12-2010 00:06:18

Cyberlounge

Cyber Cafe

Share anything of interest to you that expands conversation. 4 38 06-06-2010 20:54:00

Cyber Cafe Archives 7 51 04-07-2010 05:28:24

Our Place Mentor 20

Weekly Happenings 4 6 03-24-2010 21:11:33

Archives 0 No messages No messages

Our Place Mentor 21

Weekly Happenings 4 14 03-13-2010 10:04:21

Archives

APPENDIX F. COMMON THREADS POSTED IN OUR PLACE BY MENTORS

Welcome thread

Please take a moment to introduce yourself. We will be spending a lot of time together virtually, so please tell our group more about you. You can include any or all of the following:

- Tell us where you teach, what city you are in, and about your role in your school.
- What brought you into teaching and/or this position?
- What might you want me to know that might give me some insights about you?
- Family and/or other significant people that surround you in your personal life?
- Hobbies/interests?
- How do you hope I will support you and each other this year?

Please take a moment to introduce yourself. We will be spending a lot of time together virtually, so please tell our group more about you. You can include any and all of the following:

- Tell us where you teach, what city you are in, and about your role in your school.
- What brought you into teaching and/or this position?
- What might you want me to know that might give me some insights about you?
- Family and/or other significant people that surround you in your personal life?
- Hobbies/interests?
- How do you hope I will support you and each this year?

Student Profile

Let's create a student and school profile. This profile offers a quick way for you—and our group—to understand your teaching situation a bit better. It will also help you begin to plan your lessons to meet the diverse needs of your students.

Post to Discussion:
Briefly describe your students. You may give approximate numbers or percentages. And don't worry if you don't have all this information. Simply do the best you can with what you know at this point in the year.

Student profile: You may choose either one class or combine several of your classes.

Which class(es) are you profiling:

Number of special needs students on your roster; List the exceptionalities of each student

Approximate grade level(s) of your students

Briefly describe your students as people, sharing some general information that goes beyond academic performance:

School Profile

Briefly describe your school. You may give approximate numbers or percentages. And don't wory if you don't have all of this information. Simply do the best you can with what you know.

Again, please just use your best guess to answer the following:

School Profile: Briefly describe your school and the community it serves.

School size:

Urban, suburban, or rural:

Socio-economic level and cultural backgrounds of the students:

Academic performance level:

Insights you've had about your school:

Possible people to collaborate with at your school:

eMSS Introduction Letter

Most site administrators will be pleased and impressed to learn that you are participating in the acclaimed nationwide eMSS mentoring program. In order to help you let your principal know about eMSS, we have provided you with a letter of introduction. This letter may be given to your site administrator, your department chair, or anyone else you feel might benefit from knowing of your work with eMSS.

Even if you have already mentioned your eMSS participation to people at your school, this letter from our Director will provide a formal introduction and give them an overview of our program.

When you hand your site administrators the letter, you may want to ask if they will accept the professional development hours you will earn with eMSS. Or, remember by completing the upcoming Inquiry in March you can earn you up to 2 graduate credits (approximately $100 per credit) from the University of California @ Santa Cruz Extension. You may check and see if these credits would need to be approved.

Post to Discussion:

Please let me know that you have passed along the letter and share any comments or questions they may have had.

eMSS-SE_introduction_letter_to_administrators 09.doc

Description		Introduction Letter	**Download**
Filesize	138 kb		

Classroom Implications and Dilemmas Area

Classroom Implications and Dilemma discussion areas

I invite you to begin posting in the Classroom Implications and Dilemma discussion area. Both are short, optional, open-ended scenarios that pose a question about a specific teaching or content issue. They will be available for your participation throughout the spring.

You'll join with other mentees and mentors in facilitated online discussions about possible solutions to these dilemmas. The nature and structure of each invite a wide range of ideas and offers opportunities to exchange and contrast various perceptions.

Dilemmas almost always have multiple solutions—there is not one RIGHT answer. I encourage your participation in any discussion that interests you, and you may contribute to as many Dilemma discussions as you like.

Content Area and Topic of the Month

I also invite you to visit the Topic of the Month and content discussion areas below Our Place as well.

Content area specialists and teacher leaders facilitate both areas; these areas can help you discover the nuances to teaching the math or science to students. These are public areas where all other mentees and mentors are welcome to post and participate in discussion and ask questions. You will find specific strategies and get ideas in your respective content area in order to support your students' line of questioning and thinking.

You do not need to read ALL of these discussions. In fact, I hope that you wouldn't even try…..it would be information overload! Just click on topics that peek your interest or simply post a question.

Helpful Hint: *Use the "Watch" feature in Sakai to receive notification by e-mail for replies to topics you are interested in (including your own postings). In any discussion worksite, click on the binoculars icon and the word "Watch" at the top of the page.*

Selecting an Inquiry

We are now planning ahead to select the Inquiry that you'll work on with a larger professional learning community.

Each inquiry has three parts: Plan, Prepare, and Reflect. The three areas will focus what you are specifically teaching. The Plan area will allow you to brainstorm and select which lesson you want to develop. The Prepare section gives you a place to sketch out your lesson and invite comments and suggestions from the larger community (other mentees and mentors) here in eMSS. The Reflect area obviously allows you to do some self-evaluation.

Inquiries are guided discussions focusing on a teaching or content topic. Choose one that best meets your current teaching needs and that will have a positive impact on your teaching practice.

Remember you can earn graduate credit for your participation in the Inquiries – information to sign up for credit will be available once the inquiry begins.

Look for the Discussion area called Spring Inquiry Registration and Overviews for information on each inquiry.

You can read through the overviews of each inquiry in the Inquiry Registration discussion area at the top of the Home site.

Post to Discussion:
Once you have selected your Inquiry, or if you need some guidance in selecting an Inquiry, please reply to this prompt, and let me know your choice.

Completing a Self-Assessment

A tool that we use regularly in eMSS is the Self-Assessment. Reflecting on your practice is essential to advancing your teaching practice.

Directions for completing Self-Assessment: Click on Self-Assessment on the left Menu bar. Click on Mentee Getting Started Self-Assessment and reply to the questions. Please complete the Getting Started Self- Assessment, and it is a valuable tool for assessing and reflecting on your progress.

Check back in a few days, an eMSS facilitator will be reviewing your assessment and providing you feedback.

End of Year Ideas

As the end of the year approaches, teachers have a tendency to reflect on the past year. They think about those lessons that worked incredibly well, and the ones that weren't so great!  They think about what they will do next year with their students. They think about the different methods that worked when teaching their students and how they will modify them for the following year.

Post to Discussion:

What will you continue when working with your students next year?

How will you prepare for next year?

Appendix G

Table G-1. *Postings Made by Mentors*

Mentor	Our Place Postings	Percentage of Total Posts	Total Posts	Difference	Percentage locations other than Our Place
Mentor 1	37	65	57	20	35
Mentor 2	22	41	54	32	59
Mentor 3	61	57	107	46	43
Mentor 4	26	70	37	11	30
Mentor 5	35	36	96	61	64
Mentor 6	39	54	72	33	46
Mentor 7	43	56	76	33	43
Mentor 8	43	50	87	44	51
Mentor 9	55	82	67	12	18
Mentor 10	47	51	92	45	49
Mentor 11	32	56	57	25	44
Mentor 12	18	42	43	25	58
Mentor 13	21	32	66	45	68
Mentor 14	47	46	103	56	54
Mentor 15	40	66	60	20	33
Mentor 16	27	68	40	13	33

Table G-1 continued

Mentor	Our Place Postings	Percentage of Total Posts	Total Posts	Difference	Percentage locations other than Our Place
Mentor 17	15	25	61	46	75
Mentor 18	11	46	24	13	54
Mentor 19	42	71	59	17	29
Mentor 20	6	45	11	5	45
Mentor 21	8	80	10	2	20

Table G-2 *Postings Made by Mentees*

Mentee	Our Place Postings	Percentage of Total Posts	Total Posts	Difference	Percentage locations other than OP
Mentee 1	4	100	4	0	0
Mentee 2	12	80	15	3	20
Mentee 3	6	75	8	2	25
Mentee 4	4	50	8	4	50
Mentee 5	4	100	4	0	0
Mentee 6	24	67	36	12	33
Mentee 7	5	100	5	0	0
Mentee 8	1	100	1	0	0
Mentee 9	4	100	4	0	0
Mentee 10	14	82	17	3	18
Mentee 11	12	86	14	2	14
Mentee 12	18	100	18	0	0
Mentee 13	3	100	3	0	0
Mentee 14	10	100	10	0	0
Mentee 15	13	100	13	0	0
Mentee 16	4	100	4	0	0
Mentee 17	3	100	3	0	0
Mentee 18	19	61	31	12	39
Mentee 19	2	17	12	10	83

Table G-2 continued

Mentee	Our Place Postings	Percentage of Total Posts	Total Posts	Difference	Percentage locations other than OP
Mentee 20	1	20	5	4	80
Mentee 21	5	83	6	1	17
Mentee 22	22	63	35	13	37
Mentee 23	1	100	1	0	0
Mentee 24	1	100	1	0	0
Mentee 25	8	73	11	3	27
Mentee 26	5	100	5	0	0
Mentee 27	9	45	20	11	55
Mentee 28	2	100	2	0	0
Mentee 29	7	35	20	13	65
Mentee 30	2	50	4	2	50
Mentee 31	10	91	11	1	9
Mentee 32	18	95	19	1	5
Mentee 33	6	100	6	0	0
Mentee 34	7	100	7	0	0
Mentee 35	5	100	5	0	0
Mentee 36	1	100	1	0	0
Mentee 37	1	100	1	0	0
Mentee 38	6	100	6	0	0

Table G-2 continued

Mentee	Our Place Postings	Percentage of Total Posts	Total Posts	Difference	Percentage locations other than OP
Mentee 39	7	70	10	3	30
Mentee 40	11	100	11	0	0
Mentee 41	1	100	1	0	0
Mentee 42	22	76	29	7	24
Mentee 43	2	13	15	13	87
Mentee 44	0	0	8	8	100
Mentee 45	0	0	5	5	100
Mentee 46	0	0	4	4	100
Mentee 47	0	0	4	4	100
Mentee 48	0	0	0	0	0
Mentee 49	0	0	0	0	0
Mentee 50	0	0	1	1	100

APPENDIX H. PROBES FOR TOPICS OF THE MONTH

March: Student Achievement

Opening Probe (posted as Read Only by NTC Staff on 2/28/2010)

"High stakes assessments. Data and accountability. (sic) This is the language that surrounds our classrooms and our schools, particularly this time of year. The pressure that accompanies the mandates for increased testing is taking its toll on both new teacher and their veteran colleagues. In this climate of intense pressure and public scrutiny, it becomes especially important for us to step back from the rhetoric and remind ourselves of the central role assessment plays in our ability to deliver effective instruction as well as provide high quality beginning teacher support. Assessment has significant importance for teaching and learning. Effective classroom teachers use an array of assessment tools and strategies to better understand their students' academic needs, to target their instruction, to guide next steps, and then to document their students' achievement. Assessment data informs our instruction and ensure that our teaching is responsive to the needs of all our students. Effective teachers know this and seamlessly connect learning and assessing"

Subject: Prompt #1: Factors that influence student achievement (posted 2/28/2011)

"Hi Everyone Special education teachers work daily to use a variety f tools and strategies to better understand their students' academic needs, to individualize instruction, and to document their students achievement".

03-07-2010 09:14:04	Subject: March TOM Summary: Week 1

Hi, everyone! Here is a summary of your thoughts and ideas from our first week's discussions of the March Topic of the Month. Thank you so much for your contributions and insights!! Stephanie

In addition to high quality teachers, what other factors influence student achievement?

- Student engagement and motivation
- Family support and routines at home
- Communication between parents and teachers

- Consistent attendance
- School climate/a safe environment
- Previous educational experiences
- Integration of quality technology (promethean boards, power points, computer programs)
- Teaching students at their ability level to ensure success
- Using differentiated instruction
- The attitudes of their peers
- Trust
- Creativity

Often so much rides on a single test, how can we ensure students are learning beyond a narrow scope of skills?

- Communicate consistently with the general education teachers
- Follow the GLE's
- Teach the standards
- Monitor progress, note gaps in learning and address them
- Modify instruction to accommodate student learning styles
- Use differentiated instruction
- Recognize achievements with attention/praise
- Allow time for students to apply skills and provide guided practice
- Teach and model problem-solving

03-07-2010 09:21:14	Subject: Prompt #2: Balancing Strategies

Teachers can use a variety of strategies to assist with gathering ongoing information about student learning and performance. Some include:

- Observing students as they work using checklists as guidelines for observation
- Asking probing questions to determine student thinking, evaluating student products (e.g., written explanations, pictures, portfolio entries, and model graphic organizers) that include student reasoning
- Providing thoughtful feedback that includes advice for improvement of work.Listening to students' verbal explanations which includes "wait time" that gives students time to think before responding
- Providing hands-on or written tasks that allow students to use inquiry skills where they are required to speak or write
- Performance based assesments

Prompt 2
How do you balance strategies like these to inform your teaching and link to student achievement?

03-14-2010 13:31:34	Subject: March TOM Summary: Week 2

Thank you everyone for the wonderful week of discussions! Here is a summary of your contributions to our second prompt: How do you balance strategies like these to inform your teaching and link to student achievement?

The overwhelming consensus is: Use a variety of strategies!

Data collection strategies and advice include:

- Monitor student learning regularly
- Use checklists or note cards
- Computer programs

Assessment strategies and advice include:

- Establish instructional level conditions within the learning tasks being assessed
- Insure student success at each level by making sure it is at the students' ability level
- Set instructional goals scaffolding on what the student knows and what he/she needs
- Spiral the lessons and return to a concept/skill to check if they remember some of the skills
- Give immediate feedback to students
- Use a variety of assessments and that incorporate different learning styles: Individual Learning Style Inventory was suggested
- Use lots of formative assessments, including teacher observation, portfolio entries, and making time to listen to students' verbal explanations.
  Also, teach students the importance of making an effort toward their goals.

03-14-2010 13:52:38	Subject: Prompt #3: Achievement in your classroom

Hi everyone! Thank you all **so much** for contributing to our discussions over the last few weeks about factors that influence student acheivement.

For the third week of our Topic of the Month, please respond to the following:

- **What does student achievement look like for the students you teach?**
- **How do you assess/evaluate student achievement in your classroom?**

03-21-2010 10:36:04	Subject: March TOM Summary: Week 3

What does student achievement look like for the students you teach?

- It is different for each individual student
- They reach goals and benchmarks
- They understand a difficult concept by completing an assignment or test correctly.
- When prompts are faded, the student is able to work more independently
- When students feel successful
- They improve in point sheet scores
- They pass Proficiency Exams
- Succeeding in more general education classes
- Students track their own growth using visual charts or graphs and can see their own progress.

How do you assess/evaluate student achievement in your classroom?

Teacher evaluations tools:

- Formal and informal testing (pre and post tests, normed/non-normed tests, curriculum based assessments)
- Work samples
- Teacher observation
- Data collection (checklists, documenting on a teacher-made grid,
- IEP goals and objectives
- Rubrics
- Work samples
- Conferencing with students

Student self-evaluations

- Students graph totals on behavior point sheets
- Students track their own scores on curriculum-based assessments
- Student calendars
- Technology based programs with tutorials built in and immediate feedback

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Teacher evaluations tools:

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Topic of the Month April – Student Engagement

03-31-2010 12:47:43	Subject: April TOM: Student Engagement Strategies (READ ONLY)

Student engagement in the classroom is the cornerstone of a lesson. When students are engaged, they are eager to participate, their curiosity is stimulated, they are permitted to express themselves creatively, and students foster positive relationships with others. Students engaged in work that is meaningful and relevant want to learn what is being taught and are ready to learn more. The key is giving teachers the tools, strategies and information to foster student engagement.

The International Center for Leadership in Education states, "Student engagement is the positive behaviors that indicate full participation by the student in the learning process. When students are engaged, we can hear, see, or feel their motivation in completing a task. They take pride in their work and go beyond the minimum work required. Engaged students demonstrate a feeling of belonging by the way they act, the positive things they say about school, and through their passionate involvement in class activities."

Student Engagement: Teacher Handbook, International Center for Leadership in Education, R. D. Jones, 2009, p. 1.

04-12-2010 08:15:38	Subject: April TOM Summary: Week 1

It has been so interesting this week to read the different ways teachers of students with varying needs address student engagement in the classroom. One commonality I noticed in all of your responses is that all lessons should be planned with student engagement in mind.

How does student engagement figure into a classroom?

- Each lesson should have a component that requires active engagement- motion helps trigger memory and helps with recall.
- Use of sensory-rich materials: manipulatives, puppets, videos, pictures, assistive technology, and music
- Use of differentiated instruction, attending to the different learning styles of students.
- Making sure physical needs are met (body positioning).
- Using specific positive reinforcement for students who are engaged.
- Changing tone and pitch while talking

- Being flexible and creative in presenting information in a variety of ways.
- Keeping activities short and changing them frequently
- Facilitating socialization and interaction with peers

How can teachers determine whether or not students are truly engaged?

- Observe your students: are they actively participating?
- Walk around the classroom
- Ask questions
- Mandates vs. questioning
- Read body language (are they staring into space, doodling, heads down)?
- Look for rate of movement, vocalizations, and facial expressions.
- Assess completion of tasks

Other insights:

- Engagement of the students seems to get easier as the year goes on
- Student engagement is key to effective classroom management.
-

04-18-2010 10:21:26	Subject: April TOM Summary: Week 2

Here is a summary of your strategies to increase student engagement in your classrooms. Thanks to everyone who contributed this week! 👉

- **What is an example of a student engagement strategy you use?**
- **What does student engagement look like in your classroom?**

- Anticipatory set: Teacher excitement and engagement
- Brainstorming
- Questioning techniques (why and how questions)
- Assessing background knowledge: Star and a Wish or K-W-L chart ("Know" "Want to Know" and "Learned")
- Encouraging participation from all students
- Cooperative learning
- Think, Pair, Share
- Games
- Active learning involving movement
- Peer tutoring

04-26-2010 12:03:56	Subject: April TOM Summary: Week 3

In what ways do the strategies you use reinforce student engagement?

- Cooperative learning: strategies are clarified from the eyes of the other students and can engage some of the reluctant learners to become involved by seeing their peers involved in learning.

- Insure understanding by having students explain the concepts to each other.

- Cooperative learning groups and peer-mediated interactions work well with students diagnosed with autism, as do most engagement strategies.

- Computer-based programs that are self-paced encourage students to stay focused.

Are there any strategies that challenge your thinking?

Cooperative Learning:

- Making sure that all learners in a group understand the concepts and are giving each other accurate information.
- Finding a balance between empowering the students and guiding them towards the intended learning objective

Co-Teaching and collaboration:

- Requires a willingness to change teaching styles and preferences, work closely with another adult, share responsibility, and rely on another individual in order to perform tasks previously done alone.

The inclusion model:

- May be ineffective for students who are functioning well in the resource environment.

Topic of the Month for May

MAY TOM: REFLECTING ON OUR SUCCESSES AND CHALLENGES (READ ONLY)

04-30-2010 16:45:52	Subject: May TOM: Reflecting on Our Successes and Challenges (READ ONLY)

As the school year begins to come to a close, reflecting on the year is a powerful way to improve our own teaching practices. Reflection helps us think about what we did and the successes and challenges from our experiences. It also helps us remember routines, procedures, or lessons that we want to use again as well as helping us remember to make changes if needed.

Reflection is frequently found in the professional development literature for beginning teachers and is often described as a tool to help beginning teachers work through the unique challenges they face. Zeichner (1992) explains that reflection is considered one of the primary tools for facilitating the development of competence and ultimately expertise in novice teachers. Additionally, reflection has been promoted as a 'tool' to facilitate learning. Atkins and Murphey (1993) write of its importance in the integration of theory and practice. Schon (1983) supports reflection as a tool to help teachers develop their craft as they face unique and complex situations each day which are not necessarily solvable by technical rational approaches alone.

Reference: Farrar, B. (Nov 2009). Elements of reflective and non reflective discourses in an online induction program for experienced and novice science teachers. Montana State University, Bozeman, MT.

04-30-2010 16:50:21	Subject: Prompt #1: Successes

When thinking about this school year, describe your successes with students, planning, procedures, etc.

What made them successful?

How will you work toward taking those successful components and implementing them into other aspects of your practice?

05-09-2010 19:41:14	Subject: Prompt #2: Challenges

In reflecting upon the school year, what were some of your biggest challenges? What made

them challenges? *(If referring to students please be sure to respect confidentiality--no names please.)*

Think about procedures that were not in place or those that may have been ineffective. How will creating procedures or modifying ineffective procedures improve your practice? What you will do differently next year?

05-15-2010 16:52:31	**Subject: May TOM Summary: Week 1**

When thinking about this school year, describe your successes with students, planning, procedures, etc.

Overwhelmingly, successes were measured by the achievement of students in reaching IEP goals and /or exiting ESS.

Other successes include:

- Developing good working relationships with the families of students
- Working as a part of a team in a cooperative and collaborative manner.
- Implementing a new reading program

What made them successful?

- Learning to slow down to their pace
- Good Lesson planning
- Trying different approaches and changing routine if necessary
- Reasonable class sizes and good combinations of students
- The use of stimulus funds
- Setting behavior expectations and developing behavior strategies that work
- Paraprofessionals and regular education teachers who collaborate

How will you work toward taking those successful components and implementing them into other aspects of your practice?

- Continuous collaboration with ESS staff
- Analyze each student evaluation to serve the student in the best setting
- Be a true resource for our regular ed teachers
- Use professional development to improve student performance and student behaviors.
- Set the expectation and let the learner know and understand those expectations.
- Break down goals to very small components when making lesson plans.

- Be flexible.

05-16-2010 17:49:36	Subject: May TOM Summary: Week 2

Here is a summary of the challenges you faced this year:

- Communication between all parties involved in supporting the IEP goals and objectives
- Lack of communication with general education teachers (often refused to make modifications)
- Lack of support from the general education teachers
- Disrespect from general education teachers
- Paraprofessionals who did not stick to their schedules
- Chaos of opening a new school
- Not enough time to plan with general education teachers
- Looming lay-offs
- Making time for meetings and getting classes covered
- Low expectations from the entire school staff about what students can accomplish
- Sharing space with other classes while trying to prepare for state tests

As I have read through the challenges you have faced this school year, I just want to say that I am a better general education teacher now than I ever would have been without special education training and experience. You are all amazing educators and should be so proud of what you are doing on a daily basis. I won't ever say "I don't know how you do it"..... I know exactly how you do it and you should be the most respected teachers at your school! Sorry..had to add my two cents! 

05-16-2010 17:21:06 Subject: Prompt #3: Next year

What are some ideas you want to be sure to implement again next year or new ideas/concepts that you want to try? How will you make sure this happens?

05-27-2010 14:51:43	Subject: Prompt #4: Final Thoughts

Thanks to everyone for sharing your reflections about your experiences this school year. Do you have any final comments or thoughts you would like to make about successes, challenges, or plans for next year? If so, we'd love to hear them.

APPENDIX I. DISCUSSION DILEMMA THREADS

Summary of Test Anxiety Dilemma

02-20-2010 09:09:19 Subject: Dilemma Title: Test Anxiety

Test anxiety is a common occurrence for many students, not only special education students. How do you support students with text anxiety? Join us for a discussion on ways to support students with test anxiety

Darren, a beginning special education teacher, is monitoring a special education student who works hard, completes her homework correctly, participates in class discussions, and can answer most questions asked of her. However, when it comes to test taking, the student generally does very poorly due to a severe case of test anxiety. Darren has checked with the student's inclusion teachers and counselors and finds that the student has similar problems in most of her classes. The student, however, is often absent on test days.

The student has modifications for taking tests in her IEP, including extra time for test taking but still freezes when a tests is on the desk. How might Darren support this student overcome test anxiety?

Respond to the following:

- What advice would you give Darren in working with this student? What are some strategies that could be used to reduce the student's stress?

03-01-2010 18:45:48 Subject: Test Anxiety: Week 2

Great Discussion So Far!!! 

A topic that was raised and discussed by several teachers last week was the issue of students who express that they "don't care if they fail." There were a few descriptions of these students and some strategies to reach them, but I felt like we could dedicate some more time to discuss these kids.

Respond to the following:

Describe the behavior of a student who projects that he or she doesn't care if they fail. How can you find out about their academic history to learn how they have reached this point?

- What are some strategies that could be use to connect to these students and change their approach to being assessed?

03-08-2010 16:48:42 Subject: Test Anxiety: Week 3

As we enter the final week of this dilemma, I wanted to get the groups thoughts on something many of us will be facing soon: **High Stakes State Exams!**

Considering our discussion so far about test anxiety, please share your thoughts on the following:

- **How do you feel the state mandated exams impact students? Has school culture changed because of the emphasis on testing?**
- **Next, what strategies do you have to prepare students for these high stakes exams that can help reduce test anxiety?**

03-01-2010 18:20:03 Subject: Summary of Suggestions for Teachers to Reduce Test Anxiety

After one week you provided ton of great suggestions that teachers can use to help reduce test anxiety! Here is a brief summary of what you proposed:

- Use varied ways to review content to prepare students: mneumonic devices, songs, raps, flashcards, recorded notes etc.
- Use practice tests to help teach test-taking strategies including how to highlight answers in a passage, eliminate incorrect choices, looking for key words, using graphic organizers, how to read directions etc. Whatever strategies you teach, practice together until the student could perform them independently.
- Be aware of the accommodations that your student receives.
- Extended time, allow breaks, and reduce distractions
- Giving the exam page at a time or "chunking" the test (breaking into small chunks) to help with lengthy benchmark test.
- Read tests aloud and/or Using a scribe
- Sit with the students with the most recent test and talking about what happened. Celebrate their successes, and make any needed adjustments.
- Teach visualization and relaxation techniques
- Provide manipulatives/calculators/dictionaries if applicable (make sure that students have been thoroughly taught how to use them)

- Reassure students. Just before the test and give a quick pep talk to review the game plan and provide some encouragement.
- Allow retakes or test corrections if possible
- Remember not all strategies will work for all students; the key is having the patience and determination to find something that will help.
- Teachers need to stay relaxed so as to not to raise to the anxiety level of students.

03-01-2010 18:23:53 Subject: Summary of Suggestions for Students to Reduce Test Anxiety

The first week of discussion provided many suggestions students can use to help reduce test anxiety! Here is a brief summary of what you discussed:

- Acknowledge the test anxiety
- Flip over papers and "download" key words, phrases, or mneumonic devices on the back of the test (anything they worried about forgetting.)
  Underline or use a highlighter to locate key words and numbering the steps/parts of the directions.
- Use deep breathing, positive self-talk, and visualization techniques to relax.
- Review the entire test before beginning (if possible)
- Work on the questions they know first, and do not get stuck on a question; they can always come back to it
- Use test-taking strategies
- Don't rush and take short breaks
- PIRATES (Prepare to succeed! Inspect all directions, Read, remember and reduce. Answer or abandon the questions. Turn back and answer all the questions that you skipped the first time, Estimate, Survey the test before you turn it in.
- For students with attention problems, chew gum, have a piece of hard candy, some other snack, a water bottle or some juice. Other students may need something to "fidget" with in order to concentrate.

Summary of Overwhelmed with Paper Dilemma

03-14-2010 07:19:22 Subject: Dilemma Title: Overwhelmed with Paper

Joseph is approaching the end of his first year teaching and feeling connected to his students and their educational needs. It is a struggle, however, day by day to put in the extra time necessary to stay in compliance with the paperwork that is required by law. He also has to make sure that goals and objectives are monitored and changed when necessary. Additionally, a great deal of his time is taken up creating curriculum that addresses goals and standards.

He is feeling disorganized, overwhelmed, and does not want to spend time he is with students filling out paper work, as he would rather spend time with the students. Lastly, Joseph has given up many activities and interests he used to enjoy after school to work on the mountain of paperwork he has to complete to stay in compliance.

Respond to the following:

- What ideas would you suggest for Joseph to help him get better organized with the paperwork?
- What strategies can you offer Joseph to manage the necessary paperwork while maintaining personal interests and activities?

03-23-2010 18:42:39 Subject: Overwhelmed with Papers: Week 2

The first week produced a great discussion about strategies for organizing the new teacher who feels overwhelmed by paperwork, but we often need to help our stdents get themselves organized in order to improve their success.

Respond to the following:

- What specific challenges do your students (based on their age, and support needs) have with organizational skills?
- What strategies do you use to help your students develop organizational skills?

04-08-2010 06:26:11 Subject: Summary of Overwhelmed with Papers Dilemma

The vast majority of teachers suggested 3 strategies for dealing with paperwork:

Binders, Filing Cabinets and Calenders

Binders included:

- Sections for each student
- Copies of regular ed. progress
- Behavior referrals
- Health plan if applicable
- Testing accommodations page from IEP report cards
- Special education progress reports
- Keep a chart for timelines (when re-evaluations due, IEP revisions)
- A record of parent contacts (phones calls, face to face), meeting with the regular ed teachers and any other meetings

Filing Cabinets are:

- Lockable Cabinets
- Alphabetical and properly dated files
- Keep a student portfolio full of sample work and assessments of a variety and this will make it easier for you to keep up with progress.
- Remember student files are legal documents!
- One suggested a file drawer with Mon-Fri folders. In those folders put all the papers that need to go home on certain days, IEPs that need to be written, forms that need to be completed, notes on things that need to be completed, etc. Every Friday fill up the folders for the following week.

Calenders included:

- Re evals and IEP dates
- Put all of the due dates in pen and tentative holding date in pencil.
- Set aside a certain amount of time each day/week to give attention to paperwork. Writing and filing need to be planned for. Schedule it in on the calendar
- Schedule time for yourself or so you don't get burned out.

Other helpful hints:

- Completed the calender at start of school year
- Stagger your IEP's. If you have 6 due in May you do not have to wait to May to do all of them. Have one in March, three in April, and two in May. Planning ahead will help you in not becoming overwhelmed.
- Spend a lot of time getting organized at the beginning of the year and that pays off all year.
- Have the students write their accomodations on a notecard and tape it in their planners. Promote self-advocacy.
- Some schedule their IEPs on one day of the week (counselor does not schedule other meetings on that day)
- Keep a "to do" check-lists for different situations that I use to ensure I remember all the steps of different situations (new student, IEP meeting, manifestation, etc.)

- Keep a word document to cut & paste from for the standard parts of IEP's with blanks where necessary---this helps me remember all the information which should be included.
- At the start of the year, use excel to chart objectives. Set realistic and flexible professional goals and objectives. Establish priorities.
- Organize your classroom. Improved classroom organization can save time and increase professional productivity.
- Graph students daily activities - the percentage, date, and brief description (ex. two digit add no regrouping). Use this data to write progress reports every 9 weeks. Also useful for parent conferences
- '*put it away or throw it away*!' don't let stacks of folders and paper accumulate and become unmanageable. Once you're finished with something, refile it, reshelve it, return it. If it can be thrown away, get rid of it. (Lock or shred anything containing confidential information.)
- Color coding is very helpful for organization of paperwork.

Summary for Working with Students at Risk Dilemma

04-18-2010 05:47:05 Subject: Working with atrisk students at year's end

The end of the school year is not far away, and Alejandro, a special education teacher, provides services for many students with special needs at his school. He has several students who are experiencing very stressful situations at home. The stress of their personal lives coupled with the hectic nature of the last few months of school are causing many melt-downs, problems with school attendance, and apathy toward learning.

Alejandro wants to encourage them to maintain their efforts in school and continue to work toward their goals for the remainder of the year though he knows they are overwhelmed with stress at home. He wants some advice in balancing his expectations for them academically along with strategies to deal with students in stress.

Dilemma response: What advice would you give Alejandro? How can he help his at-risk students to do their best when they are facing hardships at home?

04-27-2010 13:08:18 Subject: Summary of Week 1: Working with at-risk students at year's end

After one week of discussion, the group has come up with a lot of advice for Alejandro. The advice focused on general strategies, specific actions, and possible support systems that he and his students could access.

Strategies:

- Stay positive and give a specific reinforcement to each student.
- Maintain comfortable classroom routines while having the flexibility to address needs as they arise.
- Having an open door policy where students can come and talk at any time.
- Allow students to do as much of their work at school as possible so that when they were at home there would not be any pressure to do the homework. If possible, allow students to stay after school in his classroom to work on homework or projects if they want to work but just cannot focus at home.
- Remember that many of our students develop anxiety when they know summer is coming because they would rather be in school than out for the summer/break.
- Keep in mind our kids just need to be loved and cared for and that their total person is just as important as their academic performance.

- Use cooperative learning in some of your lessons, so that the load doesn't fall on one student, but can be shared by a group.
- Give group work grades, instead of individual grades, less pressure for the student in crisis.
- Keep the possibility for any type of failure should be minimized.
- Add activities that are fun and allow more exploration of what they have learned all school year.
- Point out to the student all of the progress they have made throughout the year.

Actions:

- Through the end of the year make some changes he student's day and include take specific time for each individual student.
- Keep contact with students throughout the summer by having them put their addresses on a school postcard. Send a postcard from somewhere during the summer.
- Give students a summer calendar with something they can do each day (i.e. read for 20 minutes, write a short story, go to the library, etc.) Postcard and rewards can be used for positive reinforcement.
- Have students keep a journal over the summer with at least one entry per week where they have specific questions, such as, "What was the best thing that happened this week?"

Supports:

- Engage guidance counselor or social worker on staff is working with the student.
- Start a big buddy program if possible, for the student to have another trusting person to discuss concerns with in addition to you the teacher.
- Link young students to summer library programs or elementary school summer programs.
- Pull in the wrap around services from the community like counseling services for the family, family support, respite services for the family, and even a big brother or sister on the school sight that could be a positive influence on their day.

04-27-2010 13:00:26 Subject: Dilemma Week 2:Working with at-risk students at year's end

In addition to the struggles he has been observing in his students, Alejandro was recently handed his own challenge for the remainder of the year: a pink slip. As his district faces budget cuts, dozens of teachers were notified that they may not have jobs for next school year.
Respond to the following:

- **What strategies can he use to remain a positive influence on his students while facing his own personal challenge?**
- **What advice can you provide him to help meet his professional responsibilities in the face of professional adversity?**

Re: Dilemma Week 2:Working with at-risk students at year's end

Whether Alejandro returns to his school next fall or not, he is determined to finish the year on a strong note.

Respond to the following:

- **What can a new teacher do to make the last weeks of school positive and productive?**
- **What are some of the fun projects or group activities you have organized that make students feel comfortable at school even though things may not be going so well at home?**

Vita

Roberta Gentry received her Bachelors of Psychology degree from Mary Baldwin College in 1991 and subsequently worked at public and private mental health facilities and a rehabilitation center. After completion of her Masters of Teaching degree in the fields of special and general education in 1997, she taught in the public school setting and was a special education administrator for 13 years. During 2010-2010, Ms. Gentry served as adjunct faculty at Virginia Commonwealth University. Beginning fall, 2011, Ms. Gentry will be an Assistant Professor at the University of South Carolina. Roberta is a citizen of the United States.