

EMBEDDING MENTORING PRACTICES

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Abstract

Every year teachers enter the workforce with a wide range of educational experiences through alternative routes to certification and traditional teacher preparation programs. These teachers bring a pedagogical skillset that varies in terms of their practicum experiences and school of education course preparation. Much of the intricacies of student teaching are learned within the placement school and classroom but current statistics indicate that novice teachers leave the profession at rates of between 19% and 30% over their first five years of teaching with just 3% of novice teachers receiving comprehensive mentoring support. Teachers who do receive mentoring and collaboration cut the first-year turnover rate by more than half.

This qualitative interpretive research explored the perceptions of six participants and addressed the gap in literature supporting mentoring being embedded earlier within teacher preparation programs. These perceptions were explored and guided the identification of core mentoring practices. Intentional, or purposeful, mentoring practices are essential components of a pre-service teachers' repertoire and need to be embedded within pre-service teacher's coursework.

The research findings supported the significance of embedding mentoring practices to enhance the level of pre-service and novice teaching experiences. By connecting the methodological and theoretical contents of teacher preparation through embedded mentoring, the practice of critical reflection with authentic experiences would be established to reduce novice teacher attrition. Through the lens of mentoring, the results supported embedding such practices earlier into teacher preparation programs, specifically methods of teaching. Education has become an accessible global learning forum and embedding mentoring practices cannot be excluded from this conversation.

Keywords: archetypes of mentoring, educative mentoring, embedded mentoring practices, perceptions, novice teacher attrition, methods of teaching, pedagogical content knowledge, social practice.

DEDICATION

I would like to dedicate this dissertation firstly to my own family, those who I call family, and those who have become my educational family. Thank you to my amazingly patient and loving husband Kevin, my supportive eldest daughter Rachel and my calm and caring son Dylan, without your encouragement this research would never have been possible. To my darling sisters who guided my educational journey from the outset, my loving parents who trusted me to pursue this mathematical mindset, and my godfather Kenneth whose numerous math books kept my learning alive, you are all part of this research in so many ways. Finally, to my amazing Bunnell colleagues who kept me focused when my mind was elsewhere, thank you for your unwavering support.

Education is the most powerful weapon which you can use to change the world.

Nelson Mandela

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Chapter 1 Introduction to the Study

“The delicate balance of mentoring someone is not creating them in your own image, but giving them the opportunity to create themselves.” — Steven Spielberg

I am extremely fortunate to be able to teach teachers to teach math. Observing my pre-service teachers’ enthusiasm and creativity dwindle during their first few months of practicum, however, was heartbreaking. The most obvious factor behind this loss of morale was the naiveté that comes with being a pre-service teacher, believing one could change the world every day, effortlessly and passively.

It was during incidental mentoring sessions within my Methods of Teaching course that the concept of embedding mentoring practices into the curricula was first discussed. These mentoring practices provided an opportunity to share and reflect on current situations occurring within their practicum, deciphering the learning intentions of their various placement schools, and finding common solutions to educational problems. Having the ability to share their student teaching experiences weekly with each other and to be honest and vulnerable led to authentic exploration and informative feedback.

Even though mentoring may occur through co-operating teachers, these pre-service teachers felt that embedding mentoring practices earlier within their teacher preparation was essential. Feiman-Nemser (1998) suggested that pre-service teachers in particular require “educative mentoring” (p. 66) throughout their undergraduate experience. It is thus the perception of these pre-service teachers that by targeting mentoring practices within Methods of Teaching classes, improvement in instructional and pedagogical competencies during student teaching was enhanced. Intentional clinical experiences and intermediate instructional strategies

(Schuster, 2014) fostered collaboration between teacher preparation programs and teacher leaders.

Mentoring within the methods coursework was based on archetypes of mentoring developed by Kemmis et al. (2014): namely, mentoring as supervision, mentoring as support, and specifically mentoring as collaborative self-development, ensuring that preferences for mentoring styles varied based on context (Ibrahim, 2013). Mentoring practices, whether they occurred formally or informally, were designed to assist pre-service and novice teachers to situate themselves within the school community and guide them through the demands of their new position. These practices of mentoring were “enmeshed with, and shaped by, local and more general practice archetypes” that existed in that learning environment to be understood as an educational or pedagogical encounter like any other: an encounter that formed both the individuals who participated in it, and the world shared (Kemmis et al., 2014, p. 156).

As curricula appeared to vary in diversity and focus within teacher education programs, specifically methods of teaching coursework, further support for embedding mentoring practices was established by this study. The model core teaching standards within the Interstate New Teacher Assessment and Support Consortium (INTASC) progressions describe the increasing complexity of teaching practice, attesting to the key pedagogical strategies needed to understand the vision of teaching, specifically Standard #9: “Work with a coach/mentor to determine needs, set goals, and identify individually focused learning experiences to improve practice and student learning” (InTASC—CCSSO, p. 42). The *InTASC Learning Progressions for Teachers 1.0: A Resource for Ongoing Teacher Development* (2013) describes what vision of teaching is needed for today’s learners, how teaching practice that is aligned to the new vision develops over time, and what strategies teachers can employ to improve their practice both individually and

collectively (p. 3). This vision of ongoing teacher development included the progression from pre-service to novice teacher through mentoring practices that were supervised, supportive, and collaborative as emphasized by InTASC Standard #9.

- Mentoring as supervision by working with a coach/mentor to determine needs, set goals, and identify individually focused learning experiences to improve practice and student learning.
- Mentoring as support by examining own teacher evaluation data and identify strengths and areas for growth.
- Mentoring as collaborative self-development by sharing a plan with key colleagues for feedback.

Through embedding mentoring practices, learning progressions were enriched and described increasingly sophisticated ways of thinking about, and enacting, teaching practices. These mentoring practices also intimated that trajectories of growth depended upon learning from experience and were influenced by support from mentors, interaction with colleagues, and engagement in ongoing professional learning. The progressions were used by a range of stakeholders at different stages of a teacher’s career to “require teachers to participate in ongoing, embedded professional learning where teachers engage in collective inquiry to improve practice (InTASC—CCSSO, p. 5). Designing a dedicated mentoring component, specifically within the methods coursework, further supplemented these progressions.

The CCSSO rubric drafting committee for InTASC Model Core Teaching (InTASC—CCSSO) revealed how the committee’s thinking evolved from a focus on evaluation rubrics to a decision to “craft developmental progressions of teaching practice that could be used as a support tool for teacher development” (p. 10). Educational leaders needed to articulate what effective

teaching and learning looked like by adding embedded mentoring support. They had to be cognizant of the teacher development and learning their own teachers, as mentors or mentees, would ultimately benefit from when mentoring became integral to the learning progressions. Mentoring has been important to the professional development of both the mentee and the mentor (Conway et al., 2002). Ensuring that the mentor-mentee experience remained positive and non-judgmental, began within the confines of the teacher education program and progressed to the classroom.

Mentoring was a highly powerful learning environment because of its close and direct interaction between one who “teaches” and one who “learns” (Garvey et al., 2009). Mentees guided their mentor, shared their learned practicum experiences, and gave the mentor direction. Educative mentorship, via interactions with experienced teachers, was especially important for pre-service teachers (Schwille, 2008), and as a result, the learning that occurred along the mentoring journey became reciprocal and ameliorated the burden on mentors.

The complexity of effective feedback provision in a mentoring relationship lay, among other things, in the intricate alignment of perceptions regarding a) what to attain; b) what has been achieved, and c) how far one has progressed from a to b (Sadler, 2010). Embedding mentoring within teacher preparation programs, preferably Methods of Teaching courses classes, supported pre-service teachers in identifying these learning experiences that improved practice and pedagogical progressions.

Background to the Study

“New teachers really matter. When they struggle, their students suffer. When mentors don’t have the time or training to help new teachers, those beginning educators don’t have the support they need” (Support from the Start, NTC, 2016). Accreditation standards for teacher

preparation programs have called for a more seamless and effective connection between methods courses, clinical experiences, and school-based mentoring (Schuster, 2014). The rationale for this shift was that an extended apprenticeship (Lunsmann et al., 2019) would develop teacher candidates into stronger novice teachers through coursework and field experiences that were more closely linked.

Every year pre-service teachers enter the teaching workforce from a wide range of educational experiences, ranging from alternative education programs to traditional teacher preparation programs with a skillset that varies in terms of their practicum experiences and school of education course preparation. Much of the intricacies of student teaching are learned within the placement school and classroom. Intentional, or purposeful, mentoring practices are an essential component of a pre-service teacher repertoire that needed to be embedded within a pre-service teacher's coursework.

Despite the differences in teacher preparation programs, all teachers are required to be "highly qualified" (Ed.gov, U.S. Department of Education, 2009). The era of high standards has led to greater teacher accountability. Yet even when meeting the "highly qualified" criteria, some novice teachers need support to avoid feelings of being "lost at sea" (Kauffman, et al., 2002). As Rice (2003) noted in her review of the research on teacher quality, the stakes are high: "Teacher quality is important. Given the high costs coupled with the high impact, this educational element has profound implications for the efficiency, equity, and adequacy of public education" (p. 47).

Chester Finn of the Fordham Foundation, reiterated this concern, observing, "While there is near unanimity that raising the quality of the teaching force is a top priority and a necessary precondition for boosting student achievement, there is less certainty about how to accomplish this" (Kanstoroom & Finn, 1999, p. v). Simply put, the expectation was that better teachers

would produce better pupil outcomes. Effective teachers in the classroom have a significant influence on students' success, and therefore informal and formal practices need to be linked to the outcomes of our most important stakeholders, our students (Parkash, 2017).

Turnover and attrition have been increasing over time (Goldring et al., 2014) and are higher for U.S. teachers than teachers in other countries (Darling-Hammond et al., 2017). A significant cost to student learning arises when a third of all novice teachers leave the profession within three years and another half leave by the end of their fifth year (Milgrom-Elcott, 2011). Teacher turnover results in financial costs to districts that must recruit, hire, and mentor new staff members. Richard Ingersoll, who has studied the issue for years, says there is a revolving door of teacher turnover that costs school districts upwards of \$2.2 billion a year (Phillips, 2015).

Beginner teachers, regardless of their race, have among the highest rates of turnover of any group of teachers indicating a growing flux and instability in the teaching occupation. Almost two decades ago Ingersoll (2003) estimated that between 40 to 50 percent of those who enter teaching leave teaching within five years. This figure has been widely reported since, but it was only a rough estimate using cross-sectional national data (Ingersoll et al., 2018). More recently, using national longitudinal data from the Baccalaureate and Beyond survey (Ingersoll, et al., 2018) researchers were able to more accurately document rates of cumulative beginning teacher attrition and found that more than 44 percent of new teachers in public and private schools leave teaching within five years of entry. Another negative consequence of teacher attrition is the loss of newcomers before they can fully develop their skills (Ingersoll et al., 2018).

An essential component of understanding attrition was to explore whether the social nature of the mentoring experienced within the teacher education program impacted the

decisions of novice teachers to remain in the teaching profession. Novice teachers who were supported by mentors were less likely to move to other schools and less likely to leave the teaching occupation after their first year of teaching (Smith et al., 2004). Much research has supported the need for novice teacher induction programs, but little of it has delineated what structures and components are most effective for mentoring to be embedded within teacher preparation programs. Although mentorship and induction experiences were common for pre-service and early-career teachers (Conway et al., 2002), mentorship experiences prior to student teaching seem less common (Conway et al., 2010; Schwille, 2008).

The exponential growth in induction programs attests to the significance that colleges and school leaders have attributed to mentoring. This growth in turn has encouraged leaders to collaborate and adapt their approaches to induction in order to reflect the many changes in the teaching profession. Increasing job satisfaction of novice teachers through an effective mentoring or induction program is vital to job performance, the enhancement of the individual, and betterment of the organization (Shockley et al., 2013). Just as induction programs are a global phenomenon embedded in many other industries, the teaching industry needs to identify similar effective mentoring components supporting pre-service teachers staying in the field as novices. These teachers often report that clinical experience was the most influential aspect of their teacher preparation, yet university-based programs still struggle to develop clear connections “between what students learn in university classes and what they learn in the schools” (Levine, 2006, p. 28).

When candidates in teacher preparation programs enter their clinical experience, there is an expectation that they already possess a level of understanding and subject-matter mastery that allowed them to focus on how a topic was taught and on the skills and knowledge “a teacher

need[s] to advance student learning” (Levine, 2006, p. 35). In December 2019, the Centre for American Progress released its key findings from 2010 to 2018, further demonstrating that a gap in teacher preparation mentoring programs exists. This report found the following:

- Enrollment in teacher education preparation programs had declined substantially by 35%. Just five states saw an increase in enrollment during this time period. Nine states saw enrollment decline by 50% or more.
- Completion of teacher education preparation programs had a significant decline of 27%. Just five states and the District of Columbia saw an increase in program completion during this time period.
- Four states saw completion in teacher education preparation programs decline by more than 50%.

It is apparent that teacher preparation programs need to re-evaluate and possibly even update their clinical experience programs. The Clinical Practice and Partnerships work group focused on developing standards that emphasize integration of content and pedagogical knowledge, specifically an emphasis on evaluation and self-reflection, to enhance clinical experiences (CAEP, 2013b).

The National Research Council’s (NRC) report *Preparing Teachers: Building Evidence for Sound Policy* (Committee on the Study of Teacher Preparation Programs in the United States, 2010) focused on the ingredients essential to preparing “well-started beginners.” Their conclusion 3-1 supported the need for studies that examined critical topics in relation to their ultimate effect on student teacher learning, emphasizing that “the influence of aspects of program structure, such as the design and timing of field experiences and the integration of teacher

preparation coursework with coursework in other university departments” remained areas of concentration (p. 63).

Crucial components of a novice teacher’s first year of practice are evaluation and self-reflection. Mentoring support embedded earlier in teacher preparation programs encourages more collaboration, feedback, and supervision, not only amongst teacher candidates but for mentor teachers and university supervisors. Mentoring thus becomes a relationship between less experienced colleagues (mentees) and more experienced colleagues (mentors), where the latter aims “to support the mentee’s learning, development and well-being, and their integration into the cultures of both the organization in which they are employed and the wider profession” (Hobson, 2016, p. 88). By connecting the methodological and theoretical contents of teacher preparation through mentoring, the practice of critical reflection with authentic experiences is established. This practice is relevant to novice teachers and guides their mentors with needs previously established through self-reflection. Mentor teachers have a significant impact on pre-service teachers, particularly through providing feedback (William, 2011).

Providing and using feedback, however, were strongly dependent on the way both the deliverer and the receiver of feedback perceived the mentoring conversation (Mena Marcos & Tillema, 2006). It was essential that pre-service teachers view their performance through the eyes of an experienced educator and apply this to their own learning. Korver & Tillema (2014) observe that “Feedback provision in a mentoring relationship can be looked upon as a double-edged sword, with the mentor acting as a scaffold while at the same time keeping evaluative standards high.” A mentor selects different strategies or approaches to cope with this duality. Teacher preparation programs ensure that their pre-service teachers were, in fact, prepared for this dual role within the classroom and the school environment.

Teachers are worldwide learners, and there is a strong need for research to focus on the role of mentoring embedded into teacher preparation, specifically Methods of Teaching, in order to further support the holistic well-being and ongoing development of pre-service at various levels of their teaching career. Even on a global perspective, novice teachers recognize that after completing pre-service training, they need structured support from trained mentors to observe and coach their mentees and provide detailed feedback on their teaching (Cieba, 2019). These experiences ensure that collaborative continuous professional learning was structured into teachers' days from the very beginning of their careers.

Statement of Problem

According to the literature, “the effectiveness of mentoring ... is assumed rather than demonstrated” (Rodger & Tremblay, 2003, p. 3). Thus, a gap exists in research to support embedding mentoring practices within teacher preparation programs. To address this gap, the perceptions of pre-service teachers were explored regarding embedding such practices within the Methods of Teaching class and the effectiveness of these practices on pedagogy.

Pajares (1992) states that participants' perceptions of mentoring relationships have not been sufficiently studied due to the difficulty of uncovering perceptions that are not explicitly known or articulated (Wang, 2000). Teacher education programs often expected mentors to know how to guide a newcomer into becoming a good teacher based on the assumption that as a good teacher of children, the mentor intuitively knows how to mentor a teacher candidate well (Zeichner, 1995). Through lack of support from professional development and the school community, this was not always the case. The need for mentoring support in teachers' first years of practice was well-documented and beginning teachers needed support to not only survive but also thrive, grow professionally, and build their capacity to maintain and sustain their well-being

(personal and of others), including through support systems such as teacher induction and mentoring programs (Hobson and Maxwell, 2017). The core mission of teacher education programs was generally similar, but it is the level of successes that differed when preparing teachers for the profession. When pre-service teachers become novice teachers, structured support from universities dwindles and the quality of induction/mentoring programs varies greatly (Ingersoll & Strong, 2011).

Comprehensive, robust, and structured education programs generally leave pre-service teachers feeling more prepared and ready for entry into a school setting. In contrast, some novice teachers report that they still had doubts about their own abilities and feelings of connectedness to the field upon leaving their various preparation programs. Greater preparation correlates with greater senses of self-efficacy and commitment to social justice goals, which are hallmarks of the pre-service teacher preparation programs (Darling-Hammond et al., 2002). The practices mentors enact do matter. Not all mentoring, however, is equally powerful, as there is no standardized practice by which mentors could gauge their assistance needed by the mentee. As various mentoring approaches were independently developed by teacher education programs or researchers across the globe, the methods of supporting pre-service teachers are very heterogeneous (Hennissen et al., 2008) and the impact of specific mentoring practices on pre-service teachers during the practicum has not been sufficiently researched. How successful pre-service and induction programs were in preparing teachers “is highly dependent on the quality and nature of the mentoring” they receive (Ward et al. 2013, p. 74).

Through the lens of mentoring, practices were identified and embedded into teacher preparation programs, specifically methods coursework. These practices were important to sustain the growth of pre-service and novice teachers in mentee and mentor relationships.

Student teaching is only as valuable as the quality of the experience, and the mentor teacher is key in creating and offering the opportunities afforded to the student teacher in this experience (Grossman, 2010). According to Dewey (1938), the educator is responsible for arranging the physical and social conditions so that learners have growth-producing experiences. This qualitative interpretive research allowed pre-service teachers to evidence the importance of embedding mentoring practices into teacher preparation programs that promote future growth and lead to richer subsequent prolonged experiences in the teaching profession.

Purpose of the Study

The purpose of the qualitative research study was to explore pre-service teachers' perceptions of embedding mentoring practices within the Methods of Teaching class. The evidence collected from the study guided the identification of core mentoring practices to be embedded in future methods coursework. Both pre-service and novice teachers continued to accentuate the need to have mentoring relationships during their practicum, which supported and guided their first years of teaching. Since adding a more formal mentoring component to the Methods of Teaching coursework, the evaluation results for the School of Education survey, specifically the question "Instructor responds to the needs of the individual students," have increased by at least 51%.

The professional climate of a school was valued positively when the mentee's needs were clearly identified, and mentoring was part of pedagogical learning. The basic goals of mentoring were thus to improve teaching performance, reduce attrition of potentially capable teachers, increase the personal and professional well-being of teachers, and impact the school and teaching profession's culture. Research has addressed the value of educative mentoring practices, mentoring that encouraged learning within and from teaching, supported inquiry of practice,

addressed the complexities of teaching, focused on long-term goals, and understood how teachers learned during preservice teaching and induction (Feiman-Nemser 2001b; Norman et al., 2005; Langdon et al., 2015). Although mentor teachers play an important role in a novice learning to teach (Grossman, 2010), having a mentor is not enough unless the practices mentors enact and the ways in which they enact the practices matter for pre-service and novice teacher learning. The approach to embedding mentoring practices earlier within teacher education preparation was framed by Educative Mentoring (Feiman-Nemser, 1998), Situated Learning Theory (Lave & Wenger, 1991), and the Magnusson, Krajcik, and Borko (1999) PCK (Pedagogical Content Knowledge) Model. A qualitative interpretive research approach allowed the data to be viewed extensively within the confines of these frameworks.

Educative mentoring situates mentoring as part of a continuum of ongoing teacher professional development and was enacted to improve novice teachers and ultimately enhance student learning (Feiman-Nemser, 1998; Schwille, 2008). The construct of educative mentoring was focused on instructional improvement built into educational methods curricula within programs at teacher education colleges and universities. These practices were important to provide mentors and mentees with opportunities to learn how to be educative, rather than just assuming that being a good teacher implied being an effective mentor or mentee. Not only would mentoring begin early in the educational pathway, it would be a global phenomenon that addresses all educators before they enter the classroom fulltime. Feiman-Nemser (1998) developed the construct of “educative mentoring” to conceptualize mentoring as individualized professional learning that is aimed at instructional improvement with the assumption that educative practices matter for long-term novice growth.

According to Lave and Wenger (1991), “learning pedagogy, culture, and society is not merely situated in practice as if it were some independently reifiable process that just happened to be located somewhere. Rather, this learning is an integral part of generative social practice in the lived-in world.” Through the mentoring lens, embedded practices allow pre-service teachers to gain this experience through immersion into self-reflection.

Experience is an experience of meaningfully structured situations, the fundamental concept for Lave and Wenger’s Situated Learning Theory (1991). According to Dewey (1938), this experience is not the experience of an independently and objectively given world: on the contrary, for Dewey reality consists of problem situations, and experience is conceived as a kind of problem-solving. Lave and Wenger’s (1991) major contribution was that they made use of this notion of practice to interpret a reformulation of thinking and learning. Thus, they treated thinking and learning as something that was constituted in the lived-in-world, the world as it was experienced in social practice an essential component of mentoring.

Shulman (1986) introduced the concept “pedagogical content knowledge” (PCK) as a possible answer to the so-called “missing paradigm” in research and practice on teaching. Previously teaching was either approached by focusing only on content or exclusively on pedagogy. Shulman (1986) believed that neither approach grasps every aspect of teachers’ knowledge base, and thus he defined PCK as that special amalgam of content and pedagogy that is uniquely the province of teachers, their own special form of professional understanding. The PCK component of this study therefore guided the transformation from subject-matter knowledge to the pedagogical knowledge with a mentoring dimension explicable to pre-service teachers. Not only did the components of Pedagogical Content Knowledge (PCK) drive pre-service candidates in their methodology and approach to learning, but they also guided their

pedagogical practices and delivery of the subject matter. Pre-service teachers embraced mentoring practices as guides to their ability to evaluate and reflect on their own student teaching experiences. The value of this experience rested on the quality of support preservice teachers received (Grossman, 2010).

It is important to ensure that mentoring practices became a fundamental component of PCK to support the development of teachers' theoretical and pedagogical knowledge. These practices would support the amalgamation of content and pedagogy within teacher preparation programs and the progressions that follow. In view of this rationale, embedding mentoring is proposed to support pre-service and novice teachers in guiding the mentoring experience received from a highly qualified educator in their chosen pre-service teacher program or novice school. A dedicated pre-service mentor within the educational program would be familiar with the components of PCK. Training teachers to embed mentoring practices within these pedagogical content components was essential to supporting the mentoring relationship. Lee Shulman (1986) characterized PCK as developing over time in teaching practice, but more research is needed to understand the lasting impact that would be provided through mentor-guided, explicit to practice, in noticing, reflecting, analyzing, and responding in thoughtfully adaptive, culturally relevant ways (Hayden & Gratteau-Zinnel, 2019).

These organizing frameworks in Figure 1, explored how the early development of specific mentoring strategies enacted confidence within the mentee and mentor relationship in lowering the current attrition rate. These components, discussed in the literature in more detail, were grounded in culturally relevant mentoring practices deemed essential to support pre-service teachers to become productive novice teachers. Although mentoring of pre-service teachers as mentees and in-service mentor teachers may have somewhat differed, the basic practices,

activities, and experiences remained largely the same. The focus was on the experiences and perceptions of the pre-service teachers as they neared novice status. Preparing mentors and mentees to embed these practices was essential and worthy of the time and the resources invested in teacher preparation programs. Only through the experiences and reflections of pre-service teachers was the impact of mentoring practices on novice teachers begun and the turbulent occurrence of teacher attrition addressed. It was also essential that mentors became aware of how embedding these practices impacted their own pedagogy as they continued to adjust their mentoring for the benefit of their novice mentees. This perspective of mentoring, from a pre-service teacher's point of view, informed the literature on the importance of preparing mentor teachers to enact educative practices from learned mentee experiences.

Research Questions

The primary research questions for the study were as follows:

RQ 1: What were pre-service teachers' perceptions on embedding mentoring practices within teacher preparation programs to support pre-service teacher candidates?

RQ 2: What were pre-service teachers' perceptions on embedding mentoring practices to support pre-service teacher candidates as they transition to novice teacher status?

RQ 3: What were pre-service teachers' perceptions on how embedded mentoring practices contribute to mentors being better prepared to support novice teachers?

RQ 4: What were pre-service teachers' expectations on how embedding mentoring prevents novice teacher attrition?

Using a qualitative interpretive research design (Borko et al., 2007), this study sought to understand how embedding mentoring practices earlier in teacher preparation programs would affect pre-service teacher practicum experiences and their progression to novice teacher. The

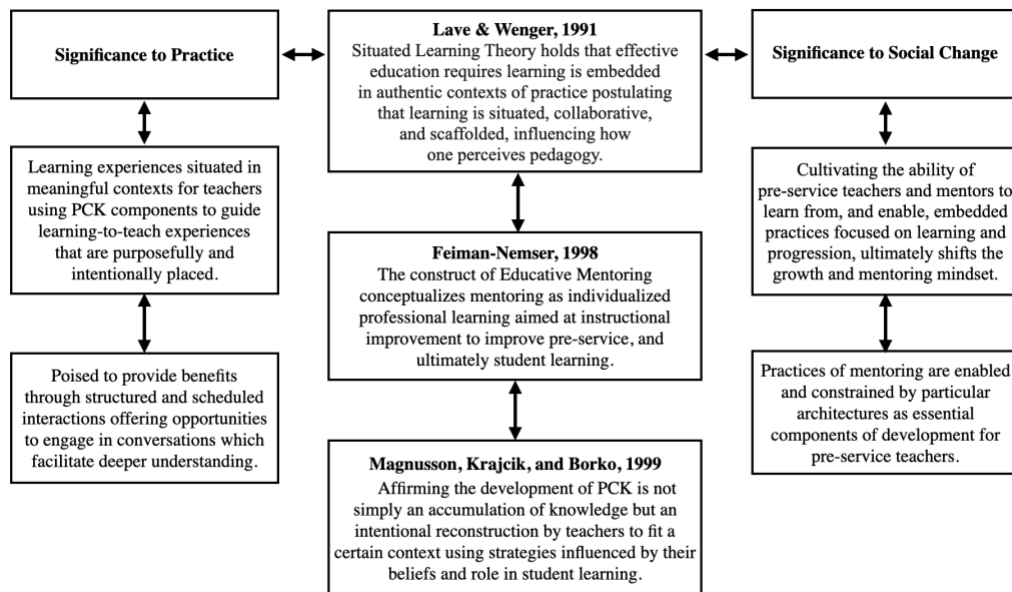
implications of this interpretive study furthered improvements in educational practice and program design. The researcher role allowed for discussions on how student teachers responded, and reflected, to the concept of embedding mentoring practices evidenced through discourse and/or actions. Findings from this study were collected from a range of data including individual and group interviews and an online questionnaire to better understand how teachers “made sense of their lives and their experiences” (Merriam, 2009, p. 23).

Conceptual Framework

Identifying mentoring practices essential to the development of pre-service teachers’ pedagogy was reinforced by three frameworks: Educative Mentoring (Feiman-Nemser, 1998), Situated Learning Theory (Lave & Wenger, 1991), and the Magnusson, Krajcik, and Borko (1999) PCK Model.

Figure 1

Significance Conceptual Framework



Note. The researcher identified a collection of related theories, methodologies, and studies that played a significant role in guiding the research and the outcomes.

This conceptual framework aimed to solidify the contributions made by each theory in analyzing the need to embed mentoring as a learning paradigm within the teaching community to strengthen the learning experiences of all pre-service teachers. All three frameworks, as specified in the Significance Conceptual Framework, Figure 1, supported the need for research on embedding mentoring practices for pre-service teachers. Addressing the value of educative mentoring practices, Feiman-Nemser (1998) encouraged learning within and from teaching, supporting inquiry of practice, addressing the complexities of teaching, focusing on long-term goals, and understanding how teachers learned during pre-service teaching and induction. Situated Learning Theory (Lave & Wenger, 1991) argued that learning normally occurs as a function of the activity, context, and culture in which it occurs, and there was a gradual acquisition of knowledge and skills as novices learned from experts in the context of everyday activities. The Magnusson, Krajcik, and Borko (1999) PCK Model explored the uniqueness and importance of PCK within teacher preparation and took a strong stance on the existence of PCK as a separate domain of knowledge. This embedded mentoring model aimed at helping both mentors and mentees build collaborative learning relationships, with benefits flowing to both partners. Zachary (2002) defined adult learner mentoring as “a reciprocal and collaborative learning responsibility between two individuals who shared mutual responsibility and accountability for helping a mentee work toward achieving clear and mutually defined learning goals” (p. 28).

Educative Mentoring

Mentoring, both as a local and global phenomenon, supported novice teachers’ successes in the classroom when addressed earlier in the pre-service teachers’ educational journey. Feiman-Nemser (1998) developed the construct of “educative mentoring” to conceptualize

mentoring as individualized professional learning aimed at instructional improvement. Novice teacher attrition continues to be significant for both schools and students, supporting the need for extensive mentoring interaction as teacher turnover contributes to instabilities within an organization and uncertainties within the educational setting (Ingersoll & Smith, 2003).

Mentoring within instructional components ensured pre-service teachers understood educative strategies that guided decision making and self-reflection. Pre-service teachers with embedded mentoring practices were better prepared for their novice year bringing practical experiences and reflections to share with their mentor. These mentoring practices impacted the reciprocal mentee/mentor relationship and may contribute to a reduction in novice teacher attrition. Educative Mentoring focused on a range of teacher professional development enacted to improve pre-service, and ultimately student, learning (Norman & Feiman-Nemser, 2005; Schwille, 2008). Supporting educative mentoring, Schwille (2008) offered a temporal framework of “inside” and “outside” the action of teaching to describe a range of mentoring practices reflecting an educative stance.

Situated Learning Theory

Situated Learning Theory (Lave & Wenger, 1991) greatly influenced how one perceives pedagogy, and how the context of this theory continued to be expanded to include mentoring, which further impacted pre-service teachers’ education, behavior, and learning, as indicated in Figure 1. Educative mentoring is predicated upon social learning theories, postulating that learning is situated, collaborative, and scaffolded (Lave & Wenger, 1991). This social aspect of mentoring further supported the need for mentoring to begin before pre-service candidates entered the classroom, where observations, practice, and reflections were established. Situated learning theory is a social process in which the learning occurred, and it allowed pre-service

teachers to explore the participants and their interconnections with “activities, identities, artifacts, and communities of knowledge and practice” (Lave & Wenger, 1991) supporting this transformation. Social interaction is a critical component of situated learning, which is usually unintentional rather than deliberate. These ideas are what Lave & Wenger (1991) call the process of “legitimate peripheral participation.” Inherent within this situated learning theory is the level of Pedagogical Content Knowledge (PCK) sophistication, which needed to be considered as indicated in Figure 1. Further development of this theory continues to emphasize learning, both outside and inside school, “through collaborative social interaction and the social construction of knowledge” (Brown et al., 1989) and the need for a new epistemology for learning—one that emphasizes active perception over concepts and representation.

Magnusson, Krajcik, and Borko (1999) PCK Model

Regardless of the diverse interpretations, PCK is still considered the “best theoretical framework” to examine and understand the skills of teachers, systematize empirical data, and enable the documentation and exchange of ideas on relevant knowledge to teaching practice (Fernandez, 2013). Since there is no single most powerful form of representation, the teacher must have at hand a variety of alternative forms of representation, some of which derive from research, whereas others originate in the wisdom of practice (Shulman, 1986). Magnusson et al. (1999) described their conceptualization of PCK as a transformation of several types of teacher knowledge as it encompassed both teachers’ understanding and their enactment. They affirmed that the development of PCK was therefore not simply an accumulation of knowledge but an intentional reconstruction by the teacher of their understanding to fit a certain context. The Magnusson, Krajcik, and Borko (1999) PCK model was supported by the fact that teachers’ use of strategies was influenced by their beliefs, and their role in student learning.

A teacher's orientation is not defined by the strategy they use but rather by their purpose for employing it, as some orientations may use similar approaches to presenting materials but with different purposes (Magnusson, Krajcik, & Borko, 1999). Effective teaching requires the integration of knowledge from various domains, which supported the ability to organize and present lessons that allowed for in-depth instruction. Although this model depicts PCK as the product of knowledge of subject matter, pedagogy, and context, the researcher believed this relationship could not be fully established without embedding mentoring practices.

The framework, denoted in Figure 1, supported the notion of mentoring practices being embedded within current teacher preparation programs. PCK supported teachers in different professional roles from initial training and experiences in pre-service training and provided an important basis for the training of teachers. The professional practice of embedding mentoring was accessed, documented, and a starting point identified. According to Talanquer (2004), teacher training programs should collaborate to build the PCK of future teachers, opening spaces for the key pieces of the content to be taught are subject to analysis and didactic and pedagogical discussion. This form of mentoring conversation helped student teachers develop their own PCK as well as the critical capacity and analytical skills that allowed them to design their classroom as an ongoing learning environment with continued pedagogical research.

In the 1986 article, Shulman mentions the idea of PCK for the first time, referring to the intersection of content and pedagogy as “that special amalgam of content and pedagogy that belongs only to the universe of teachers, their special form of professional understanding” (Shulman, 1986, p. 9). Teachers have a specific body of knowledge that sets them apart from other professions. Wong (2004) explained, “Teachers remain in teaching when they belong to

professional learning communities that have, at their heart, high-quality interpersonal relationships founded on trust and respect” (p. 50).

Applying this conceptual framework, and the contributions made by each theory, solidified embedding mentoring as a learning paradigm within the teaching preparation community and strengthened the learning experiences of pre-service teachers. Using this framework with a thorough understanding of the literature provided allowed the researcher to structure embedding of mentoring practices in such a way as to maximize the effects on both educational teaching programs and novice teacher attrition, supported by the results and mirrored by those reported in the literature. Specifics of the design and implementation of these practices, as well as the research methods, are detailed in Chapter III.

Nature of the Study

Although educational leaders pinned high hopes on mentoring as a vehicle for reforming teaching and teacher education (Feiman-Nemser, 1998), there appeared to be a need for mentoring being addressed earlier in a teacher’s educational journey. Regardless of location, novice teachers, particularly first-year teachers, are at risk of leaving the profession. The quality of academic training and the experiences in student teaching needed to be supported by mentoring strategies embedded in various curricula coursework. Embedding mentoring into teacher preparation programs ensured that novice teachers were aware of their own needs and could continue this implementation into their own school classrooms and culture. Effective teacher mentorship training and preparation are critical components of a teacher’s professional learning, as is the concept of embedding mentoring practices within teacher preparation colleges. Exploring the embedding of mentoring within the confines of educative, situational, and

pedagogical content knowledge guides creators of educational programs to understand this relevance.

Definitions of Key Terms

Several key terms were used throughout the research study and appear below in alphabetical order.

Attrition. The loss of novice teachers from the field of education (Darling-Hammond et al., 2007).

Co-operating teacher. This term is no longer associated just with a role to merely cooperate and allow a pre-service teacher into their classroom (Awaya et al., 2003; Clarke et al., 2014). In this research study the co-operating teacher/mentor takes a more active role.

Educative Mentoring. Teacher-mentors arrange experiences for pre-service teachers, providing opportunities to develop perspectives, beliefs, and knowledge about teaching and learning (Feiman-Nemser, 1998).

Embedded Mentoring. Integration of mentoring practices/components into pre-service teacher educational programs/coursework (Swanepoel, 2020).

Induction Program. A high-quality program supplying mentoring, professional development, support, and processes necessary to induct a novice teacher into the profession and develop them as a skilled professional (Sweeny, 2008).

Learning Progressions. Descriptions of increasingly sophisticated ways of thinking about and enacting teaching practice. They suggest trajectories of growth that both depend upon learning from experience and are influenced by support from mentors, interaction with colleagues, and engagement in ongoing professional learning (InTASC-CCSSO, 2013).

Mentee. The role that a novice teacher assumes when working with a mentor (Sweeny, 2008).

Mentor. Highly qualified teacher who guides and collaborates using their own experience and knowledge to assist novice teachers for one year (New Teacher Center, 2011).

Mentoring. The one-to-one support of a novice or less experienced teacher (mentee) by a more experienced teacher (mentor), designed primarily to assist the development of the mentee's expertise and to facilitate their induction into the culture of the profession (in this case, teaching) and into the specific local context (Hobson et al., 2009).

Mentoring relationship. A long-term relationship between a young person and an adult comprised of support, guidance, and assistance from the adult to that younger person who is experiencing new challenges and growth: "a shared role that requires delicate and caring intervention and feedback. It is a slow process built on mutual trust and self-respect. This relationship works when both mentor and protégé understand what areas need improvement. It is a teaching position carried on in a classroom setting that requires new, tactful approaches and skills" (Fibkins, 2002, p. 3).

Mentor teacher. A more experienced teacher who can speak from experiences to assist novice teachers in learning new ways of teaching (Fibkins, 2002).

Novice teacher. A teacher within their first three years of teaching profession (Ingersoll, 2003).

PCK. Pedagogical content knowledge, a construct that unites content and pedagogy (Shulman, 1986).

Practices. Patterned sequences of actions and activities, and practice as a generic concept: the work of cultural extension and transformation in time (Lave and Wenger, 1991, p. 51).

Pre-Service Teacher/Candidate. A college student involved in a school-based field experience who gradually takes on more classroom management and instructional responsibilities (Feiman-Nemser, 1998).

Reflection. According to Dewey (1938), an active and deliberate cognitive process, involving sequences of interconnected ideas that take account of underlying beliefs and knowledge. Reflective thinking generally addresses practical problems, allowing for doubt and perplexity before possible solutions are reached (Hatton & Smith, 1995).

Traditional Mentor. One who provides emotional support and helps novice teachers address their immediate teaching needs (Bradbury, 2010).

Veteran Teacher. A teacher with significant teaching experience or those in the middle of their career who have much to offer their profession (Doan & Peters, 2009).

Assumptions

It was the assumption of this researcher that there may be a difference in the perceptions of mentoring activities experienced by the pre-service teachers over the course of their teacher preparation program. The reason stemmed from the variations of student's teacher education coursework. Some of the participants of this research study joined the 5th year cohort, having completed their undergraduate teaching at another teacher training college or university. Although this brought variance to the data, it allowed the researcher to gather more information about other teacher preparation programs.

Another assumption considered the idea that mentoring within teacher college programs with diverse curriculum might have been sporadic. The researcher considered the location of the participants, as some had returned to their home states to begin teaching careers. As not all participants were available for face-to-face individual and group conferences, interviews were limited to Zoom conferences only. This study was conducted during a time of COVID-19, and thus safety was an issue with no face-to-face interviews being conducted, as per CDC regulations.

The following assumptions were addressed further.

General Assumptions

- Traditional mentoring was effective.
- Mentoring appeared in many forms.
- Candidate practicum experiences varied.
- Candidates provided true and accurate responses to questions posed.
- Candidates shared mentoring experiences from their school and college.
- Candidates completed their teacher training before being involved in the study.
- The researcher ensured privacy and confidentiality for the participants.

Theoretical assumptions

- The theories chosen were a comprehensive outline of the phenomenon.
- The theories accurately represented the units of analysis.
- The findings addressed the gap in the literature regarding the phenomenon.

Scope and Delimitations

“Delimitations address how the study was narrowed in scope, whereas limitations identify potential weaknesses of a study” (Creswell, 1998, p. 150). The researcher understood

these restrictions and indicated that they were considered throughout the study. A theoretical assumption guided and informed other studies in embedding mentoring practices prior to novice teachers entering the classroom. Out of necessity, only the perceptions of individuals who participated in the study were included. This study was limited to respondents who participated in this research, as it is limited in scope and generalizations.

The researcher explored embedding mentoring practices that contributed to, or act as, barriers to pre-service teachers' successful transition to novice teacher. Novice teacher attrition would be significantly influenced by an established mentoring component within teacher education programs. Ingersoll and Smith (2004) found that is it not the use of one single element that increased attrition rates but the bundling of multiple activities and supports. Working in tandem with the factor of attrition was the notion that education for students will not improve until we acknowledge that schools are places not only for teachers to work but also for teachers to learn and share their knowledge and experiences with their colleagues.

Teachers' confidence in their capability can be positively impacted by an increase in mentee and mentoring training designed to support a teacher's development of content knowledge with pedagogical emphasis. Education has become an accessible global learning forum and mentoring cannot be excluded from this conversation. As educators of global students and cultures, mentoring will allow the transition from one international mindset to another. A global mindset is a mix of individual attributes that enable an individual to successfully influence those who are different from him or her (Javidan et al., 2011, p. 5).

Limitations

One limitation of this study was associated with population, which used a purposeful sampling procedure in a limited environment. The resulting homogenous study sample,

coincidentally, consisted of all female participants. This limitation could be addressed by conducting a similar study using other educational courses that would provide a more varied population. It would be of interest to include more diverse participants and even varied levels of candidates and subject matter. Additionally, conducting this study in state educational colleges could provide a more diverse population, since the chosen participants are from a private educational institution. Limitations presented themselves in various ways as participants could respond in ways they feel are socially expected, hold differing interpretations of research questions, and their psychological state due to COVID_19, could result in bias in answering the interview questions. Further, an additional limitation of this study was that these participants had not received consistent mentoring within their teacher preparation program.

Further limitations to this study are identified in the proposed online questionnaire and personal and group interviews. Responses to the questions in the questionnaire resulted in projecting personal biases, beliefs, and affective attitudes. Online questionnaires may be returned incomplete or not at all, resulting in a limited analysis of the collected data. The limits in gathering interview data could result in “personal bias, anger, anxiety, politics, ...recall error reactivity of the interviewee to the interviewer, and self-serving responses” (Patton, 2002, p. 306).

The normal behavior of participants may potentially be altered owing to the feeling of being overwhelmed due to circumstances. Other areas of limitation to consider: a) inherent biases in mentoring experiences, b) seeing mentoring through the lens of a teacher and adjunct professor, c) working directly with the mentoring process within the school environment, and d) using only open-ended evaluation questions.

Significance of Study

Mentoring was defined in this study as a process to support pre-teachers becoming educative in their practices to improve their self-reflection, self-advocacy, and learning of professional responsibilities, which positively affect students' learning. This study, as clearly indicated in Figure 1, was significant in that the data gathered will guide educational policy makers in embedding standardized pre-service mentoring practices within teacher preparation programs. This result of this data supported novice teachers becoming effective educators within their classrooms. Embedding these practices enabled mentees to be aware of their own needs both inside and outside the school environment. Entering schools as a novice teacher with embedded mentoring experiences guided mentors and allowed new teachers to be assimilated into the culture of their schools.

Evaluation of educational mentoring practices, theories, and experiences pertaining to novice mentoring, teacher attrition, and retention was supported by educational outcomes. Posovac (2011) explained that the empowerment evaluation approach involves evaluators inviting participants within a community to work with them in learning what their communities needed to make them better. This research study was significant because it highlighted the critical issues that novice teachers encounter in their first five years of teaching. The research provided valuable information and findings that benefit both pre-service and novice teachers' initial school experiences. The distinctive role of these novice teachers is of crucial value to schools as they bring updated research from their studies which can ultimately shift the growth mindset and culture of schools. Teaching students requires providing the best resources available. Teachers often receive less assistance in the early stages of their career when they needed it the most, and this lack of assistance could be even more detrimental to the students.

Current statistics show that new teachers leave at rates of somewhere between 19% and 30% over their first five years of teaching. A study by the Learning Policy Institute (*A Coming Crisis in Teaching?* —Learning Policy Institute, 2016) shows that if a teacher receives mentoring, collaboration, and extra resources, and is part of a strong teacher network, first-year turnover is cut by more than half. Unfortunately, just 3% of beginning teachers receive such comprehensive support.

Therefore, the purpose of the qualitative research study was to explore pre-service teachers' perceptions of embedding mentoring practices within the Methods of Teaching class.

Significance to Theory

The educative mentoring approach is poised to provide short-term and long-term benefits for both mentors and mentees. Embedding mentoring practices earlier within teacher educational programs, specifically Methods of Teaching coursework, will support teachers staying in the educational world. Allowing teacher educators to engage in this “joint work” (Feiman-Nemser, 1998) with their students within the confines of the university classroom will further deepen the development of pre-service teachers. Educating pre-service teachers through questioning and justifying practices, enabling them to learn from each other as they solve tasks, is educative mentoring. Taking these experiences with them into their novice years will allow continual development of pedagogy with mentoring embedded into the content taught.

Previous studies (Duffy, 2005; Shulman, 1986) have shown that experienced teachers may have greater pedagogical content knowledge than novice teachers, but being an experienced teacher is not necessarily an indicator of high PCK. Magnusson et al. (1999) address some of the implications of this framework on teacher education. The transformation of teacher knowledge from other knowledge domains into PCK is not a straightforward task but an intentional act in

which teachers choose to reconstruct their understanding to fit a situation (Magnusson et al. 1999). The recommendations for enhancing teacher's PCK include helping teachers examine their preexisting ideas and beliefs. This can be accomplished by addressing the relationship between subject matter knowledge and PCK. Learning experiences should be situated in meaningful contexts for teachers by using a model of components of PCK to guide learning-to-teach experiences. It is within the learning of content that purposefully and intentionally placed learning opportunities which lead to a better understanding of teaching and learning can be discussed. Having these mentoring experiences embedded within teacher preparation programs will allow mentees to guide their mentors as novice teachers, giving the mentor a purpose and directions from which to guide.

Significance to Practice

Mentoring of new teachers is a social practice (Kemmis et al., 2014), with practice defined as “a form of socially established cooperative human activity that involves characteristic forms of understanding (sayings), modes of action (doings), and ways in which people relate to one another and the world (relatings), that ‘hang together’ in a distinctive project” (p. 155). At the beginning of a new school year, administrators need to look ahead and ensure that by the end of the year, teachers will happily choose to stay. For beginning teachers to remain in the field of education, they must feel supported, successful, and part of a group striving to achieve a common goal (Wong & Wong, 2003). One problem is that mentor teachers often hold several key leadership positions within the school setting. These mentor teachers are left with little time to provide quality one-to-one support that novice teachers really need. An effective method for retention of new teachers would be to ensure support is given early and often. It is essential to

determine strategies to build a relationship that will allow both mentor and mentee to grow throughout the process.

When a novice teacher enters a school with an understanding of their professional, emotional and pedagogical needs, they are entering with direction. Adding an intentional mentoring component within Methods of Teaching coursework would allow for mentoring relationships to be fostered and integrated into the school system and culture. Recognizing essential mentoring characteristics such as supervision and collaborative self-development, would ensure pre-service teachers are supported both inside and outside the college experience. The student teaching experience would thus be enhanced as pre-service teachers are more aware of what questions to ask and what observations to make, and more able to self-analyze their teacher performance. All these newly acquired skills benefit teachers as well as their students, the school system, and ultimately the community.

As teacher turnover continues to concern K–12 educators, the need to ensure mentoring is embedded in all areas of the school is prevalent. According to the 2019 National Center for Educational Statistics (NCES), 8% of teachers leave the profession yearly and another 8% move to other schools, bringing the total annual turnover rate to 16%. That means on average, a school will lose three out of every 20 teachers. Long-term solutions need to be put in place with an emphasis on mentoring becoming an embedded standard to minimize novice teacher attrition and prioritize student learning.

Structured and scheduled interactions offer beginning teachers the opportunities to engage in a conversation that facilitates a deeper understanding of the policies and procedures within the school. Mentoring is a shared role built on mutual trust and self-respect. This relationship works when both mentor and mentee understand what areas need improvement.

Effective mentors must also be willing and able to “make their work public” and make explicit the factors underlying their classroom practices (Simpson et al., 2007). Mentors should be supportive, approachable, nonjudgmental and trustworthy, have a positive demeanor, and possess good listening skills with the ability to empathize. Most importantly the mentor must have the willingness and ability to take an interest in beginning teachers’ work and lives.

Significance to Social Change

Learning to teach has been described as a “complex, bewildering and sometimes painful task” (Maynard, 2000). It requires novice teachers to change their conceptions of teaching and learning that were formed when they were pupils, acquire a new body of subject and practical knowledge, and deal with the emotional issues that can surface when faced with these changes (Wang & Odell, 2002). The responsibility for mentoring novices is demanding and not all veteran teachers have the capacity to impact novice teachers. The responsibility must begin at the college level, where students in teacher preparation programs are mentored through courses such as methods of teaching and specific content areas. This embedded mentoring is an essential component that supports the pedagogical development of pre-service teachers and can no longer become solely school-based with teachers acting as the only mentor.

The growing need to support these teacher-mentors has been recognized at policy level within publications globally. With increased human mobility and networks of communication, the common social fact of unequal educational experiences and outcomes is increasingly the subject of transnational dialogue (Gluchmanova, 2015). The practices of mentoring are enabled and constrained by particular practice archetypes that, on the one hand, have much in common internationally, but, on the other hand, are bundled with other national or local practices that sometimes make mentoring practices in different countries rather different from each other

(Kemmis et al., 2014). Educators around the world are faced with new challenges of balancing local, national, and global norms as well as ethical values in the process of educating children. Adopting a more collaborative approach, specifically through embedding mentoring practices earlier in teacher preparation programs, benefits the pre-service teacher and the novice teacher as well as the teacher-mentors.

Summary and Transition

“Educative mentoring rests on an explicit vision of good teaching and an understanding of teacher learning” (Feiman-Nemser, 2001b, p. 18). This concept of educative mentors will be enhanced by embedding concepts of mentoring into educational programs prior to pre-service teachers graduating. Cultivating the ability of pre-service teachers to learn from experiences within content areas is a shift in mentoring mindset. Experienced colleagues assist the pre-service teachers’ thinking about “teaching as a complex process where there is rarely one ‘right’ answer” (Bradbury, 2010, p. 1052). Embedding the practices of mentoring as supervision, mentoring as support, and specifically mentoring as collaborative self-development (Kemmis et al., 2014) into core content courses would help pre-service teachers transition seamlessly into their novice years as indicated in Figure 2. Mentees as pre-service teachers will be given the opportunity to see theory in action and have access to questions, discussions, and even reject learned practices safely within their learning environment. Educative mentors may be able to help a mentee confront traditional views of teaching and incorporate more student-centered approaches (Bradbury, 2010). Furthermore, because educative mentors help mentees understand what students typically struggle with and how to best help students with those difficulties (Norman & Feiman-Nemser, 2005), they may influence the pre-service teachers pedagogical content knowledge.

Mentor roles have been identified mainly by researchers or teacher educators, and few studies have focused on the perspectives of pre-service or mentor teachers themselves (Zanting et al. 2001b). Ensuring that mentoring strategies are embedded earlier in educational programs aims to reduce novice teacher attrition. Novice teachers who are aware of their needs prior to entering the school year can guide their mentor from the beginning of the school year. As Darwin (2000), notes, “For centuries, mentoring has been used as a vehicle for handing down knowledge, maintaining culture, supporting talent, and securing future leaders” (p. 197).

Chapter 2 Literature Review

Being a teacher to pupils is not the same as being a teacher to teachers (Schwille, 2008). By focusing mentoring on experiences that occur before student teaching, such as Methods of Teaching courses, mentors can focus on instructional questions that come from teaching practice, provide modeling, and enact these teaching practices in a thoughtful, reflective, manner. Just as it is important to novices' development to see practices in action and have the chance to develop their own skills (Grossman, 2010), mentor teachers need similar opportunities to learn and enact educative practices. Embedding mentoring practices earlier into teacher education preparation programs, Figure 3, will benefit not only pre-service and novice teachers but their mentors as well.

In order to engage in these mentoring activities, mentors need just as much preparation and ongoing support, something that they rarely receive consistently. This is significant because “we cannot afford to wait until induction to provide support that will lay the foundation for critically reflective, thoughtfully adaptive, and culturally relevant practices that enable a teacher to engage effectively with the challenges of teaching” (Hayden & Gratteau-Zinnel, 2019, p. 144). Novice teachers often leave behind the instructional strategies that are emphasized in their university-based teacher preparation programs, and instead engage in instruction that is more traditional and, in some cases, more in line with what their mentor may be delivering.

Prior literature on the disconnect between theory in university and the practice in schools (Cochran-Smith, 2005) continued to question the preparation of pre-service teachers and their transition to the current education environment further complicated by the lack of connection between teacher preparation and the reality of classroom life (Hayden & Gratteau-Zinnel, 2019). Teacher preparation programs aim to provide pre-service teachers with educational knowledge

and experiences, to enact theory into practice, and to create engaging instruction that furthers student learning. “Finishing preparation with strong engaged clinical experiences (Hayden & Gratteau-Zinnel, 2019) can smooth these pedagogical transitions” (p. 148).

Literature Search Strategy

This literature search strategy covers several pedagogical issues and terms pertaining to mentoring affecting teacher attrition, induction programs, pre-service content, and novice teacher transitions. A combination of key terms and phrases were researched: *Educative, Reciprocal, and Embedded Mentoring; Situated Learning; and Pedagogical Content Knowledge (PCK)*.

Educative Mentoring has become part of the continuum of pre-service and teacher professional development that focuses on improving a novice teachers’ repertoire of proficiencies, which ultimately affect student learning. Within the pedagogical aspects of teaching pre-service teachers, are areas that would support embedding mentoring practices with a view to self-reflection and self-direction as a novice teacher, detailed in Figure 3. Pedagogical Content Knowledge (PCK), a landmark paradigm, continues to dominate research in the areas of education and psychology, allowing the mentoring aspect to be considered essential and viewed as a critical factor of quality teaching both theoretically and empirically.

PCK has previously been criticized as being theoretical without practical application (Borowski et al., 2012). Mentoring novices on the enactment of PCK can help them negotiate the reciprocity and shift from teacher candidate to teacher. This can be introduced through noticing critical incidents in practical experiences that cause disequilibrium (Hartford & MacRuairc, 2008), and learning to resolve it via reflection and thoughtful adaptation (Lytle, 2006; Shulman & Shulman, 2004; Hayden et al., 2013b).

The selection of articles, dissertations, scholarly journals, and interviews cover the past three decades, with a focus on 2011 to present. The search for evidence of embedded and embedding mentoring practices, supporting educational research with pre-service teachers, involved reviewing summaries of local and international articles, some translated into English from German and Spanish.

Identifying over 70 research articles, including peer-reviewed, seminal works from scholarly journals as well as theses and dissertations, an itemized spreadsheet has been compiled in alphabetical order. The articles were sorted, analyzed and synthesized, vertically and laterally, with relevance to the conceptual frameworks of Educative Mentoring (Feiman-Nemser, 1998), Situated Learning Theory (Lave & Wenger, 1991), and the Magnusson, Krajcik, and Borko (1999) PCK Model. Identifying embedded mentoring practices will be essential to the development of pre-service teachers' pedagogy, methodology, and research questions:

Research Questions

The primary research questions for the study were as follows:

RQ 1: What were pre-service teachers' perceptions on embedding mentoring practices within teacher preparation programs to support pre-service teacher candidates?

RQ 2: What were pre-service teachers' perceptions on embedding mentoring practices to support pre-service teacher candidates as they transition to novice teacher status?

RQ 3: What were pre-service teachers' perceptions on how embedded mentoring practices contribute to mentors being better prepared to support novice teachers?

RQ 4: What were pre-service teachers' expectations on how embedding mentoring prevents novice teacher attrition?

Results of literature research were organized into the following topics.

- Situated Learning Theory (Lave & Wenger, 1991)
- Educative Mentoring (Feiman-Nemser, 1998)
- The Magnusson, Krajcik, and Borko (1999) PCK Model
- Mentoring Practices
 - Mentoring as situated inquiry
 - Mentoring as joint work
 - Mentoring as “thinking aloud”: Articulation of the reasoning behind teaching
 - Mentoring as a practice that foregrounds pupil learning
 - Mentoring as a “bi-focal” practice: Addressing the long-term goals of novices as well as short-term concerns
- Benefits of mentoring within the framework contexts

The literature research matrices were defined as follows:

Matrix One

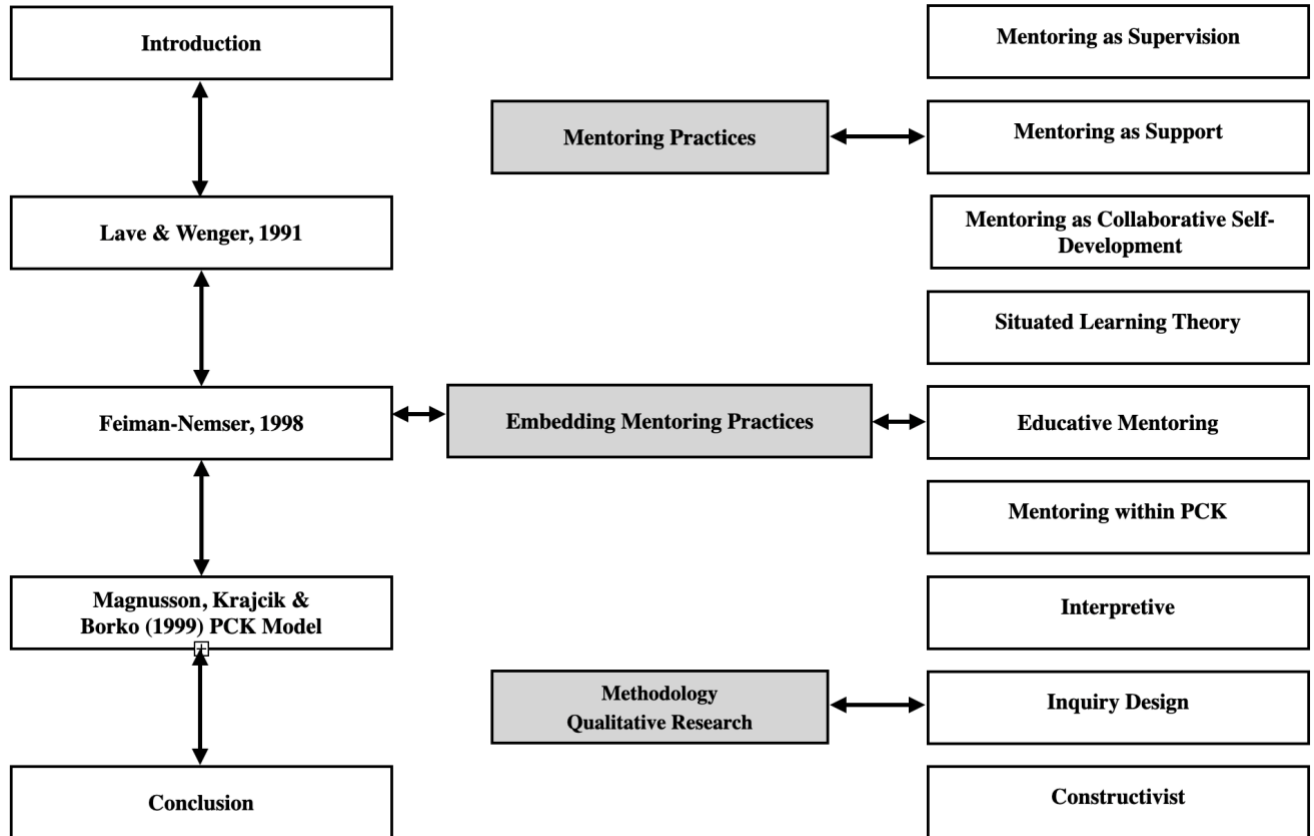
Alphabetical list of authors referencing pedagogical content knowledge in any form. This included title of article, a brief overview, the abstract, and subsequent terminology.

Matrix Two

Mentoring and mentoring themes by year of publication, including research questions, research methodology, results, limitations, and suggested further research. Research resources used included the following databases: Academia, Aliant International University Library, ERIC, JSTOR, Educational Research Complete, Google Scholar, Open Access Theses and Dissertations, ResearchGate, Science Direct, Sage Premier, PsychINFO, and Education Research Complete UNF Digital Commons.

Figure 2

Conceptual Framework Development



Notes. This conceptual framework indicates the development of methods and practices as they were gathered and analyzed. Beginning with the concept of mentoring and expanding including theories, the researcher took an inductive position, building an assumption, with the theoretical frameworks solidifying the foundation.

Literature Review

Terminology was essential to understanding who is benefitting from embedded mentoring practices. The definition and derivation of the word *mentor* Webster definition and etymology, incorporated aspects of pedagogics, which further supported embedding mentoring with a purpose:

“wise adviser, intimate friend who also is a sage counselor,” especially of one who is young or inexperienced, 1750, from Greek Mentor, friend of Odysseus and adviser of Telemachus. The name perhaps ultimately means “adviser,” because in form it is an agent noun of mentos “intent, purpose, spirit, passion” from PIE mon-eyo (source also of Sanskrit man-tar—“one who thinks.” (mentor | Origin and meaning of mentor by Online Etymology)

Hobson et al. (2009) define mentoring as the one-to-one support of a novice or a less experienced practitioner, the mentee, by a more proficient practitioner, the mentor, who is designed primarily to assist in the development of the mentee’s expertise and to further facilitate their induction into the culture of the teaching profession and specific local context. For the purposes of this research study, this definition established embedding mentoring practices as an essential component within teacher preparation programs supporting the subsequent school environment.

The Perception of Practice

To clarify the definition of practices was essential to this research as practices are not merely actions or structural characteristics of how various tasks are carried out. Perhaps the most important question raised by different uses of the word “practice” in relation to learning teaching is whether practice is meant to be something that an individual does and learns from other individuals or something created and maintained by a collective and learned by participation in that collective (Lampert, 2010, p. 32). One could not claim practices were embedded in social, cultural, and material contexts purely as a distinction of their structure. Practices in this research needed to be characterized as patterned sequences embedded into actions and activities and practiced as a generic concept: “as the work of cultural extension and transformation in time”

(Pickering, 1995). The notion of practice pursued by Lave and Wenger is rooted in Dewey's (1938) pragmatist theory of action and in the neo-phenomenological tradition represented by social theorists. According to Lave and Wenger (1991) "learning pedagogy, culture, and society is not merely situated in practice—as if it were some independently reifiable process that just happened to be located somewhere; learning is an integral part of generative social practice in the lived-in world."

Learning by expanding is currently emerging in various fields of societal practice (Engeström, 1991a) as an integral part of activity, where activity constitutes societal practice. The theory of practice was pursued in order to make sense of and analyze the practical action. Lave & Wenger (1991) state that "engaging in practice, rather than being its object, may well be a condition for the effectiveness of learning" (p. 93). Mentoring of teachers is a social practice and can be defined as a form of socially established cooperative human activity that involves characteristic forms of understanding (sayings), modes of action (doings), and ways in which people relate to one another and the world (relatings), that "hang together" in a distinctive project (Kemmis et al., 2014). Applying this approach led to strategies and policies to improve the practices and procedures of current new teacher mentor programs and teacher preparation. Providing opportunities for participants to investigate their experiences and points of view gave insight into the practice being researched.

The Pre-Service and Novice Teacher

There was more to pre-service preparation and mentor teacher support when determining essential experiences for the novice teacher. The experiences designed by educators are essential, because "opportunities for learning are embedded in the activities in which novices engage" (Grossman et al., 2009). Additionally, clinical experiences, where pre-service teachers can both

see instructional moves in action and may have the opportunity to develop their own skill set, are important for teacher development (Grossman, 2010). Learning to teach is not a linear endeavor. Rehearsals, an opportunity for the novice to try instructional strategies while teaching his/her peers as they take on the role of classroom pupils, is another way the teacher preparation program helps pre-service teachers learn to attend to pupil thinking (Lampert et al., 2013).

There is recent research that identifies promising practices for pre-service teachers learning instructional moves during university teacher preparation (Ghousseini et al., 2015). Thompson et al. (2013), gives more attention to longitudinal work and the role of university course experiences in the instructional enactment of 26 beginning secondary science teachers as they began to teach in their own classrooms. In this study the role of mentor was focused on supporting these elementary novice educators as they engaged in instruction focused on pupil thinking within the classroom and activity. There are many responsibilities that arise when mentoring both pre-service and novice teachers. Consistency in the mentoring needs to be clear both within the teacher preparation program and the practicum to ensure pre-service teachers increase their repertoire of knowledge and skills relevant for teaching and for mentoring. Student teaching is often regarded as the most important part of teacher preparation (Clarke et al., 2014). The value of this experience rests on the quality of support pre-service teachers receive (Grossman, 2010). The mentor teacher plays an essential role supporting the pre-service teacher as they learn to teach, reflect on, and apply this learning. This mentorship can take many forms from balancing support in the interpersonal relationship, to providing adequate opportunities for challenge, but essentially it is the cooperating teacher designated to work with the intern during the practicum that takes on this role. Historically, the term “cooperating teacher” has been used

to suggest their role is to merely cooperate and allow a pre-service teacher into their classroom (Awaya et al., 2003; Clarke et al., 2014).

In this research study the mentor took a more active role than merely guiding the pre-service and novice teacher using mentoring strategies. The mentoring became embedded in content areas that supported the pre-service teacher's transition to practicum and novice teacher. This mentoring role becomes more influential, as s/he determines the extent a student teacher is involved in teaching and interacting with individuals; s/he also is the primary provider of feedback, an important aspect of learning to teach (Grossman, 2010). Essentially, they determine "what student teachers learn by the way they mentor" (Weiss & Weiss, 2001, p. 134). A large amount of responsibility is placed in the hands of mentor teachers, a role for which they rarely receive preparation and ongoing support (Clarke et al., 2014).

In Clarke et al. (2014) literature review of 185 articles, 11 methods are documented on how mentor teachers engage in teacher education. These categories include the following: providers of feedback, gatekeepers of the profession, modelers of practices, supporters of reflection, purveyors of context, conveners of relation, agents of socialization, advocates of the practical, gleaners of knowledge, abiders of change, and teachers of children. Although these 11 categories provide an understanding of mentoring teachers as part of teacher education, there continues to be a range of how mentors engage in their role within the categories (Clarke et al., 2014). They concluded that cooperating teachers lack specific preparation to enable high quality and developmentally appropriate support for student teachers: they tend to be underprepared for their work as mentors (p. 191), confirming once again the need for support for mentor teachers from teacher education programs.

This study further supported the need for embedding mentoring practices within teacher educational programs to better support both the mentor and subsequent mentee. A mentor teacher needs to ensure that a novice teacher receives the support to improve instruction. The strength of the mentor lies in the quality of the mentoring practices. Norman and Feiman-Nemser (2005) wrote that in order to create better classroom teachers, “we need mentors who are teachers of teaching” (p. 695). It is not enough to just be a good teacher; instead, mentors need to know how to teach teachers (Schwille, 2008). In other words, mentors are aware of teacher pedagogy and best practices. Ideally, the methods course would support the mentoring component, yet there appears to be some inconsistency to the number of methods classes required by teacher education institutions. Carver and Feiman-Nemser (2008) explained, “If mentor teachers are to promote effective teaching and learning, then they will need opportunities to learn to mentor” (p. 316). Thus, it is important to support mentors to embellish mentoring within their respective content areas, enabling them to provide a shared vision of effective mentoring for both pre-service and novice teachers.

Situated Learning Theory

The lived-in world of everyday activity becomes the site where the action is (Lave & Wenger, 1991), where identities, knowing, and communities are produced and reproduced, further identifying how people make sense of, interpret and constitute their world through practical action as a privileged position in their framework. According to Lave and Wenger (1991),

the concept of legitimate peripheral participation provides a framework for bringing together theories of situated activity and theories about the production and reproduction of the social order. These have usually been treated separately, and within distinct

theoretical traditions. But there is common ground for exploring their integral, constitutive relations, their entailments, and effects in a framework of social practice theory, in which the production, transformation, and change in the identities of persons, knowledgeable skill in practice, and communities of practice are realized in the lived-in world of engagement of everyday activity. (p. 51)

This theorizing is even more important when we consider that the teachers in our classrooms who supervise student teachers on practicum are engaged “in the generative process of producing their own future” (Lave & Wenger, 1991, p. 57). Re-thinking this concept of embedding mentoring practice means stepping away from taking social structures or individual perception as the primary elements within educational phenomena. Mentoring has always been synonymous with new or novice teachers. The first three years are where these lasting impressions of mentoring have the most impact. The need to establish this link earlier between mentoring and practice is essential.

Many educational researchers have suggested that social practices are and should be the primary objects of inquiry (Lave, 1988). This shift with regards to practice is concurrent with a general tendency in the social and human sciences where new approaches emphasizing practice and social interaction have questioned the validity of analytical accounts treating behavior as the enactment of pre-existing codes and structures (Pickering, 1995). Concepts such as structure, system, meaning, and action are no longer treated as the primary and generic social entities, but the intelligibility of these concepts is founded in social practices. What is crucial for Lave and Wenger (1991) is the way experience is seen—as experience of meaningfully structured situations. Experience is not experience of an independently and objectively given world (Dewey, 1938) but rather a reality that consists of problem situations and experiences conceived

as form of problem-solving. The major contribution of Situated Learning Theory is the notion of practice to interpret the reformulation of thinking and learning. Treating thinking and learning as something that is constituted in the lived-in-world supports the framework of embedding mentoring practices. As Carr and Kemmis (1986) argued:

...by so providing individuals with the opportunity to reconsider the beliefs and attitudes inherent in their existing ways of thinking...interpretive social theory can affect practice. Practices are changed by changing the ways in which they are understood. (p. 91)

The world as it is experienced in social practice (Lave and Wenger, 1991), the orderliness and intelligibility of human affairs are conceived as pervasively relational and agency driven. According to Lave and Wenger (1991), “learning as increasing participation in communities of practice concerns the whole person acting in the world” and “conceiving of learning in terms of participation focuses attention on ways in which it is an evolving, continuously renewed set of relations.”

What is required in situated learning, and what is relevant to embedding mentoring practices within teacher preparation programs, is paying close attention to what people do in concrete situations and the resources they employ in their activities. By observing what participants do over time, researchers can trace how their participation in the community changes and how these changes come about. The ordering of practices, identifying the roles and rules determining what counts as legitimate and appropriate action, can be identified by paying attention to what these participants are doing. This does not mean history or social structures are irrelevant, but that their version of practice-theory “insists on participation in the lived-in-world as a key unit of analysis” (Lave and Wenger 1991), and emphasize the meaning and significance

established within the social practice. As a result, this connects to the gap in the literature supporting mentoring being an established component of teacher preparation.

In order to clarify the differences between a learning curriculum and a teaching curriculum, Lave & Wenger (1991) stress the learning curriculum as one that consists of situated learning experiences or learning resources in everyday practices “viewed from the perspective of the learner.” The design of a teaching curriculum is for instructional purposes just as the learning resources are identified for same purpose. Pre-service teachers must be able to participate in the mentoring practices within their preparation giving them the ability to make critical and founded contributions to their teaching community and learning environment.

A learning curriculum is situated in a community of practice, a community in which the participants “share understandings concerning what they are doing and what that means in their lives and for their communities” (Lave & Wenger, 1991, p. 98). To participate in a legitimately peripheral way, newcomers must have “broad access to arenas of mature practice” (Lave & Wenger, 1991, p. 110). However, “productive peripherality requires less demands on time, effort, and responsibility for work than for full participants” (Lave & Wenger, 1991, p. 110), where the costs of mistakes are minimized. This concept of community of practice allows for mentoring to be included or embedded. By being exposed to mentoring within their teaching preparation community, pre-service teachers will feel more confident tackling difficult tasks, reflecting upon and synthesizing this learning with a view of ultimately becoming a proficient novice teacher.

Though much research has addressed the value of educative mentoring practices during pre-service teaching and induction, less is known about how educative mentoring. Research by Feiman-Nemser (2001b) supports the need for pre-service teaching and in turn a novice’s ability

to adequately reflect and apply these skills. Looking at the way mentors guide novice teachers to plan, teach, and reflect will be enhanced by learned educative practices and embedded mentoring practices. Mentoring is increasingly seen as a professional practice that requires mentors to “... draw from their strategic knowledge of teaching and learning to teach and their knowledge of their novice as a learner to create appropriate learning opportunities” (Schwille, 2008, p. 155). If mentoring practices are embedded in-depth earlier in teacher preparation programs, novice teachers will be in the position to ensure that these learned educative practices affect their own teaching and retention. This qualitative interpretive research examined the perceptions of pre-service teachers’ on embedding mentoring practices and the subsequent impact on a pre-service teachers’ practicum and transition to novice teacher, as denoted by Figure 3.

Educative Mentoring

Educative mentoring (Feiman-Nemser, 2001a) rests on an explicit vision of good teaching and an understanding of teacher learning. Mentors who share this emphasis can focus on novice teachers and their concerns, questions, and purposes. They ensure the long-term goals for teacher development are integral to the teaching process. The idea of educative mentoring builds on Dewey’s (1938) concept of educative experiences, which are experiences that promote rather than hinder future growth and lead to richer subsequent experiences. According to Dewey, the educator is responsible for arranging the physical and social conditions so that learners have growth-producing experiences. Dewey (1938) reiterates that experience and education are closely linked, and one needs to consider that good education, based on his theories and concepts, needs to have a clear objective for both the school community and students.

An educative mentor can take the stance of a learner, seeing themselves not only as a holder of knowledge but also as a receiver (Feiman-Nemser, 1998, 2001b), seeing the

mentor/mentee relationship as one that further develops the practices of each partner. The role of the mentor is essential to encouraging interactions between novice teachers by promoting an inquiring stance and cultivating skills and habits, that promote a novice's practical learning process. Mentors share their knowledge and expertise to guide this learning direction whilst continuing to create opportunities that support meaningful teacher learning.

Relatively little is known about what mentors try to teach pre-service and novice teachers, how they make their knowledge accessible, and what they think about their mentoring within the global educational context. The induction of new teachers in and across workplaces is a global challenge. Over the past two decades, knowledge about early career teachers' difficulties in the transition to teaching has increased as empirical research has revealed the importance of workplace mentoring as a supportive strategy for beginning a new job (Hobson et al., 2009; Wang et. al., 2002; Schwille, 2008). Embedding mentoring practices further supports mentor teachers in defining their role and establishing how to effectively function within a shared mentoring capacity. Educative mentoring continues to drive current studies internationally.

Julia Mackintosh, Senior Lecturer in ITE, University of Hertfordshire, is researching the use of tools to support teachers in their mentoring work. Initial teacher education (ITE) in England has increasingly become school-based, with teachers acting as mentors, making an ever-greater contribution to the education of new teachers. Mackintosh (Educative mentoring, 2019) sees a growing need to support teacher-mentors as they undertake this role, recognized at policy level, with the publication of the Early Career Framework for beginning teachers (DfE, 2019) and non-statutory Standards for Mentoring (DfE, 2016). Leading a School Direct ITE course, a school-led route into teaching, even greater responsibility for the training process has been put into class-teacher's hands. Mackintosh (Educative mentoring, 2019) supports teachers who

undertake this complex and important role and thus outlines changing ideas about mentoring. She considers how the adoption of a more collaborative approach, specifically educative mentoring, might benefit not only student-teachers, but also their teacher-mentors.

Feiman-Nemser (1998, 2001b) was the first to coin the term “educative mentor” when analyzing the mentoring practices of Pete Frazer, an “exemplary support teacher” who was a “legend in his district.” In her study, Sharon Feiman-Nemser (2001b) uses educative mentoring to distinguish this 30-year veteran teacher’s approach to mentoring from more conventional approaches that emphasize situational adjustment, technical advice, and emotional support (Little, 1990).

The research done by Frazer was part of the Teacher Education and Learning to Teach project, sponsored by the National Center for Research on Teacher Education at Michigan State University and carried out between 1985 and 1990. The project combined case studies of 11 teacher education programs (pre-service, induction, in-service, and alternate route) with longitudinal studies of teachers’ learning. By reinforcing theoretical ideas in context, Frazer was able to novices develop usable knowledge and principled understandings believing that teachers need a deep understanding of how children learn, enriched by theoretical knowledge and informed by firsthand experience. This learning became part of his induction curriculum for beginning teachers (Feiman-Nemser, 2001b).

Teacher-mentors arrange experiences for student-teachers that provide opportunities to develop perspectives, beliefs, and knowledge about teaching and learning (Schwille, 2008). In her analyses of Frazer, Feiman-Nemser (2001b) noted how he became an “educational companion” for his mentees as he engaged in “joint work” with them. Through probing, explaining, and justifying their practices, he enabled his student teachers to learn from one

another as they solved authentic teaching tasks. Feiman-Nemser recounted how Frazer combined “thinking aloud” with demonstration teaching. In this way, he could help his mentees visualize how experienced teachers enact specific values and principles. He encouraged his novice teachers to focus their attention on how pupils thought, encouraging them to use this valuable source of information to inform their understanding of teaching and learning. By making connections between theory and practice, Frazer worked with his mentees to identify immediate problems of practice whilst keeping the long-term goals of teaching current. During an interview, Frazer (Feiman-Nemser, 2001b) discussed how he wanted to be a co-thinker with his teachers, so that he could help them to see new perspectives, new ways to solve the problems they have.

These mentoring practices and experiences can be described as purposefully and intentionally shaping a range of learning opportunities for his mentees, leading them towards a better understanding of teaching and learning. Frazer offers a clear example of what educative mentoring should look like in the educational field (Feiman-Nemser, 1998). Informed by the work of Feiman-Nemser and the wider literature base, key educative mentoring activities support the archetypes of mentoring as an embedded practice specific to this research.

Mentoring as situated inquiry

Teaching should be viewed as a process of inquiry where teachers learn within, and from, teaching. The different approaches to practice are trialed, followed by in-depth talks between mentors and mentees, and used to focus on a problem of practice and emphasize situational adjustment, technical advice, and emotional support (Little, 1990).

Mentoring as joint work

Mentors and mentees are viewed as co-learners, engaged in social activities that have meaningful products. The mentees absorb this learning from doing and talking about work

together. The knowledge of both partners is applied in developing new teaching ideas. Each partner revises the previous ideas and envisions new ones that they would not have developed working on their own thus ensuring mentoring “pinpointed problems,” a critical tool in joint problem solving and continuous improvement (Feiman-Nemser, 1998).

Mentoring as “thinking aloud”: Articulation of the reasoning behind teaching

Mentors visibly and explicitly take what usually would be invisible and implicit, and by articulating their thoughts, questions and wonderings make reflections on their own teaching more visible and applicable. By encouraging teachers to explicate their practice, Frazier fostered an analytic stance and precision that is unusual in discourse among teachers (Feiman-Nemser, 1998).

Mentoring as a practice that foregrounds pupil learning

Using lesson observations and subsequent debriefing, teachers then focus on pupil-specific learning needs and goals. This pupil thinking and work is used as a source of knowledge about teaching and learning, creating a more reciprocal collaborative experience. Student thinking and sense making of content is as invaluable feedback to the teacher and a rich source of ideas for curriculum development (Feiman-Nemser, 1998).

Mentoring as a “bi-focal” practice: Addressing the long-term goals of novices as well as short-term concerns

Mentors endeavor to work out what novices need to learn and may use a combination of showing and telling, asking and listening to pinpoint problems of practice. Specific “high-leverage” practices are to help the mentee learn that specific pedagogical practice and apply the transfer of skills. Dialogue transitions from specific events in the classroom are linked to larger teaching issues with mentors making use of a repertoire of “mentoring moves” both inside and

outside the act of teaching. These mentoring activities are further investigated by Bradbury, (2010), Feiman-Nemser (1998, 2001b), Feiman-Nemser & Beasley (1997), Norman & Feiman-Nemser (2005), Schwille (2008), Stanulis et al., (2012), Stanulis et al. (2018), Trevethan & Sandretto (2017), and Wexler (2019).

Educative mentoring therefore reflects a constructivist-oriented model of mentoring that supports embedding these practices. This learning becomes an active process with pre-service and novice teachers constructing their own knowledge by connecting this new information to their prior experiences within the social community. Educative mentors base their practice on the principle that learning to teach requires creating learning opportunities that involve the mentee in his or her “zone of proximal development” (Vygotsky, 1978). As Schwille (2008) describes it, educative mentors attend to both the here and now and the direction that the novice’s learning is going and have a bi-focal vision of learning to teach.

Benefits of Educative Mentoring

Educative mentoring benefits both pre-service and mentor-teachers when compared to more traditional approaches. Wexler (2019) outlines the traditional mentor pathway sharing their plans with their mentees, describing activities, and giving constructive lesson plan feedback. Educative mentors can guide student-teachers in understanding the essential pedagogy behind planning by engaging in collaborative co-planning and making their thoughts and decisions explicit and visible.

Trevethan (2017) describes how educative mentors encourage novices to participate in professional conversations by using questions to probe their understanding and by encouraging them to reflect on their practice, helping them to understand the value of learning from and about their teaching (Schwille, 2008). The benefits of educative mentoring include opportunities in

which pre-service teachers engage in the authentic task of collaboratively teaching and reflecting with a more experienced teacher and perceive these educative mentoring experiences as contributing positively to their novice teacher identity and feelings of success.

Educative Mentoring as an Embedded Practice

The role that mentors play is deeply complex, situated, and layered. In order to learn about this role, mentor development needs to be similarly nuanced and intentional (Gardiner & Weisling, 2016). Learning to mentor is not simply being trained to apply different activities, it is a process of developing practice based on a conceptual stance toward mentoring (Schwille, 2008). For educative mentoring to be enacted, based as it is on ideas of reciprocity, trust, and open-mindedness, a culture that supports the negotiation of power differentials is required (Trevethan & Sandretto, 2017).

Time is needed to change traditional images of expert-novice interactions (Ambrosetti, 2014). Embedding of mentoring practices are required to encourage a vision of mentoring that aligns with educative goals (Gardiner & Weisling, 2016). Guidance on how to facilitate this reflection process, structure discussions of practices (Bradbury, 2010), and further support pre-service and novice teachers while at the same time reflecting on how students think and apply this to their lesson planning (Stanulis et al., 2018), will be essential.

Pre-service and teacher-mentors need embedded mentoring opportunities to transition pedagogical learning from abstract discussions to practical applications. The dedicated mentee can thus ensure the development of educative skills are instilled within co-planning, observing, debriefing, and analyzing pupil work (Stanulis et al., 2018), supported by mentors who proactively adapt to the needs of novice teacher learning while continuing to work towards a vision of good practice. Educative mentoring has also been reported as encouraging student-

teachers to embrace complex practice and ambitious teaching rather than favoring “safer” options (Feiman-Nemser, 2001a, p. 1029) of more traditional teaching methods. The focus now shifts from teaching performance to pupil learning (Stanulis et al., 2018). The components of mentoring contain co-planning, co-teaching, critical conversation, and reflection, all of which are focused on continuous improvement in teaching (Feiman-Nemser, 1998, p.73). Educative mentoring supports this improvement by offering possibilities for teacher-mentors to also grow professionally at their respective level of practice (Schwille, 2008, p. 164). Educative mentors advise towards a high-leverage practice, and then focus their work on helping the novice learn the practice (Stanulis et al., 2012). In educative co-planning, the mentor makes their thoughts and decisions explicit and visible (Feiman-Nemser & Beasley, 1997; Schwille, 2008), spending time to explore content together with the novice teacher and throughout, remains focused on pupil needs and learning goals (Feiman-Nemser & Beasley, 1997).

Mentoring within PCK Components

Pedagogical Content Knowledge (Shulman, 1986) continues to be the focus of universal educational research, with the consensus being that Pedagogical Content Knowledge (PCK) influences both teaching and learning. Not only do components of PCK drive pre-service candidates in their learning, they also guide their pedagogical practices and delivery of the subject matter.

Lee Shulman’s 1986 article gave a general description of PCK components:

...the most regularly taught topics in one’s subject area, the most useful forms of representation of those ideas, the most powerful analogies, illustrations, examples, explanations and demonstrations—in a word, the ways of representing and formulating the subject that make it

comprehensible to others... Pedagogical content knowledge also includes an understanding of what makes the learning of specific topics easy or difficult: the conceptions and preconceptions that students of different ages and backgrounds bring with them to the learning of those most frequently taught topics and lessons. (p. 9)

What is missing from this discussion is the impact of mentoring on ways of representing and formulating the subject that make it intelligible to the learning process. The need to embrace the philosophy that mentoring standards be incorporated into PCK in terms of conceptions and preconceptions is clarified in Figure 3. Mentoring would inherently guide pre-service and novice teachers to make connections within the concepts and across disciplines addressing common student misconceptions. PCK is not something that only good teachers possess; to the contrary, it is something that all who communicate ideas to others must have (Shulman, 1986). Mentoring as a sub-component of PCK would allow for another layer of knowledge and support for pre-service and novice teachers.

It is important to ensure that mentoring standards become embedded in the fundamental pedagogical components that support the development of teachers' theoretical and pedagogical knowledge and further guide teachers' abilities to evaluate and self-reflect. Structured professional development programs such as mentoring can continue to foster development of PCK in beginning teachers as teacher education cannot possibly teach them everything they will need to know as professionals (Grossman et al., 2005). By highlighting a few areas of focus an amalgamation of content knowledge and pedagogy, Shulman (1986), identified areas in which mentoring was embedded and made an impact on pre-service and novice teachers. Exploring

how early enactment of these specific mentoring tools could be supported and grounded in relevant practices for pre-service teachers, the following Knowledge areas were identified.

Within the Knowledge of Content Area, it is assumed that apart from the content and nature of the content, embedding of mentoring into teaching practices and content processes would result in teachers valuing this as a contribution improving their knowledge about teaching, regarding it as an intellectual activity. The Knowledge of Goals encompasses not only content literacy but real-life application and integrated understanding through mentoring practices which contribute to enhancing the practical knowledge through its proposal for an epistemology of practice. When identifying the Knowledge of Students, the assumption is that the teacher builds knowledge in the classroom through contact with their students that is distinctive from the formal knowledge learned within the academics. The mentoring process thus allows for guided differentiation at different levels, understanding the needs, interests, and prior knowledge needed for content learning progressions.

Knowledge of Curriculum Organization is an essential component shared through mentoring ensuring the knowledge base, curriculum and hierarchy of the knowledge supports the purposes of teaching a specific content. Knowledge of State and local standards, state and local standardized tests, making connections between lessons and units, organizing lessons in specific order, making decisions about what to teach, are essential components supported through the embedded mentoring design.

When identifying the Knowledge of Teaching, varying teaching methods, the practical knowledge of teachers to use motivating activities, the ability to select effective activities point to the relevance of reflection in this mentoring process. Knowledge of Assessment, formal and informal ways to assessment, identifying the skills for students' discussion and questioning, and

eliciting immediate feedback are qualities supported by mentoring practices. Finally, the innate Knowledge of Resources Materials, activities, multimedia, local facilities, content technology, and content magazines can be generated through the process of supervision, support and collaborative self-development of mentoring. Just as Shulman (1986) characterized PCK as developing over time in teaching practice, an early intervention of mentoring within teacher preparation programs could be provided through mentor-guided, explicit practice in noticing, reflecting, analyzing, and responding in thoughtfully adaptive, culturally relevant ways.

Further support for the inclusion of embedding mentoring into PCK comes from Shulman (1986), who states, “Teachers need to master two types of knowledge: (a) content, also known as “deep” knowledge of the subject itself and (b) knowledge of the curricular development” (p. 12). Shulman’s (1987) Model of Pedagogical Reasoning is comprised of six activities representative of good teaching. These include comprehension, transformation, instruction, evaluation, reflection, and new comprehension. Comprehension is defined as purpose, structure, and ideas both inside and outside of the discipline, and it is within the “new-comprehension” activity that mentoring needs to be at the forefront of the conversation.

Supporting this concept, Schwille (2008) offers a temporal framework of “inside” and “outside” the action of teaching to describe a range of mentoring practices reflecting an educative stance. “Inside” the action of mentoring occurs when teachers are working with students, whereas “Outside” occurs before or after instruction. This framework can offer broader conceptualization of transferable mentoring possibilities within PCK as it is this transformation that intersects content and pedagogy, a hallmark characteristic of the concept.

Shulman (1987) further delineates transfer as “the most useful forms of representation of these ideas, the most powerful analogies, illustrations, examples, explanations and

demonstrations—in a word, the ways of representing and formulating the subject that make it comprehensible to others” (p. 10). As a result of the new process, comprehension, supported by an embedded mentoring practice, requires a more developed sense of educational purpose, subject, students, and pedagogy,

Castanheira's (2016) metasynthesis of 37 papers on mentoring in education revealed that mentoring can lead to mentees' increased job satisfaction, better use of classroom time, and higher levels of confidence. Mentoring can also increase teacher commitment and retention, and improve novice instructional practices (Ingersoll & Strong, 2011). Additionally, the quality of mentoring a novice receives matters for the learning of their pupils (Stanulis & Floden, 2009).

In a large-scale experimental study of 1,009 beginning teachers, Glazerman et al. (2010) found no influence on instructional practice nor pupil achievement for teachers who received a year of comprehensive induction support that included mentoring. The teachers who received more induction support, however, did report feeling more satisfied and confident in their ability to self-reflect. A quasi-experimental study of 83 novice elementary teachers provided a mentoring intervention (Stanulis et al., 2012). Using the high-leverage practice of facilitating text-based discussions to the treatment group of half the teachers, he compared them to the control group who did not receive mentoring support. This study focused on this one specific form of practice, whereas the Glazerman et al. (2010) study provided a more generic mentoring format and found that teachers who received focused, intensive mentoring grew significantly more in the complex practice of discussion facilitation when compared to the control group. This supports Bradbury's (2010) argument that working with an educative mentor, one who is trained in the pedagogy of mentoring, is one way to help novices “enact their reform-based visions, hopefully setting the stage for long-term inclusion in their teaching routines” (p. 1055).

Traditional Mentoring

How the mentor engages in these practices may look different in a traditional versus educative mentoring setting since the practice of co-planning is essential to planning an essential task (Feiman-Nemser, 2001a). Traditional mentors are those who tend to give feedback by bestowing advice and restricting opportunities for professional discourse and even growth. A traditional mentor is one who provides emotional support and helps novices address their immediate teaching needs (Bradbury, 2010). Mentors often share lesson materials, provide advice, and help the novice problem solve (Bradbury, 2010). Mentors enacting traditional practices may remain focused on the short-term needs of the novice instead of also helping the novice set developmentally appropriate long-term goals (Bradbury, 2010; Feiman-Nemser, 2001b). Even though there is a need for traditional co-planning, this alone is not enough to develop novices who can be independent decision-makers (Pylman, 2016).

Traditional mentoring practices addresses the real complexity of teaching, supports inquiry of practice, draws on pupils and their work to develop plans and implement instruction, and connects theory to practice (Feiman-Nemser, 1998, 2001b; Norman & Feiman-Nemser, 2005). In contrast, an educative mentor takes a stance of the learner and sees themselves not only as a holder of knowledge, but also as a receiver. They view this as a reciprocal mentor/mentee relationship, an essential component of mentoring practices.

Reciprocal Mentoring

Although the literature may indicate an in-depth body of work using definitions of embedded mentoring, reciprocity needs to be addressed in a manner that supports both mentee and mentor. When narrowing the definition of a peer to not merely “a fellow student at any stage of their education” but specifically a teaching colleague peer with the same needs and at the

same level in the educational program (Ambrosetti & Dekkers, 2010; Helgevold et al., 2015), the existing literature gap becomes visibly evident.

There is literature that documents the value of educative mentoring (Norman & Feiman-Nemser, 2005) and the importance of preparing mentor teachers, yet there is limited research on how to support a mentor in embedding educative mentoring into teacher preparation programs to support pre-service teachers in instructional practices during practicum and hence their transition to novice teacher. Additionally, research typically focuses either on the experiences of the mentor teacher (Feiman-Nemser, 2001b) or experiences of the student teacher rather than drawing on evidence from both individuals, enhancing the reciprocal relationship.

This narrow definition of mentoring does exist, however briefly, as shown by Terrion and Leonard (2007), McLoughlin et al. (2007), Le Cornu (2005), and Le Cornu and Ewing (2007), who define mentoring as being between “two individuals of similar age/experience [who] come together in the pursuit of fulfilling ... functions that are career related” (Terrion & Leonard, 2007, p. 149). This specific situation, in which the parties are equal in terms of knowledge, needs, and social power, promotes mutual benefit, interaction, and support for both parties—a helping relationship (Ambrosetti & Dekkers, 2010).

Rather than being a source of knowledge or advice, which would invoke a hierarchy, this mentoring relationship can be “a two-way exchange of listening and questioning” (Boreen & Niday, 2000, p. 153), which should lead to knowledge co-construction and reflection. The quintessential idea of reciprocity solidifies the mentoring relationship deeply. It should be noted that, according to the literature, “the effectiveness of mentoring ... is assumed rather than demonstrated” (Rodger & Tremblay, 2003, p. 3). This gap in existing literature may be filled by

practices supporting embedding the concept of mentoring practices earlier in the pre-service teacher's learning journey.

Role of Mentoring in edTPA

Teacher preparation programs have begun to develop interventions specifically to scaffold the addition of the Educational Teacher Performance Assessment (edTPA) to a pre-service teacher's certification requirements. According to its creators at the Stanford Center of Assessment, Learning and Equity (SCALE), the goal of edTPA is to assess teachers' "knowledge and skills required to help all students learn in real classrooms" (AACTE, 2013).

This study noted that the requirements of this portfolio can be overwhelming for pre-service teachers and thus collegiate support is required in order to achieve the desired outcome without succumbing to the anxiety it generates. edTPA regulations, however, do not allow for editing of the final document by anyone, including the professor, supervisor, cooperating teacher, or peer (Furness, n.d.). "Peers cannot provide feedback on the edTPA a candidate plans to submit" (AACTE edTPA online forum), but "peer support on the edTPA portfolio is acceptable." This presents a contradiction, one that is fundamental to the major goals of mentoring.

Teaching is often viewed as a collaborative, reciprocal profession where pre-service teachers learn to teach in contexts of collaboration, support, and communication with their faculty, cooperating teachers, and peers. Embedding mentoring practices within teacher education programs will open conversations previously avoided. Collaboration between candidates, instructors, and peers should not be restricted to didactics alone. By reflecting and learning from experiences within both universities and schools, edTPA requirements will be less stressful. Under normal circumstances, peer editing, giving feedback, and even providing direct

edits support the notion of collaboration. A solution is needed to providing candidates with alternative answers to edTPA prompts outside of the acceptable support guidelines (Miletta, 2014).

One proposed solution, agreed upon by several teacher education programs, is to have pre-service teachers create a mock submission. This would enable collaboration with their peers, along with college faculty, and can result in certain types of feedback (Furness, n.d.; Miletta, 2014), except providing specific, alternate responses and wording (Miletta, 2014). According to Lesh (2013), in order to mirror real-world collaboration, candidates have turned to peers to support each other (Furness, n.d.; Miletta, 2014) while at the same time staying within the allowed formats of feedback (Miletta, 2014). The Miletta (2014) study was able to capitalize on these interventions as peer mentoring protocols were implemented allowing 15 participants to write mock drafts of their edTPA portfolios. This mentoring was reciprocal in its nature, giving and receiving support, in an official sanctioned and emotional manner. Reciprocal, embedded mentoring is perfectly placed to support pre-service teachers in a way that traditional mentoring supports are not able to, as per edTPA guidelines.

Necessary Components of a Mentoring Program

Supporting mentoring methodology within the Methods of Teaching coursework are the designs by Kemmis et al. (2014), namely mentoring as supervision, support, and as collaborative self-development. Shifting from the “classical” view of mentoring to develop professional knowledge, skills, and value to supervising new teachers as they pass through a probationary phase en route to full registration as teachers (Kemmis et al., 2014) will be embedded within these mentoring practices (p. 156). When practicing mentoring as support, a mentor becomes the “helpful professional colleague” likely to develop a disposition towards continuing professional

development and as collaborative self-development, mentor-mentees may develop dispositions towards engagement in a professional community committed to individual and collective self-development (Kemmis et al., 2014). The teaching profession needs to consider closely what forms of mentoring that are most appropriate, when, for whom, and under what circumstances. As Kemmis et al. (2014) emphasize, “What are at stake in these decisions are the dispositions that new teachers will form in the first years of their careers, not only as individuals but also as members of the profession” (p. 157).

The literature continues to support a list of necessary components for a mentoring program that considers closely what forms of mentoring are most appropriate, when, for whom, and under what circumstances.

- A communal time to meet and/or discuss (Barrera et al., 2010; Hobson et al., 2009; Robbins, 1991)
- The proximity of mentee to mentors (Barrera et al., 2010)
- Selecting and pairing a good mentor (Hobson et al., 2009)
- Placements including clarification of roles (Colvin & Ashman, 2010)
- Knowledge of collaborating, mentoring, coaching, and adult learning strategies (Barrera et al., 2010; Flynn & Nolan, 2008; Hobson et al., 2009)
- Deliberate mentoring focus (Robbins, 1991)
- Focusing on norms of politeness, absence of challenges on competence (Robbins, 1991)
- Reciprocity (Le Cornu, 2008; Robbins, 1991)
- Artifact production (DuFour et al., 2004).
- Transforming mentoring practices to develop new or different kinds of dispositions in new teachers being mentored (Kemmis et al., 2014).

Identifying mentoring practices necessary to strengthen the naturally occurring and incidental benefits of mentoring within teacher education programs, will continue to drive the inquiry into this qualitative interpretive research.

Embedded Reflection

Reflection, reflective teaching, or being a reflective practitioner has been a common goal for teacher education programs since John Dewey (1933) first described his model of reflective practice (Hatton & Smith, 1995). Four principles or descriptors of reflection were proposed in Dewey's (1933) original work, the first being whether reflection is limited strictly to thought or whether it goes beyond thought into action. The second descriptor is the timeframe in which the reflection took place, as in short term or extending beyond the immediate concerns. The third is the motivation for reflection, whether problem-centered or not, and the fourth examines the practitioner's intent when including historic and cultural viewpoints. This final criterion has also been termed "critical reflection" (Gore & Zeichner, 1991) and links to this research discussion by virtue of that fact that embedding mentoring practices will provide ways to analyze practices and to discover the conditions that make particular kinds of mentoring practice possible.

The goal is not merely reflection but a change in action based on that reflection (Gore & Zeichner, 1991; Hatton & Smith, 1995). When asked about which tasks they found useful for promoting reflection, students reported individual preferences for either written (Zeichner, 1987) or oral communication (Shoffner, 2009). This draws attention to the need for multiple opportunities with various formats, with students reporting that the presence of a peer was useful (Hatton & Smith, 1995). Reflection is "deliberate thinking about action with a view to its improvement" (Hatton & Smith, 1995, p. 34).

Smith and Hatton outlined four distinct types of writing, three of which can be characterized as demonstrating evidence of reflection. These four refer to descriptive writing, descriptive reflection, dialogical reflection, and critical reflection, which map back onto Dewey's (1933) reflective categories and can be operationalized into a coding system for data analysis. As to where pre-service teachers normally fall into these reflective categories, "instructional skills tend to be the dominant issue during the first weeks ... with concerns shifting from self-oriented to student-oriented" (Lee, 2005, p. 713), and topics shift from focused on themselves to a more outward focus as the student teaching experiences progress (Beattie, 2009).

Reflection can and should be taken as a precursor to changed actions, as stated by Danielewicz (2001). These actions identify reflexivity as an act of self-conscious consideration that can lead people to an in-depth understanding of themselves and others, not in the abstract, but in relation to specific social environments. This fosters a more profound awareness of how social contexts influence who people are and how they behave. It involves a person's effective investigation of past situations, events, products, with the inherent goals of critique and revision for the explicit purpose of achieving an understanding that can lead to change in thought or behavior (Danielewicz, 2001).

Embedded Self-efficacy

Bandura (1977) lists four major influences on self-efficacy in his theory of social learning: experiences, persuasion, vicarious experiences, and physiological and affective states. People who are motivated to perform an action, and believe in that action, will have a favorable result, an outcome expectancy, and, if confident, can perform the task successfully, namely self-efficacy (Bleicher, 2004). Both outcome expectancy and self-efficacy can be used as predictive measures of motivational theory within teacher performance. The third influence focuses on the

vicarious experiences with reference to an experience where the goal activity is performed by someone else with whom the teacher has a familiar relationship and with whom they feel they share a common level of competency. “The attainments of others who are similar to oneself are judged to be diagnostic of one’s own capabilities” (Bandura, 1977, p. 87).

Physiological and emotional states may influence one’s feelings of efficacy toward a task. If a teacher is feeling stressed or anxious, this may lower their self-efficacy, whereas feelings of happiness and capability may raise their efficacy. Measuring teacher self-efficacy and outcome expectancy is the next step in embedding mentoring practices to analyze teacher preparation and endeavor to supplement their academic program. Efficacy should be a multi-faceted, complex construct that can be applied in many ways to examine countless mentoring situations. As it relates to this research study, a few additional considerations are the role of teacher education faculty, particularly a focus on pre-service teacher self-efficacy determinations. In Rushton’s (2003) study, he found pre-service teachers’ efficacy beliefs increased due to the support they received from teacher colleagues, and he attributed this to an increase in their abilities to cope with and process their doubts. Chester and Beaudin (1996) found similar increases when first-year teachers were given opportunities to collaborate and debrief with mentors.

Literature Related to Research Methodology

The overarching design of this qualitative research study would be interpretive in nature, aiming for particularizability, not generalizability (Erickson, 1986). At the core of interpretive research is the search for local meaning (Borko et al., 2007). Utilizing a qualitative framework based on the social constructivist epistemology of inquiry, as described in Figure 3, will permit embedding mentoring practices within Methods of Teaching curricula to be explored. Merriam

(2009) indicated that qualitative research is a methodology focused on discovery, insight, and understanding from the perspectives of those studied. By conducting a research study of this nature, it will be possible to describe, analyze, and interpret the specific features of mentoring, preserving its complexity and communicating the perspectives of participants, in this case, the pre-service teachers. Interpretive researchers (Borko et al., 2007) attempt to capture local variation through fine-grained descriptions of settings and actions, and through interpretation of how actors make sense of their sociocultural contexts and activities.

Interpretive studies of teaching and teacher education came to the fore as the shortcomings of process–product research became more apparent (Shulman, 1986). In the 1980s, interpretive studies gave the field of education an image of teaching as a “complex intellectual endeavor that unfolds in an equally complex sociocultural context” (Borko et al., 2007, p. 4) with the increased diversity of student population. As the diversity of the student body changed, teachers needed to make sense of the sociocultural organization and development of students whose lived worlds and experiences were different from their own. Inquiry into how beginning teachers learned to teach and how teacher educators’ practice shaped teacher candidates’ learning was established. This redefined purpose, according to Borko et al. (2007), is well suited for an interpretive approach and this research.

The implications of this qualitative interpretive research study aimed to improve teacher education practice, self-reflection, and self-advocacy. This would impact the components of teacher education such as subject matter preparation, foundations and methods courses, and field experiences. The interpretive nature of the research would allow the data to be described, analyzed, and interpreted by applying the practices of embedding mentoring. Consistent and distinguishing features of this interpretive research include the privileging of “insiders”

perspectives (Borko et al., 2007) and a focus on understanding sociocultural processes in natural settings in which individuals learn to teach (p. 4). Researchers have continued to emphasize a perceptive approach, through gaining insight directly from those who experienced the event or situation. These approaches contributed to the academic knowledge base and various industry practices. Qualitative research uses a naturalistic approach that seeks to understand phenomena in context-specific settings, such as "real world setting [where] the researcher does not attempt to manipulate the phenomenon of interest" (Patton, 2001, p. 39).

The baseline characteristics guided this qualitative interpretive inquiry further as the goal was to gain insight, make sense from multiple perspectives, and identify themes that were transferrable to the knowledge base and mentoring teaching practices. Through the three conceptual frameworks a baseline of assumptions was provided on ways mentoring works in context to this research study. The research was an inductive-emerging use of theory essential to the framework of this study with the design generating ideas that remained open and emergent as the research study unfolded. The participants relied on real-world situations within their educational environmental contexts and settings. The credibility of a qualitative research depended on the ability and effort of the researcher. The coded data would communicate the perspectives of the participants and be supported through the results.

As the researcher was the primary instrument used to analyze the various data sources which were utilized to triangulate findings, lending credibility to the outcomes. Patton (2002) supports the notion of researcher's involvement and immersion into the research by discussing that the real world is subject to change and therefore, a qualitative researcher should be present during the changes to record an event after and before the change occurs. This open-ended perspective in constructivism adheres with the notion of data triangulation by allowing

participants in a research to assist the researcher in the research question as well as with the data collection.

This research study ensured an accurate interpretation of the coding and data that added value to educational knowledge base and further supported an essential educational practice necessary to embellish novice teacher experiences and prevent teacher attrition. The research was principally devoted to the roles of the participants and the supports that mentor teachers provided and how these roles and supports were perceived by the mentees. This literature also solidified the existence of a gap in pre-teacher training programs and lack of interventions for supporting the perceptions on embedding mentoring supports essential to teacher preparation.

This research study thus reiterated the need for inquiry research to address the gap which exists in mentoring practices being embedded within teacher preparation programs. Broadening researcher's knowledge and including other stakeholders may yield important findings which link current policy demands to teacher preparation programs and student learning.

To address this gap, the perceptions of pre-service teachers were analyzed to assess the overall impact of mentoring practices during the Methods of Teaching class and the effectiveness of these practices on pedagogical skills. According to Pajares (1992), participants' perceptions of mentoring relationships have not been sufficiently studied due to the difficulty of uncovering perceptions that are not explicitly known or articulated (Wang, 2000).

The primary research questions for the study were as follows:

RQ 1: What were pre-service teachers' perceptions on embedding mentoring practices within teacher preparation programs to support pre-service teacher candidates?

RQ 2: What were pre-service teachers' perceptions on embedding mentoring practices to support pre-service teacher candidates as they transition to novice teacher status?

RQ 3: What were pre-service teachers' perceptions on how embedded mentoring practices contribute to mentors being better prepared to support novice teachers?

RQ 4: What were pre-service teachers' perceptions on how embedding mentoring prevents novice teacher attrition?

Summary and Conclusion

The rationale behind Chapter 3 was to explore the perceptions of pre-service teachers on embedding mentoring practices within teacher education programs, specifically Methods of Teaching. This research study endeavored to identify these practices essential to the development and progressions of pre-service teachers through their educational journey. Because of the emphasis on mentoring practices critical to impacting teaching performance, the frameworks of educative mentoring (Feiman-Nemser, 1998), situated learning theory (Lave & Wenger, 1991), and the Magnusson, Krajcik, and Borko (1999) PCK model were effective ways to explore these perceptions. By embedding mentoring practices, the expectation was that reform-based practices would be supported and sustained as pre-service teachers transitioned into their own classrooms and became a part of their teaching community.

By reflecting on the process of embedding these practices and considering the perceptions of pre-service teachers, this research aimed to describe, analyze, and interpret features of a specific situation, preserving its complexity and communicating the perspectives of participants (Borko et al., 2007). It was critical to this research that mentoring practices were identified early in teacher education programs to ensure pre-service teachers could transfer this knowledge to the school environment both as a pre-service and novice teacher. The issues of credibility, transferability, and dependability that ensured this interpretive qualitative study adheres to the principles of an in-depth case study research are discussed in this next chapter.

Chapter 3 Research Method

The purpose of this qualitative research study was to explore the pre-service teachers' perceptions of embedding mentoring practices into the Methods of Teaching class. Maxwell (2013) suggests that through qualitative research we are "interested not only in the physical events and behaviors that are taking place, but also in how the participants in your study make sense of these, and how their understanding influences their behavior" (p. 22). The study identified how pre-service teachers comprehended their experiences and the meanings they attributed to their mentoring experiences. Studies within the interpretive genre have given teacher educators a more "nuanced understanding of teacher candidates as learners, and a complex portrait of the impact of teacher education programs and teacher educators' practices on candidates' learning to teach" (Borko et al., 2007, p. 4).

This chapter discusses how a qualitative study, interpretive in nature, assessed pre-service teachers' perceptions of embedding mentoring practices within teacher preparation programs. A logical extension of this understanding of teaching practice was inquiry into how beginning teachers learn to teach redefining the purpose for inquiry in teacher education—what Cochran-Smith and Fries (2005) called the "learning problem"—is well suited for this interpretive approach (Borko et al., 2007).

Firstly, the researcher provided a Methodological Synopsis necessary to appreciate why the utilization of a qualitative framework, based on interpretive research would guide the purpose of this study. The second area within this methodology chapter focused on Context and Participation Selection. This described the rationale for the selection of the context of the study and the criteria for selection of the study participants. The third section addressed Recruitment, Participation, and data collection, identifying essential data sources and data collection methods.

Data analysis continued in the following section detailing the specific procedures that were utilized for analyzing the data collected during this study. The final section focused on describing the strategies utilized to ensure the trustworthiness of the research. This research study needed to ensure an accurate interpretation of the coding and data to add value to educational knowledge base. This chapter supports the methodology chosen for embedding mentoring components, and relative data, to be analyzed within the confines of the three frameworks.

Research Design and Rationale

This research design and rationale utilized a qualitative interpretive approach seeking to inquire, define, analyze, and interpret features of a phenomenon whilst “preserving its complexity and communicating the perspectives of participants” (Borko et al., 2007). This qualitative research provided the opportunity to investigate social problems by delving into the experiences, setting, and points of view of study participants who give insight into the meaning they assign to the problem being studied (Maxwell, 2013). As a situated activity, qualitative research brought clarity to participants’ roles using interpretative materials (Denzin & Lincoln, 2011). The research was organized around the belief that reality is ever changing and socially constructed echoed by Flick et al. (2004), in that reality is created interactively and becomes meaningful, subjectively, and is transmitted and becomes effective by collective and individual instances of interpretation.

Methodology

Using interpretive qualitative research (Merriam, 2009) permitted this researcher to understand how pre-service teachers evidence their perceptions of mentoring within a teacher preparation program, specifically Methods of Teaching coursework. Teacher educators have

relied on interpretive research to answer questions about how teacher candidates make sense of learning to teach and manage the complexities of teaching and learning (Borko et al., 2007). This was referenced through beliefs and contributions of what occurs within methods courses, field experiences, the practices of teacher educators, and features of high-quality teacher preparation programs. Studies within the genre of interpretive design have given teacher educators a more “nuanced understanding of teacher candidates as learners, and a complex portrait of the impact of teacher education programs and teacher educators’ practices on candidates’ learning to teach” (Borko et al., 2007).

RQ 1: What were pre-service teachers’ perceptions on embedding mentoring practices within teacher preparation programs to support pre-service teacher candidates?

RQ 2: What were pre-service teachers’ perceptions on embedding mentoring practices to support pre-service teacher candidates as they transition to novice teacher status?

RQ 3: What were pre-service teachers’ perceptions on how embedded mentoring practices contribute to mentors being better prepared to support novice teachers?

RQ 4: What were pre-service teachers’ expectations on how embedding mentoring prevents novice teacher attrition?

Applying interpretive research as a method utilized an inquiry design that focused on “(1) how people interpreted their experiences, (2) how they constructed their worlds, and (3) what meaning they attributed to their experiences” (Merriam, 2009, p. 23). Reiterating the importance of specific features consistent with interpretive research, such as the privileging of “insider’s” perspectives and a focus on understanding sociocultural processes in natural settings in which individuals learn to teach (Borko et al., 2007), solidified the purpose and choice of this research design.

Qualitative research demarcates the processes used by participants to attain the meaning they affix to the issues studied (Merriam et al., 2016) in seeking to understand the problem identified to ultimately improve practices. Conducting a qualitative research design for this study gave voice to silenced voices (Creswell, 2013). Participants' voice and discourse were critical to capture, as were recorded interactions, interviews, and online questionnaire. An interpretive qualitative design supported this inquiry into discovering the experiences and understanding the meaning of these experiences by the participants, in "how people interpret their experiences, how they construct their worlds, and what meaning they attribute to their experiences" (Merriam, 2002, p. 38). Qualitative research communication took on a predominant role, in methodological terms, this meant that strategies of data collection themselves had a communicative dialogic character. The formation of theories, concepts, and types in qualitative research itself are explicitly seen as the result of a perspective influenced reconstruction of the social construction of reality (Flick et al., 2004).

Data analysis is seen as a recursive process that begins during data collection, identifying themes and patterns that are developed inductively from the data and deductively from the conceptual framework. Interpreting the meaning of individuals is made possible through the collection and analysis of data gathered by a variety of methods including interviews, focus groups, and documents (Patton, 2002). The role of this researcher as the main agent for data collection and analysis was a tenet of qualitative research. The researcher provided opportunities to attain clarity of meaning from participants as the potential to cloud meaning due to innate biases that needed be exposed (Merriam et al., 2016). This interpretive research study ensured that quality was upheld using criteria such as credibility, applicability, transferability, dependability, and confirmability. Carr and Kemmis (1986) asserted that "an interpretive account

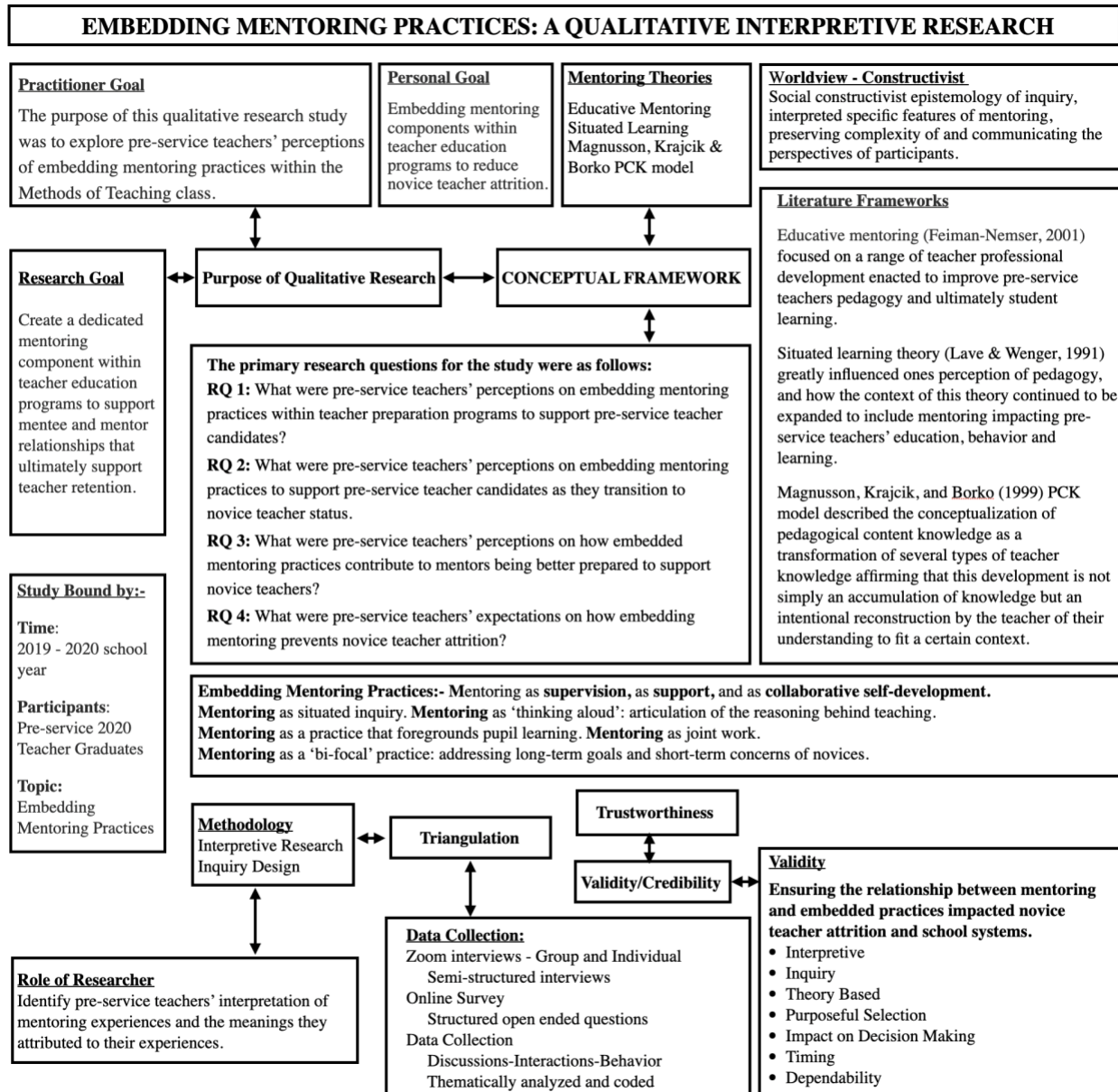
must be coherent; it must comprehend and coordinate insights and evidence within a consistent framework” (p. 91). Beyond this, several other strategies were used by this researcher, including triangulation of interview and online questionnaire and participant checking.

A crucial step involved returning to the participants to elicit their responses concerning the accuracy and credibility of the findings and interpretations ensuring that the transferability of these participants’ experiences to other teacher preparation programs could be evaluated. When looking at applying methodological triangulation, it was important to establish a study design in which multiple sources of data were integrated (Denzin, 1989). A fundamental assumption of this approach ensured that each of the multiple sources of data gave slightly different pictures of the concept of embedding mentoring practices into teacher preparation programs.

The data gathered from an online questionnaire as well as individual and group interviews, were combined to verify the research questions and provide a comprehensive view of the study. Scaffolding and explicit prompts assisted pre-service teachers in developing and reflecting upon their personal professional theories of mentoring. The use of different data sources and methods of data collection provided corroborating evidence that was useful in elucidating themes and perspectives from this research. Although methodological triangulation techniques have long been used in clinical settings integrating both qualitative and quantitative feedback from participants, a purely qualitative triangulation was made possible using the three proposed types of data collection. To improve the analysis and understanding of the participants perspectives, triangulation was made possible by the researcher’s interpretation of the data while searching for convergence among multiple and different sources of information to form themes and subthemes. Patton (2002) with regards to the researcher's ability and skill in any qualitative research also states that reliability is a consequence of the validity in a study.

Figure 3

Concept Map: Embedded Mentoring Practices: A Qualitative Research Study



Note. The researcher visually incorporated all intricacies of the participants, their role, as well as the connections they brought to the study. Additionally, this concept map supported the researcher in ensuring qualitative data was interpreted through inquiry and remained an integral part of the data analysis process.

Role of the Researcher

The researcher's role spanned many facets of the research process, with the understanding of proper ethical standards of conducting research and anticipating of how likely risks could be addressed (Yin, 2016). The researcher is currently employed at a public high school and is also an adjunct at a university in Connecticut. As a Math Methods II adjunct professor, the role of the researcher is to support 5th year master's students as they enter their student teaching practice. This Methods of Teaching course provides pre-service teachers with an overview of teaching methodology for effective instruction including theory and practices, research-based instructional models, multiculturalism, classroom management, inclusion and social emotional learning.

Incidental mentoring and more recently, over the past three years, the researcher has purposefully embedded mentoring according to the archetypes of Kemmis et al, (2014) namely mentoring practices are supervision, mentoring as support and mentoring guiding pre-service teachers' collaborative self-development. During the nine years lecturing at the university, the researcher has been able to further ascertain areas of strength and need within the methods coursework through CAEP reports in which the researcher is a contributor.

One of the most significant areas within the methods coursework is Lesson and Curriculum Unit planning. The research concept was initiated during the informal reflections of lesson plans. Pre-service teachers are required to observe and substitute classes during the first semester within their placement school. Weekly class reflections and discourse led to the researcher applying mentoring strategies to guide the participants in self-reflection and guided solutions to school issues. Receiving feedback from the researcher, who applied a dual lens as a teacher and an adjunct, allowed the transfer of hands-on experiences enabling the candidates to

feel more connected to the school environment. Candidates were encouraged to continue this process bringing successes and concerns to share with their peers and instructor receiving collaborative, authentic, feedback. The researcher created an environment of “do no harm” allowing the pre-services teachers to share their thoughts without consequence. Creating protocols to ensure peers felt comfortable sharing these successes and concerns made this time indispensable. These pre-service candidates relished this time together and based on the reflections from the university course survey, this incidental mentoring through supervision, support and collaborative self-development has become the core of the methods course.

This informal “mentoring” time became the foundation for this research. Participants felt the need for mentoring within the course would be beneficial to their entire practicum and even stressed the need for mentoring to precede the methods course. The candidates indicated through their responses in the interviews and questionnaire, that despite all the years of coursework, the methods course was the one in which they were able to “pull it all together” and apply their learning to student teaching practices. These thoughts were evident in participant responses and verified by the data collection indicating the importance of consistent mentoring practices being embedded in their coursework. Having a dedicated, reflection time to discuss the practical issues of student teaching was deemed as an area of need, especially after spending considerable time and effort preparing for their practicum experience.

These candidates expressed concerns of feeling unprepared for this teaching experience and even considered requesting the methods course be in their 4th year of the teaching program as well as their 5th. This was verified through the group interview by participants stating that mentoring should be introduced to undergraduate teacher candidates as soon as they enter their first field study experience, or even the fall of Sophomore Year. Pre-service teachers perceived

educative mentoring experiences, woven into the undergraduate curriculum, as contributing positively to their own teacher identity and feelings of success as a graduate (Conway et al., 2010).

The literature reviewed continued to support the need for mentoring but was not clear in defining mentoring to co-exist within the methods coursework of teacher education programs. Although the candidates were aware of the mentoring that would occur with their cooperating teacher and university supervisor, they had not established their own mentoring identity and could not thus express their own mentoring needs before entering their practicum. When attention to detail is not given in a mentoring process, it may be detrimental to both parties. When insufficient time for mentoring, poor planning of the mentoring process, unsuccessful matching of mentors and mentees and a lack of understanding of the mentoring process occurs, a student-teacher's first experience is affected. Having a cooperating teacher who can mentor and understand the needs of a student-teacher is paramount to the success of the teaching program.

The role of the researcher has become one of ensuring teacher candidates can self-analyze their own strengths and areas of need. Through the methods course candidates have begun developing their own strategies within a supervised and supportive environment. By identifying and designing effective mentoring activities and components, student-teachers are entering their placement schools with a better understanding of their own skills. Entering the placement school with these skills allows the cooperating teacher to be aware of the next steps in continuing this mentoring process and assisting in the further development of their mentee. The role of the university in mentoring of candidates needs to be addressed. Candidates stressed the need to have a dedicated university mentor with whom they could connect during their teacher preparation coursework and follow them through into their student-teaching experience. The

researcher has chosen to exclude the public-school mentoring component, where the researcher is a teacher, to avoid any potential related bias due to their position within this domain.

Given the inescapable subjectivity that every researcher brings to a study through past experiences, ideas, and perspectives, the researcher felt that a solely emic perspective will be impossible to achieve for this research study. Conversely, a researcher taking a purely etic perspective or approach to this study would, this researcher believes, risk the possibility of overlooking the hidden nuances, meanings, and concepts within a culture that can only be gathered through interviews and observations.

Participant Selection

For the purpose of this study, purposeful sampling of pre-service teachers was conducted as defined in accordance with the researcher's definition. According to Lodico, Spaulding, and Voegtle (2010), "purposeful sampling is a procedure where the researcher identifies key informants: persons who have some specific knowledge about the topic being investigated" (p. 140). Similarly, purposeful sampling allowed the researcher to select individuals that will help understand the research problem and answer the research questions (Creswell, 2013). From the inception the researcher ensured that the research design had rigor and transparency in the methods of data collection.

During the interview sessions the researcher remained neutral and resisted the temptation to share their own experiences. The interview process was prepared and planned appropriately to ensure that any bias was minimized, and all ethical principles of informed consent were applied. The researcher designed questions for the interview and questionnaire that were open ended and grasped the viewpoints of the participants. The intention was to gain a better perspective of mentoring within the participants social interactions. The questions were clear,

focused on the why and how of the participants interactions with mentoring aspects. The questions articulated the researcher's intentions and the perspectives of the participants involved in the social interactions. The research remained vigilant when asking the questions and only asking for clarification when necessary. In no way did the researcher allow the relationship between adjunct and participant to cloud the responses as it was these participants who initiated this research study.

The university chosen for this study is in Connecticut and has a diverse socio-economic status of the student population. Being a private institution, many scholarships are available to ensure equity in student population. In order to minimize bias, as previously mentioned, the researcher chose to exclude the public-school population from the study because the researcher is employed at this location. The participants were students in a teacher preparation class, Math Methods II, which the researcher instructs. All the participants chosen for this research were, coincidentally, all female. This was not intentional but was considered a limitation as gender may, or may not, be a factor. Even though all participants have graduated with their master's in education, not all completed their undergraduate studies through the same teacher preparation program. Participation remained voluntary and participants were informed of the right to withdraw from the study at any time. There were no positive nor negative consequences related to their positions as a result of their decision to participate or not to participate in this study as they transitioned to novice teacher status. Confidentiality and all ethical principles were maintained throughout the study and as previously stated, every effort to minimize the researcher's bias were strictly upheld.

An invitation email (Appendix A) was sent to participants once the researcher has been given permission to advance the study (Appendix B). Initial permission from the Dean of

Education has already been received (Appendix C). A potential of seven participants were available for this study. Glesne (2011) explained that purposeful sampling leads to information-rich research. For this reason, the number of participants was kept manageable so that the data could be carefully investigated. The researcher noted that a smaller sample size may have resulted in a possible limitation for this research study.

Ethical Treatment of Participants

University of Bridgeport's procedures and ethical guidelines to protect the participants were followed throughout this research study. The researcher completed the CITI Training courses required by University of Bridgeport (Appendix D).

The ethical considerations for this study required treating and respecting people ethically, respecting their decisions, providing protection from harm, and guarding their well-being. The researcher is obligated to not harm any individual and to provide the maximum amount of benefits with the least amount of harm. Taking the CITI training allowed the researcher to be aware of both the breadth and in-depth ethical issues that arise with studies involving humans. The training received was, and remains, an essential component of this research, guiding the researcher's thoughts, actions and research questions. The following areas of focus (Appendix D – CITI Training Certificates) were deemed indispensable for doctoral coursework.

- Social and Behavioral Responsible Conduct of Research
- Social & Behavioral Research—Basic/Refresher
- Conflicts of Interest

This study addressed the ethical considerations of informed consent, risks, security, bias, confidentiality, privacy, and benefits. Following the rules of beneficence was essential. The rules and regulations set forth within the IRB will always be adhered to by the researcher throughout

this study. IRB human research protection required steps be taken to ensure risks, privacy, confidentiality, and security of participants. This research study began once the University of Bridgeport Institutional Review Board gave its consent. The University's Dean of Education was kept informed once the research began.

The participants selected for this research were required to sign a consent form and informed that they could choose to opt-out of the study at any time without giving a reason. Each participant was given a consent letter and a promise of confidentiality (Appendix E).

Additionally, participants were asked for permission to record the Zoom video meetings by the researcher during the interviews. Participants were informed about the use of coding to protect their identity. There was neither benefit nor penalty based on an individual's decision regarding participation in the study and participants were assured that they can refuse to answer any question(s) they chose. No incentives were offered for participation. All data collected in the study were maintained for accuracy and confidentiality. Recordings and transcripts from the interviews along with any other notes were stored in a secure location as will all electronic files. Only the researcher had access to these recordings and electronic files. All data was destroyed as required by University of Bridgeport's IRB.

Context and Participation Selection

Population

This research study was aimed specifically at pre-service teachers who attended a local teacher education program. Practicum experiences were an essential component of this research as they supported a significant program focus. During their 5th year, the selected pre-service teachers divided their coursework between field practice, teacher practicum, and university-based classes over two semesters. In the first semester of coursework these pre-service teachers

entered the student teaching phase of their teacher preparation. Now known as interns, they are required to conduct classroom observations and identify a problem of practice based on these observations. This problem of practice was later presented to faculty and fellow student teachers. The second semester required these pre-service teachers to prepare and teach full-length lessons. These participants had just begun to gradually take over from their cooperating teacher before their practicum was interrupted by the onset of COVID-19. The researcher found that this sudden loss in teaching time added another layer to the data collection and subsequent analysis.

Sampling and Sampling Procedures

Purposeful sampling to select the participants was used in this qualitative interpretive research study. According to Merriam (1998), purposeful sampling is based on the assumption that the researcher's intent is to discover, understand, and gain insight into particular matters. It is important to select a sample from which the most can be learned and gather distinct experiences. The participants constituted a typical sample because they reflected the average person, situation, or instance of the phenomenon of interest (Merriam, 1998). Having participated in a common experience, student-teaching, these participants were purposefully selected by virtue of their ability to provide rich in-depth information relevant to embedding mentoring research.

This research represented the perceptions of mentoring being embedded within teacher education programs, specifically Methods of teaching and allowed the researcher to focus on the meaning each participant held related to the concept of this phenomenon. Interpretivists study phenomena in their natural settings and strive to make sense of, or to interpret, phenomena with respect to the meanings people bring (Denzin & Lincoln, 2005).

As the researcher is the primary instrument in data collection and analysis, both advantages and disadvantages needed to be considered. An advantage was the ability of the researcher to follow up with participants based on initial data collection as well as the ability to check the accuracy of the analysis and findings. The disadvantage of qualitative interpretive research is that the biases, preconceptions, of the researcher could have influenced the findings and outcomes. Identifying these biases prior to the research assisted in avoiding prejudice. Data analysis, discussed later in this chapter, followed a set of procedures. Themes, subthemes, patterns, and elements of meaning were obtained from interviews, individual and group, as well as the online questionnaire. The inclusion and exclusion criteria set the boundaries for the systematic review and scope of the research (see Table 1). This information stated served to ensure the included criteria remained the focus of this research study.

Table 1

Inclusion and Exclusion Criteria

Study Parameters	Inclusion Criteria	Exclusion Criteria
Sample/Participants	University in the North-East 2020 Graduate Pre-Service Teachers	Novice Teachers Veteran Teachers
Study Focus	The perceptions of pre-service teachers will be analyzed to assess the overall impact of mentoring practices during the Methods of Teaching class and the effectiveness of these practices on their own pedagogical skills.	Shared mentoring strategies and practices delivered within researcher's own school environment.
Methodology	Qualitative Interpretive Research method Inquiry in nature.	This study will only capture qualitative data to answer Research Questions

Note. Criteria set the boundaries for systematic review and scope of the research.

The relevance of this data gathered through interviews and an online questionnaire were supported by a philosophical worldview of constructivism. Within this constructivist realm, the researcher required the participants to share their perceptions on embedding mentoring practices within a teacher preparation program, specifically that of Methods of Teaching. Ascertaining how the participants could impact their own student learning and pre-service experiences required direct and focused questioning.

The researcher's intent was to interpret the perceptions of pre-service teachers regarding mentoring by developing themes, or patterns, of meaning. For qualitative research this knowledge was extremely relevant as it "engendered knowledge and therefore (at least very often) looked empirically at specific forms of knowledge—for example, biographical, expert or everyday knowledge" (Flick et al., 2004). The researcher believed that real understanding is only constructed when based on learners' previous experiences and background knowledge of the phenomena, mentoring, being perceived and researched.

Constructivism in this embedding mentoring practices research, specifically within teacher education programs referred to the research encompassed within the paradigm that the known world has no meaning except for what is attributed to it by individuals. Constructivist research aims to understand, "The complex world of lived experience from the point of view of those who live it" (Schwandt, 1994, p. 221). Constructivist's belief in the mind being active and constructing knowledge supported this research as "constructivism is concerned with how knowledge arises, what concept of knowledge is appropriate and what criteria can be invoked in the evaluation of knowledge" (Flick et al., 2004).

As an epistemology, the choice of using constructivism was clear in how it supports individuals constructing their own new understandings through the interaction of what they

already believe and the ideas, events, and activities with which they come into contact.

Constructivism is the view "That what we take to be objective knowledge and truth is the result of perspective. Knowledge and truth are created, not discovered by mind", (Schwandt, 1994, p 221).

This constructivist worldview was reinforced by the social constructivism perspective typically seen as an approach to qualitative research. Social constructivists hold the assumption that individuals seek understanding of the world in which they live and work, developing subjective meanings directed towards a specific purpose. As these meanings tended to vary the researcher looked for complexity of views rather than narrowing meanings into a few categories or ideas. The participants sharing of experiences enabled the researcher to understand their actions within the context of their own learning.

Using semi-structured interviews allowed pre-service teachers to share their lived experiences within the teacher preparation program. As a constructivist researcher often addresses the processes of interaction among individuals, the researcher focused on the specific contexts in which these participants teach, study and student teach. Recognizing how the participant's backgrounds may shape these interactions, the researcher acknowledged how their interpretations were influenced by personal, cultural, and historical experiences. These interpretations established the need for mentoring practices to be embedded within teacher preparation programs.

In the constructionist sense, this knowledge was not a collection of information simply there for the asking or the taking but rather an interaction or engagement essential to generating the knowledge for this research. In discussing constructivism, Crotty (1998) identified several assumptions which supported this research further.

1. Meanings are constructed by human beings as they engage with the world they are interpreting.

This qualitative researcher used open-ended questions, which allowed the participants to share their views on embedding mentoring practices.

2. Humans engage with their world and make sense of it based on their historical and social perspectives.

The perspectives of the participants bestowed clarity on the research phenomenon.

3. The basic generation of meaning is always social, arising in and out of interaction with a human community.

The process of this qualitative research was largely inductive, with the inquirer generating meaning from the data collected through interviews and an online questionnaire.

Qualitative researchers with a constructivist view seek to understand the context or setting of the participants through chosen frameworks and gathering information personally. The goal of the research was to rely as much as possible on the participants' perceptions of the phenomenon being studied. The questions asked allowed the participants to identify the significance of mentoring within their pre-service preparation.

Situating this research and identifying mentoring needs within a broader frame of participation in teacher education programs was essential. This is even more important when we consider that the student teachers on practicum were engaged "in the generative process of producing their own future" (Lave & Wegner, 1991, p. 57), that is, the future of the teaching profession.

Procedures for Recruitment, Participation, and Data Collection

The research participants were selected from pre-service teachers who had student-taught, observed classes, and performed other school duties during the fall of 2019 and begun in-class teaching during the spring of 2020. The setting where pre-service teachers served their practicum, and in-class discussions, had a significant impact on the research. The researcher was able to grasp insight into the participants' roles and contributions through questioning and interviewing. The interview questions and online questionnaire allowed the researcher to ascertain the depth of knowledge these participants had with respect to the research topic and enabling them to become invested in the research itself.

The quality of the interview data was directly affected by using refined steps at interview protocol development stage and applying evidence-based strategies to improve the trustworthiness of the interview findings such as using triangulation and participant checking. The semi-structured interview process for this qualitative interpretive research provided the researcher structure for both interview protocols. The interview protocols provided flexibility for the research participants to elaborate on the points of each question that were meaningful to them, thereby driving the conversation even deeper.

By building in probing questions the researcher was able to elicit more information from the six participants (see Tables 2–4). This encouraged the participants to talk and discuss the questions freely. Asking open-ended questions within the individual interview (Appendix F) applicable to the participants' environment were used to interpret the phenomena in the contexts in which they occurred.

Aligning the questions from both interviews and questionnaire was essential for this interpretive research. An “x” indicates the questions supported by participant responses.

Table 2*Individual Interview Alignment Matrix Research Questions*

DATA Source	RQ1 to support pre- service teacher candidates	RQ2 to support pre- service teacher candidates as they transition to novice teacher status	RQ3 contribute to mentors being better prepared to support novice teachers	RQ4 prevent novice teacher attrition?
Question 1	x	x		
Question 2	x	x		
Question 3	x	x	x	
Question 4	x	x	x	
Question 5		x	x	
Question 6	x	x	x	x
Question 7	x	x	x	x
Question 8		x	x	
Question 9	x		x	
Question 10		x	x	x
Question 11	x		x	
Question 12	x		x	
Question 13	x	x		
Question 14	x		x	
Question 15	x		x	
Question 16	x		x	
Question 17	x	x		x
Question 18	x	x		

Note. Aligning of individual interview and research questions critical for research analysis.

Most research questions in qualitative studies lead to analyzing, interpreting, and validating data that help to explain “phenomena in a bounded context that make up a single ‘case’— whether that case is an individual in a setting, a small group, or a larger unit such as a department, organization, or community” (Miles & Huberman, 1994, p. 90). The purpose of the interviews was to understand the meaning of the participants’ experiences, to interpret their

responses and make distinctions about what they believed was a success or a failure in the program.

Table 3

Online Questionnaire Alignment Matrix Research Questions

DATA Source	RQ1 to support pre-service teacher candidates	RQ2 to support pre-service teacher candidates as they transition to novice teacher status	RQ3 contribute to mentors being better prepared to support novice teachers	RQ4 prevent novice teacher attrition?
Question 1		x	x	
Question 2			x	
Question 3	x		x	
Question 4	x		x	
Question 5	x			
Question 6	x	x	x	
Question 7	x		x	x
Question 8	x	x		x
Question 9	x	x	x	x
Question 10			x	
Question 11	x	x		
Question 12	x		x	
Question 13	x	x	x	x
Question 14			x	
Question 15		x	x	
Question 16		x	x	x
Question 17		x	x	x
Question 18	x	x	x	
Question 19	x	x	x	x
Question 20		x	x	x

Note. Aligning online questionnaire and research questions critical for research analysis.

Table 4*Group Interview Alignment Matrix Research Questions*

DATA Source	RQ1 to support pre-service teacher candidates	RQ2 to support pre-service teacher candidates as they transition to novice teacher status	RQ3 contribute to mentors being better prepared to support novice teachers	RQ4 prevent novice teacher attrition?
Question 1	x			
Question 2	x	x	x	
Question 3	x		x	
Question 4		x	x	
Question 5	x		x	
Question 6		x	x	x
Question 7		x	x	x
Question 8		x	x	x
Question 9	x		x	
Question 10		x	x	x
Question 11		x	x	x
Question 12		x	x	
Question 13	x		x	x
Question 14	x	x	x	x

Note. Alignment of group interview and research questions critical for research analysis.

Open-ended questions allowed the researcher to get unexpected comments, reflections, meanings, and feedback from the participants. These individual meanings were negotiated socially as these were formed through interactions with others, and from historical and cultural norms that operated in their lives or experiences within their practicum or college.

Apart from the individual and group interviews, an online questionnaire was conducted. The online questionnaire (Appendix G) was shared directly after the individual interview and collected prior to the group interview (Appendix H). This required the participants to share information regarding their experiences with mentoring programs, induction programs and/or

similar educational mentoring programs which supported pre-service teachers within the teacher preparation program. Tailoring the contents of questionnaires, Table 5, to what students themselves find highly important should be considered (Scott, 2006) as the validity of the scores that emerge from a focused questionnaire are sensitive to the target population, the local context and the intended use, thus developers of questionnaires collect reliability and validity evidence in a specified context, with a particular sample, and for a particular purpose. The online questionnaire was designed based on the idea that the questions be answered neutrally and objectively as the researcher was able to obtain feedback from the pre-service teachers own experiences. Applying a software tool that facilitated in the analysis of the interview comments from the participants' feedback and the online questionnaire was essential to this research.

Data collection occurred during the fall of 2020 school year. All data gathered as indicated in Table 5, was collected with explicit permission from the participants and in full compliance with Institutional Review Board (IRB) guidelines. In accordance with qualitative research tradition (Denzin & Lincoln, 2005; Merriam, 1998), multiple data sources were collected. Interviews with the participants were semi-structured affording the researcher flexibility to engage in natural conversations with the selected participants and provided deeper insight into the phenomenon being studied. This made the interviews more honest, morally sound, and reliable, as it treated the respondent as an equal, allowing them to express their personal feelings, and presented a more "realistic" picture than could be uncovered using traditional interview methods (Fontana & Frey, 1994, p. 371). Moreover, Merriam (1998), noted that highly structured interviews do not afford a true participant perspective, they simply, "get reactions to the investigator's preconceived notions of the world" (p. 74).

Table 5*Data Collection Methods and Analysis by Research Question*

Research Question	Themes	Time	Data	Collection	Analysis
RQ 1: What were pre-service teachers' perceptions on embedding mentoring practices within teacher preparation programs to support pre-service teacher candidates?	Mentoring Supports Mentoring Experiences Readiness to Teach Structured Mentoring (University) Creating connections university	Recruit (1 week) Collect (2 weeks) Analyze (1 week) Interpret (1 week)	Online Questionnaire Semi-structured Individual Interview Semi-structured Group Interview	One week to collect schedule and collect all six 25-minute Individual Interviews	Using Microsoft word to apply coding process (Creswell, 2007) Interview transcription from voice to text (2 days per interview)
RQ 2: What were pre-service teachers' perceptions on embedding mentoring practices to support pre-service teacher candidates as they transition to novice teacher status?	Student Relationships Cooperating Teacher Mentoring Experiences Mentoring Guidelines	Recruit (1 week) Collect (2 weeks) Analyze (1 week) Interpret (1 week)	Online Questionnaire Semi-structured Individual Interview Semi-structured Group Interview	One week to collect all six 25-minute Online Questionnaires	Initial Coding Theme identification Subtheme Identification Behavioral theme analysis
RQ 3: What were pre-service teachers' perceptions on how embedded mentoring practices contribute to mentors being better prepared to support novice teachers?	Mentor Impact of Mentoring Mentoring Need Role of Teacher-mentor	Recruit (1 week) Collect (2 weeks) Analyze (1 week) Interpret (1 week)	Online Questionnaire Semi-structured Individual Interview Semi-structured Group Interview	One week to schedule 40-minute Group Interview	Interview transcription from voice to text (2 days for group interview)
RQ 4: What were pre-service teachers' expectations on how embedding mentoring prevents novice teacher attrition?	Teacher Attrition Self-development Pedagogical practices Expectations	Recruit (1 week) Collect (2 weeks) Analyze (1 week) Interpret (1 week)	Online Questionnaire Semi-structured Individual Interview Semi-structured Group Interview	Three days review of transcriptions for checking for accuracy of data	Review descriptions, data and analysis for accuracy and clarity (Carr & Kemmis, 1986).

Data gathered were triangulated using interview data, comprised of a twenty-five-minute semi-structured individual interview (Appendix F), a twenty-five-minute online questionnaire (Appendix G) and a forty-minute group interview (Appendix H). Triangulation was built into this data collection and analyzed for the purpose of achieving trustworthiness. Stake (1994) explains that “Triangulation has been generally considered a process of using multiple perceptions to clarify meaning, verifying the repeatability of an observation or interpretation...triangulation serves also to clarify meaning by identifying different ways the phenomenon is being seen” (p. 241). Participant checking was an important part of triangulating this researcher’s observations and interpretations. When research participants review interview transcripts and text, they often provide corroboration and feedback (Stake, 1994). Each stage in the process of data collection provided the researcher an opportunity for reflection from participant results. To ensure accuracy and clarity, participants were invited to review the descriptions, data, and analysis (Carr & Kemmis, 1986). Triangulation in this research facilitated validation of the data through cross verification the three sources. It tested the consistency of findings obtained through both interviews and the questionnaire and increased the chance to control, or at least assess, some of the threats that may have influenced the results. The use of triangulation was not just about validation but about deepening and widening the researcher’s understanding and led to multi-perspective and meta-interpretations which explained the richness and complexity of human behavior by studying it from more than one standpoint.

Using technology such as Zoom meetings for both individual and group interviews together with an online questionnaire allowed data to be collected and analyzed. Questions for the interviews (Appendices F & H) were shared two weeks in advance to give the participants ample time to consider their responses. Individual Zoom interviews took no longer than 25

minutes and the group Zoom, no longer than forty. The researcher recorded each interview session, which provided accuracy in transcription. Permission was requested to tape these Zoom meetings as face-to-face meetings could not occur due to CDC regulations (Appendix E).

Participant Invitation to Participate in Study Email

The individual subject responses to the online questionnaire and two interviews were not linked to each other ensuring there was no loss of rich complementary data. Each of the responses was separately analyzed. The benefits to holding two separate interviews stemmed from the researcher's focus on data outcome. Individual interviews allowed deep detailed data to be gathered and it was apparent that interviewing one person at a time yielded the best information. Interviewees felt more comfortable being asked about information individually and eliminated unnecessary pressure.

The group interview (Appendix H) promoted discussion between participants and participants may felt comfortable and spoke openly and yielded fitting data. The findings from this research indicated the impact that embedded mentoring practices would have on the planning, execution, and evaluation when supported by the frameworks of Educative Mentoring (Feiman-Nemser, 1998), Situated Learning (Lave & Wenger, 1991), and Magnusson, Krajcik, and the Borko (1999) PCK Model.

Data Analysis

As Creswell (2007) stated, the data analysis process in qualitative research involves preparing and organizing and reducing the data to themes and concepts through a process of coding, and finally representing the data in a meaningful form. After reviewing all the data sources preliminary meanings were generated. As delineated by Miles and Huberman (1984), the data analysis will proceed from noting patterns and themes to arriving at comparisons and

contrasts to determining conceptual explanations of the case study. Data was organized by clusters of meaning, applying themes and patterns, and adding transcribed textural descriptions as noted in Table 6.

Table 6

Data analysis by Research Question and Theoretical Framework

Framework	Data Analysis by Research question	Research Question
Educative Mentoring (Feiman-Nemser, 1998)	Encouraged learning within and from teaching, supporting inquiry of practice, addressing the complexities of teaching, focusing on long-term goals, and understanding how teachers learned during pre-service teaching and induction.	RQ#1
	In order to create better classroom teachers, “we need mentors who are teachers of teaching”.	RQ#2
	Supports pre-service teaching and in turn a novices’ ability to adequately reflect and apply these skills.	RQ#3
	Novice teachers will be in the position to ensure that these learned educative practices affect their own teaching and retention.	RQ#4
Situated Learning Theory (Lave & Wenger, 1991)	Learning occurs as a function of the activity, and there was a gradual acquisition of knowledge and skills as novices learned from experts in the context of everyday activities.	RQ#1
	Experience seen as experience of meaningfully structured situations.	
	The lived-in world of everyday activity becomes the site where the action is.	RQ#1 & RQ#3
	How people make sense of, interpret and constitute their world through practical action.	RQ#2 & RQ#3
Magnusson, Krajcik, and Borko (1999) PCK Model	Teachers who supervise student teachers on practicum are engaged “in the generative process of producing their own future”.	RQ#4
	Perspective of mentoring being the, “new-comprehension” activity that is forefront in the teacher preparation conversation. Explored the uniqueness and importance of PCK within teacher preparation.	RQ#1
	Mentoring pre-service teachers on the enactment of PCK helps manage the multiple tasks and contradictions of teaching and negotiate the transition to novice teacher.	RQ#2
	A mentoring relationship would encourage critical incidents in practical experiences to be identified and resolved via reflection and thoughtful adaptation.	RQ#3
	Transferable mentoring possibilities within PCK that intersects content and pedagogy, a hallmark characteristic of the concept.	RQ#4

The steps used to analyze the qualitative data gathered from the online questionnaire and both interviews are evidenced in the results. Yin (2003) provided four tenets of high-quality analysis that guided this research from attending to all the evidence, addressing all major rival interpretations and the most significant aspect of the case study to utilizing the researcher's prior expert knowledge. By searching for patterns to code and categorize, groupings and themes appeared not just because they are exactly alike or very much alike, but because they had something in common, a commonality that also consisted of differences.

The research considered themes and patterns that occurred in varying forms such as

- frequency (happen often or seldom)
- sequence (happen in a certain order)
- similarity (happen the same way)
- difference (happen in predictably different ways)
- correspondence (happen in relation to other activities or events)
- causation (one appears to cause another)

The researcher went through a procedure of linking their own understanding of the phenomena and the possible judgments that these had regarding on the phenomena. Trainor and Graue (2014) explained that “who we are, our identities, contribute to our positions and the vantage points from which we view a research problem” (p. 271). Taking this into account this researcher remained aware of their own position as a teacher and teacher educator with reflexivity, or the “judicious consideration for one’s own position, ... and the effects of position on the process of doing research” (Trainor & Graue, 2014, p. 271).

Trustworthiness

Patton (1980) indicated that “the trustworthiness of the data is tied directly to the trustworthiness of the evaluator who collects and analyzes the data” (p. 338). Therefore, a concerted effort was made to ensure the credibility of the data throughout the processes of data collection and analysis. This interpretive research study was centered around relationships and how those relationships impacted decision making, and aware of threats to trustworthiness such as credibility, dependability, confirmability, and transferability (Bloomberg & Volpe, 2016). Timing was an essential component of validity this this data. The time frame for collecting all data was approximately two-weeks. Stake (1994) emphasized that data is continuously interpreted since qualitative research is inherently reflective: “In being ever reflective, the researcher is committed to pondering the impressions, deliberating recollections and records....data [is] sometimes pre-coded but continuously interpreted, on first sighting and again and again” (p. 242). It was imperative that participants were able to focus on the questions at hand and answer thoughtfully from learning experiences fresh in their minds.

Credibility is one criterion that focuses on the researcher’s ability to remain unbiased and ensures that the data agrees with the reality of the mentoring program’s culture (Patton, 2002).

The researcher identified specific areas that could have impacted the results:

- Number of interview session needed per participant to complete interview questions due to using technology of Zoom meetings and interruptions of internet.
- Time zones, if applicable, that find optimum time for interviews as participants return to home states, as some participants are not residents of Connecticut.
- Impact on pre-service teachers’ ability to reflect upon the mentoring experiences due to undergraduate qualification at another college/university.

Dependability was also a component of validity. For the researcher to provide dependability, the research process had to be clear and replicable. For this research study to be replicated, there were no major threats to dependability. Identifying teacher education programs for certain participants who completed their undergraduate degree at a different preparation college further supported the dependability of the study. This researcher's methods involved the "use of standardized measures so that the varying perspectives and experiences of people can be fit into a limited number of predetermined response categories to which number are assigned" (Patton, 2001, p.14).

Participants were given a copy of the transcript from their interview to ensure accuracy had been attained. Patton (2001) states that validity and reliability are two factors which any qualitative researcher should be concerned about while designing a study, analyzing results and judging the quality of the study. Confidentiality and informed consent were established from the outset of the research and articulated to the participants as they are volunteering their perspectives and experiences. The informed consent document explained the nature of the study and the impact their participation would have on the research. To further protect the identity of the participants, their location, and any identifying nuances, all data collected remained confidential. Neither interviews nor interview recordings were shared as an additional protection for the participants. Peer debriefing with an educational scholar would ensure validity is upheld (Creswell, 2013). The researcher followed the guidelines and procedures set forth by the university's IRB committee.

Transparency can be thought of as "an enactment of epistemology—the strategies we use to document and communicate the process of our knowing" (Trainor & Graue, 2014, p. 270) who define three elements of transparency as methodological, interpretive and narrative transparency.

In terms of this research transparency the disclosure of the procedure, the process of interpretation and transparency of this research was presented through the interview transcripts and online questionnaire. The emphasis on transparency was important for this qualitative research as the choice of data constituted an interpretation of the significance of what was reported by the participants and validated. The communication on informed consent outlined the transparency practices of this study and allowed participants to review the draft of data collected and the use of pseudonyms in the place of interviewees' real names.

Dependability (reliability), credibility (validity), confirmability (objectivity), and transferability (generalizability) were used to establish the trustworthiness of qualitative research (Bloomberg & Volpe, 2008).

Credibility referred to how well the researcher's portrayal of participants matches the participant's perceptions (Bloomberg & Volpe, 2008).

Dependability rested on the quality of the data collection and analysis (Lincoln & Guba, 1985), which was explained by what the research systematically studied and what it claimed to study.

Finally, transferability was about the degree to which the study made it possible for the reader to apply the findings in the situations investigated compared to such other similar situations (Bloomberg & Volpe, 2008; Lincoln & Guba, 1985). The structure and analysis of this research served the purpose of determining if the interpretation of the data was transparent, intelligible, easy to learn, and readily transferable to new research questions. Paying attention to these trustworthiness criteria, when planning, conducting, and documenting, were vital.

Ethical Considerations for the Study

According to the American Psychological Association (APA, 2001), researchers must “take reasonable steps to implement protections for the rights and welfare of human participants” (p. 390). In accordance with this mandate, although this study posed little to no risk to the participants, they were given the option to opt-out of the study at any time. Furthermore, pseudonyms were used in place of the participants’ names to protect their identities and to preserve confidentiality. In addition, the study thoroughly explained the need for informed consent forms which were signed by the participants and later collected, by the researcher, before any data collection began. All information was kept confidential in a password protected file on the investigator’s computer. Records were also backed up on a USB Flash drive, which was housed in a locked file cabinet in the researcher’s home as recommended by the APA (p. 137), and then destroyed.

The researcher continuously implemented procedures to protect the rights of participants in this qualitative research study. Prior to conducting any research, this study was submitted to the Institutional Review Board (IRB) of the University of Bridgeport for review. Research study participants were informed in writing of the research design and consequences to them as individual participants. The researcher explained the precautions taken to ensure confidentiality was maintained throughout the duration of the study. Research followed the three guiding principles of the IRB, “respect for persons (their consent, their right to privacy, and their anonymity), beneficence (weighing the benefits of research versus the risks to individuals), and justice (equity for participation in a study)” (Creswell, 2013).

To ensure that the data collected reflected the participant's perspective accurately, the section of the final report, which summarizes data for the individual participant, was sent to the participant for review, further input, corrections, and clarification (Appendix A).

Conclusion

Recent literature on inquiry communities, networks, and cooperating teachers and student teachers as collaborative teacher researchers (Lytle & Cochran-Smith, 1992) emphasizes problem posing, question asking, developing interpretations, and researching together; however, the concept of embedding mentoring into pre-service teacher's education programs was rarely addressed in these sources.

In light of this rationale this interpretive research study was conducted to address the gap in existing literature supporting mentoring being addressed earlier within teacher educational programs. The perceptions of pre-service teachers were analyzed to guide the identification of core mentoring practices to be embedded in future teacher preparation programs, specifically methods courses. Embedding mentoring will also benefit the progression of pre-service teachers into their novice year. Training pre-service teachers to apply mentoring practices and applicable components would further support this transition as education has become an accessible global learning forum and mentoring practices cannot be excluded from this conversation.

This research may provide valuable insight for institutions of higher education as well as the broader field of educational research to consider embedding mentoring practices. Teacher education programs depend on mentoring to assist pre-service teacher candidates become effective, reflective practitioners. Embedding these practices earlier in these candidate's education journey, whether this be online or face-to-face, is essential to stem the flow of teachers leaving the profession. Mentors who share this orientation attend to beginning teachers' present

concerns, questions, and purposes without losing sight of long-term goals for teacher development (Feiman-Nemser, 2001b). This research study may have a ripple effect on mentors giving them a new view of mentoring and thus enabling them to take full advantage of these learning opportunities. Although the current mentoring model may be effective in certain school systems, this is not applicable for all districts. Despite the recommendations of many education experts that cooperating teachers be well-trained and understand their roles and expectations, little attention has been placed on adding mentoring earlier in teacher preparation programs to guide and ultimately effect teacher candidate performance.

The research was clear with respect to the important role mentors play in the development of novice teachers (Feiman-Nemser, 2001b), but an added component of embedding these practices will allow mentors to be aware earlier of their mentee's needs. Effective mentoring will allow beginner teachers to observe, self-reflect and communicate their needs. This in turn provides mentors the ability to elicit new teachers' thoughts and provide concrete advice. The research conducted should guide teacher preparation programs to refine their programs by embedding mentoring practices to further support teacher candidates and their learning progressions. This mentoring shift in practice has the potential to significantly improve the quality of clinical experiences for pre-service teachers and ensure their first experience in the classroom warrants their return.

Chapter 4 Results

This researcher used a qualitative interpretive research design (Borko et al., 2007) seeking to garner the perceptions pre-service teachers with regards to embedding mentoring practices earlier in teacher preparation programs and the affect these practices would have on student-teacher practicum experiences and subsequent progressions to novice teacher. The implications of this interpretive study sought to further improvements in educational practices and teacher preparation program design. The fundamental goal of this research was to ensure that pre-service and novice teachers entered their placement schools with confidence knowing their own strengths and areas of need were directly affected by embedding mentoring. These practices were correlated to improve teaching performance, reduce attrition of potentially capable teachers, increase the personal and professional well-being of teachers and impact the school and teaching profession's culture.

The researcher's role during the research was to encourage the six participants to speak freely, discuss their views and reflect on the questions posed. Participants were vocal with their verbal and written responses to both the interview and online questionnaire. The researcher understood the dual role that the participants undertook to respond firstly as student- teachers and secondly as novice teachers. The perceptions of these participants, regarding embedding mentoring practices, were evidenced through discourse and/or actions throughout the study. A fundamental assumption of this approach ensured that each of the multiple sources of data gathered from both interviews and the online questionnaire gave slightly different perspectives of the participants' experiences. These perceptions supported the concept of adding embedded mentoring practices earlier into future teacher preparation Methods of Teaching courses further benefitting the progression of pre-service teachers into their novice years.

The primary research questions for the study were as follows:

RQ 1: What were pre-service teachers' perceptions on embedding mentoring practices within teacher preparation programs to support pre-service teacher candidates?

RQ 2: What were pre-service teachers' perceptions on embedding mentoring practices to support pre-service teacher candidates as they transition to novice teacher status?

RQ 3: What were pre-service teachers' perceptions on how embedded mentoring practices contribute to mentors being better prepared to support novice teachers?

RQ 4: What were pre-service teachers' expectations on how embedding mentoring prevents novice teacher attrition?

The purpose of the interviews and online questionnaire was to understand the meaning of the participants' experiences, to interpret their responses and make distinctions about what they believed was a success or a failure in their teacher preparation program. The interview questions focused on addressing the gap that existed in the literature supporting embedding mentoring practices within teacher preparation programs, specifically Methods of Teaching class, and the effectiveness of these practices on teacher pedagogy.

During these interviews preliminary meanings were generated with themes and patterns emerging from the outset. Being cognizant of the steps used by Yin (2003), the researcher attended to *all the evidence*, addressed *all major rival interpretations* and *most significant aspects* of the study utilizing the researcher's *prior expert knowledge*. The reliability of research was increased by combining and analyzing the results of the interviews and an online questionnaire within the archetypes of mentoring.

The results of the three forms of data analysis are presented from dominant themes that arose within the coded material based on Kemmis et al., (2014) archetypes through which mentoring practices were supervised, supportive and collaborative.

Table 7

Theory of Practice Archetypes within Mentoring

Practices of Supervised, Supportive and Collaborative are secured in	Embedding Mentoring Practices through	Practice Archetypes prefigure and enable perceptions via
Participants “sayings” and “thinking”	Medium of language	different ways in which mentoring is understood and discussed
Participants “doings”	Medium of activity and work	different ways in which mentoring is enacted.
Participants “relating”	Medium of power and solidarity	different ways that people relate to one another through mentoring.

Note. The inquiry design overview and theory of practice archetypes utilized within the research.

The archetypes within mentoring indicates the inquiry design overview and practice archetypes utilized to indicate the participants’ role (see Table 7). These focused on how the participants interpreted their experiences, how they constructed their worlds, and what meaning they attributed to their experiences.

Table 8*Practice Archetypes Evidence and Analysis Collected*

Social Practices	Practice Archetypes	Perceptions assessed via key data gathering techniques and analysis from
Sayings	Forms of Understanding	Interviews (participants' interpretations of sayings and practices), documents (online questionnaire) observations (what is said, social interactions), conversation analysis and debriefing interviews, (Zoom audio and video).
Doings	Modes of Action	Interviews (participants' interpretations of doings), documents (online questionnaire observations (what is said), social interactions (behavioral; facial expressions), Zoom audio and video.
Relatings	Connecting Mentoring phenomenon	(a) Interviews, documents (participants' interpretations of relating), Documents (online questionnaire), observations (how people and ideas relate, interaction analysis, conversation analysis, what is said, social interactions), Zoom audio and video (interviewer, interviewee, role relationship)

Note. The practice archetypes evidence and analysis collected and accessed for the research.

Table 8 indicates the practice archetypes evidence and analysis collected, and accessed, for this study including the transcripts of interviews, individual and group, Zoom audio and video recordings together with the online questionnaire. Initial, focused, and axial coding procedures were employed in the analysis of interviews, individual and group, and the online questionnaire. The evidence also included a social interaction analysis collected via Zoom recordings adding a behavioral theme layer which further supported the research.

Data Collection

The data collection for this research occurred over two weeks during the Fall of the 2020 school year. All data gathered was collected with explicit permission from the participants and in full compliance with Institutional Review Board (IRB) guidelines. All seven 2019 – 2020 secondary math teacher graduates were invited to participate in the interviews, with all seven

accepting the offer of participation within a week of IRB approval. Of these seven participants was a cross- endorsement graduate which proved to be significant when the findings were analyzed. All participants were invited by email and shared their informed consent forms upon agreeing to be part of the study. One graduate fell ill prior to the first interview and was unable to join in the study but asked to be informed of the results for her own benefit. Participants were asked to provide a date and time that would be most convenient for them to engage in the individual Zoom interview. Upon an agreed time, the participants were sent a Zoom invitation and the interview questions for their own reference. Prior to the beginning of the Zoom interviews all participants were again advised that participation was voluntary, that anonymity would be enforced as much as possible, and that withdrawal was allowed at any stage in the study. The participants were also reminded that the Zoom interview would be recorded and acknowledged to be recorded. The 25-minute individual interviews were scheduled in the evenings as all participants are now novice teachers and the researcher did not want to add any stress to their daily school duties. Semi-structured interviews allowed the participants to share their lived experiences within their own teacher preparation programs. At the conclusion of each interview the Zoom recordings were downloaded, and the participants were emailed the online questionnaire. Each of the interviews was transcribed individually and the participants received a copy of their individual interview transcription within two days of the interview being completed. Having an opportunity for reflection ensures accuracy and clarity (Carr & Kemmis, 1986). In addition to audio recordings, the research made field notes in a journal which supported the transcripts and was used as a reference when needed.

The online questionnaires were returned to the researcher prior to the 40-minute group interview. The group interview was set at an agreed upon time again taking into consideration

the various teaching schedules of the participants. The group interview allowed each of the participants to share their own undergraduate experiences and wide range of prior experience. As previously stated in Chapter 3, not all graduates began their teaching preparation coursework at the university where they graduated as teachers. The researcher thus focused on the specific environments in which these participants student taught as this could have affected some of the processes of mentoring interaction amongst them. The value of these experiences rest on the quality of support pre-service teachers receive (Grossman, 2010). Recognizing how the participant's backgrounds may have shaped these interactions, the researcher acknowledged how their interpretations could be influenced by personal, cultural, and historical experiences. In order to easily display the data for the reader, random pseudonyms were used for sharing the individual interview data (example: Participant A, Participant B, etc.).

The researcher noted that clarification was needed from both the individual and group interview as participants used different terminology when answering certain questions. The researcher had to ensure that the participants were clear in their use of the terms, especially those used for specific individuals within their university as well as their student teaching. Clarifying questions were used and further verified in the transcripts to ensure that the correct emphasis was placed on the question. Some of the variances came from participants who had not had the same undergraduate training and thus had different paths and experiences prior to their graduate year. The researcher noted the specific terminology that differed namely: *Mentor vs Advisor*; *Student Teaching vs Internship vs Field Study*; and *University Supervisor vs Advisor vs Cooperating Teacher*.

The researcher conducted a series of phases to analyze the data from the study using steps outlined by Creswell (2013). As coding is an essential step in making sense of the data, the

researcher chose to use an initial coding process relating to the data resource and organized these into common perceptions and coded descriptions. Firstly, the data from the individual interviews was coded. Secondly the researcher coded the online questionnaire and lastly the data from the group interview was coded. The researcher used open coding for each data strand, which resulted in 26 open codes for the individual interview, 14 open codes for the online questionnaire and 10 open codes for the group interview (see Tables 9–11).

Table 9*Open Codes by Data Strand Individual Interview*

Data source	Open codes	Code description
Individual Interview	Student relationships	The supports needed to create relationships with students (school).
	Cooperating Teacher	The need for a reciprocal relationship with a cooperating teacher prior to entering student teaching.
	Mentor (School) Experiences	The collaborative, positive influences, and willingness of a mentor to share ideas and experiences, by brainstorming concepts.
	Mentor (University) Experiences	The lack of mentor system and inconsistent mentor figure needs to be more than an advisor.
	Regarding readiness to teach	The support from Methods of Teaching class beneficial to preparation with realistic examples of situations and sense of preparedness.
	Self-development	The ability to self-analyze and reflect through mentoring relationships from Methods class and mentor teacher. Methods class beneficial to self-reflection and identifying strengths and importance of feedback.
	Professional Development	The belief that mentoring should be an option for teachers' contract as everyone would understand how to mentor colleagues.
	Diverse student body	The support needed to identify own areas of struggles such as differentiation, IEP students and modifications.
	Management	Having ongoing discussions on classroom management situations and classroom reality identifying situations not yet experienced.
	Secondary Teacher perspective	How cross endorsement students appear to have more mentoring earlier in Elementary preparation as secondary candidates felt more mentoring needed earlier as Methods II elements came too late.
	Mentor teacher (school)	How mentoring as a support system is essential to student-teachers in identifying styles of teaching and keeping students engaged.
	Extreme behaviors	That feeling of being unpreparedness and lack of support in establishing the real classroom connection.
	Collaboration and climate	The ability to practice concepts and techniques in safe environment.

Table 10*Open Codes by Data Strand Online Questionnaire*

Data source	Open codes	Code description
Online Questionnaire	Mentoring Experiences	The value of mentoring through internships and placement school, versus the advisory role at university for class selection.
	Mentoring concept	The positive experiences of mentoring through methods of teaching mathematics.
	Mentor	An experienced thoughtful individual who gives mental/emotional advice and support to mentee. Someone to lean on and share concerns, struggles and successes with. As evident in Secondary Methods Course (all), Elementary (Cross Endorsement).
	Evidence of mentoring in preparation program.	The increased awareness and understanding of field work earlier would have benefitted the practicum experience.
	Impact of mentoring prior to student teaching.	An essential component to understanding the expectations and roles of mentors in graduate internship and as a novice teacher would encourage one to become a mentor.
	Embedding Mentoring into coursework	The awareness of challenges and positives of teaching and work with negativity too. Dealing with stresses of the profession and real-world aspect and applied in practice creating stronger relationships at school as novice teacher.
	Mentoring supports	The value of embedding mentoring into undergraduate teacher courses prior to field study/internship or even earlier.
	Mentoring Need	The consistent check-in (digitally), in-person (bi-weekly), and collaboration to discuss difficult situations.
	Availability of support	The critical, essential, positive role which aids in developing new teachers. Being supportive, collaborative, self-reflective, flexible and pedagogically prepared.
	Role of cooperating teacher	
	Mentoring practices needed for transition	Assigning a specific mentor at university level supported by cooperating teacher within the internship program and being aware of quality of mentors before they place students.
	Creating connections university.	Embedding mentoring will foster better connections, create stronger candidates, who are organized and will be supported and link the classroom to the teaching. Mentoring practices will reduce the amount of teachers leaving as they have someone they can trust.
Teacher Attrition	Concerns are heard, personal support, mental support, better mindset, sharing good practices.	
Novice teacher support.	Mentoring as mini support system, feeling prepared with a mentorship program.	

Table 11*Open Codes by Data Strand Group Interview*

Data source	Open codes	Code description
Group Interview	Mentoring Guidelines	The need for more support for new teacher as mentoring is inconsistent with no structured mentoring time at the university level.
	Expectations (University)	The expectations should be the same at university and school level as pre-service teachers had very different experiences, yet we all had same training.
	Role of Teacher -mentor	The building of relationships creating a supportive and collaborative experience. A guide to move one forward and understands having student teacher.
	Mentee	The ability to adapt, jump right in and feel comfortable in the classroom.
	Teacher Educator	The understanding that not all mentors are teacher educators and cannot relate to student teachers.
	School Expectations	The ability to become part of school community by substituting classes and positively impacting students.
	Student perspective of becoming a teacher	Veteran teachers know what they are doing, and student teachers are new faces and can struggle too but this helps in transition to novice teacher. They see student teachers as still learning too, as a good experience.
	Structured Mentoring (University)	The lack of structured mentoring as undergraduate level has led to a missed opportunity and feeling that senior year of undergraduate studies should have mentoring as graduate year is too late
	Pedagogical Practices	Intentional mentoring practices are needed within the content areas as the mentor teacher may not be math (as a novice teacher). Pedagogy strategies are not subject specific but need to be standardized.
Teacher Attrition	By standardizing the mentoring experience for all members of the school community would assist in keeping new teachers who are still growing and learning with support.	

Note. The researcher used open coding for each data component, individual interview, online questionnaire and group interview.

The theoretical frameworks informed, supported and facilitated the data analysis process by the identifying codes and emerging themes. Educative Mentoring (Feiman-Nemser, 1998) encouraged learning within and from teaching, supporting inquiry of practice. Themes supporting the archetypes of mentoring, specifically research question one, were identified through data from both interviews and the questionnaire. The view of educative mentoring addressed the complexities of teaching, the focus on long-term goals for retention of novice teachers and understanding how teachers learned during pre-service teaching. Supports for pre-service teaching and in turn a novices' ability to adequately reflect and apply these skills were a current theme further supported by research question two. Feiman-Nemser reiterated the need for educative mentoring to create better classroom teachers and the need for mentors who are teachers of teaching (1998), accredited to research question three. Research question four was supported by the educative mentoring framework and mentoring themes as novice teachers would be in the position to ensure that learned educative practices affected their own teaching and retention.

According to Lave and Wenger (1991), learning is an integral part of generative social practice in the lived-in world and occurs as a function of the activity. This theme supported the three archetypes of mentoring and research question one as the gradual acquisition of knowledge and skills novices learned from experts was in the context of everyday activities. Research questions one and three repeated themes of practices being identified as the action of mentoring is active every day in the lived-in world of teaching. Data codes and themes of mentoring guided pre-service teachers making sense of and interpreting their educational world. Experiences were a constant theme when associated with meaningfully structured situations and reiterated again

within research question one. The three archetypes of mentoring supported the theme of supervision for mentors engaged in the generative process of producing their own future.

The third framework of Magnusson, Krajcik, and Borko (1999) PCK Model completed the data analysis process of categorizing themes and codes. The first research question identified the perspective of mentoring and themes based on PCK being a new-comprehension activity that is forefront in the teacher preparation conversation. Research question two negotiated the transition to novice teacher with mentoring pre-service teachers on enacting PCK to manage the multiple tasks and contradictions of teaching. A mentoring relationship, research question three, encouraged critical incidents in practical experiences to be identified and resolved via reflection and thoughtful adaptation. Exploring the uniqueness and importance of PCK within teacher preparation, and the transferability of mentoring through content and pedagogy, were identified by research questions three and four as detailed within codes and emergent themes.

Following the gathering of this initial data the researcher prepared and reviewed both interviews, individual and group, and the online questionnaire data, mining for “themes through a process of coding and condensing the codes” before summarizing the data through a rich description and discussion (Creswell, 2013, p. 180). More specifically, the researcher reduced the data into meaningful portions and attached codes to the portions using the research and interview questions as a guide (Creswell, 2013).

RQ 1: What were pre-service teachers’ perceptions on embedding mentoring practices within teacher preparation programs to support pre-service teacher candidates?

- Mentoring practice reinforced the importance of reciprocity and having a mentoring relationship prior to student teaching.

- Mentoring relationship would be even more essential when the school and the university were connected in a collaborative manner.
- Being unprepared was detrimental to their first experience, seen as a missed opportunity
- Value of embedding mentoring in undergraduate courses prior to field study/internship emphasized.
- Lack of university mentoring structure reiterated within participant comments.

RQ 2: What were pre-service teachers' perceptions on embedding mentoring practices to support pre-service teacher candidates as they transition to novice teacher status.

- Dealing with stresses of the profession and real-world aspect and applied in practice creating stronger relationships at school as novice teacher with mentoring support
- Enable mentees to be aware of their own prerequisites prior to becoming a novice teacher
- Reiterated the need for mentoring to be added within their undergraduate preparation and not only their graduate year.
- Accentuated the need for mentoring relationships prior to their practicum which would further support and guide pre-service teaching and novice years of teaching.
- Mentored pre-service teachers bring updated research which can shift the growth mindset and culture of schools.

RQ 3: What were pre-service teachers' perceptions on how embedded mentoring practices contribute to mentors being better prepared to support novice teachers?

- Different mentoring experiences and concept of 'mentoring' was questioned as evidenced within each of the participants' quotes.
- Guided reflections from pre-service experiences will further enhance the level of their novice teaching experiences.

- Need for mentoring to be consistent throughout their training.
- Creating strong connections with their mentor teachers.
- Results indicated lack of mentoring has become a barrier to pre-service teachers' successful transition to novice teacher.

RQ 4: What are pre-service teachers' expectations on how embedding mentoring prevents novice teacher attrition?

- Assimilation of novice teachers into the culture of their schools, aids in the retention of experienced teachers.
- Early development of specific mentoring strategies enact confidence within the mentee and mentor relationship in lowering the current attrition rate.
- Mentoring practices would reduce the number of teachers leaving as they have someone they can trust.
- Novice teacher attrition would be significantly influenced by an established mentoring component within teacher education programs.

Thematic analysis in this study yielded a total of five major themes for the individual interview, seven major themes for the online questionnaire and six for the group interview. The major themes were summarized according to all the data sources (see Table 12).

Table 12*Major Themes by Data Source*

Data Source	Major Theme	Code Description
Individual Interview	Student Relationships	The supports needed to create relationships with students (school).
	Cooperating Teacher	The need for a reciprocal relationship with a cooperating teacher prior to entering student teaching.
	Mentoring Experiences	The collaborative, positive influences, and willingness of a mentor to share ideas and experiences, by brainstorming concepts.
	Readiness to Teach	The support from Methods of Teaching class beneficial to preparation with realistic examples of situations and sense of preparedness.
Online Questionnaire	Self-development	The ability to self-analyze and reflect through mentoring relationships from Methods class and mentor teacher. Methods class beneficial to self-reflection and identifying strengths and importance of feedback.
	Mentoring Experiences	The value of mentoring through internships and placement school, versus the advisory role at university for class selection.
	Mentor	An experienced thoughtful individual who gives mental/emotional advice and support to mentee. Someone to lean on and share concerns, struggles and successes with.
	Impact of Mentoring	The increased awareness and understanding of field work earlier would have benefitted the practicum experience.
	Mentoring Supports	The awareness of challenges and positives of teaching and work with negativity too. Dealing with stresses of the profession and real-world aspect and applied in practice creating stronger relationships at school as novice teacher.
	Mentoring Need	The value of embedding mentoring into undergraduate teacher courses prior to field study/internship or even earlier.
	Creating connections university	Assigning a specific mentor at university level supported by cooperating teacher within the internship program and being aware of quality of mentors before they place students.
Group Interview	Teacher Attrition	Embedding mentoring will foster better connections, create stronger candidates, who are organized and will be supported and link the classroom to the teaching. Mentoring practices will reduce the amount of teachers leaving as they have someone they can trust.
	Mentoring Guidelines	The need for more support for new teacher as mentoring is inconsistent with no structured mentoring time at the university level.
	Expectations	The expectations should be the same at university and school level as pre-service teachers had very different experiences, yet we all had same training.
	Role of Teacher-mentor	The building of relationships creating a supportive and collaborative experience. A guide to move one forward and understands having student teacher.
	Structured Mentoring (University)	The lack of structured mentoring as undergraduate level has led to a missed opportunity and feeling that senior year of undergraduate studies should have mentoring as graduate year is too late.
	Pedagogical practices	Intentional mentoring practices are needed within the content areas as the mentor teacher may not be math (as a novice teacher). Pedagogy strategies are not subject specific but need to be standardized.
	Teacher attrition	By standardizing the mentoring experience for all members of the school community would assist in keeping new teachers who are still growing and learning with support.

During the thematic analysis, the researcher noticed commonalities in themes based on the frameworks which supported mentoring practices and thus chose to drill down further into the data identifying common traits that supported the practice archetypes evidence. These subthemes further validated the data based on Kemmis et al., (2014) Archetypes of Mentoring (see Table 13). Evidence indicated that mentoring is understood and conceptualized in different ways from (a) the perspective in which mentoring is understood and discussed in as much as what the participants say in and about mentoring (sayings) when they understand mentoring within a discourse of supervision, or a discourse of support, or a discourse of collaborative self-development; (b) the perspective in which mentoring is enacted that is the different things people do (doings) in mentoring supporting new teachers in the development of their professional practices by more experienced teachers, described as mentoring as support, and/or (c) different perceptions of how participants relate (relatings) in mentoring to collectively develop their professional identities, described as collaborative self-development. The descriptions and discussions were included with the experiences of the participants, using direct quotes and examples (Creswell, 2013).

Table 13

Practice Archetypes within Subthemes

Practices of Supervision, Support and Collaboration	Embedding Mentoring Practices	Practice Archetypes Perceptions
<i>Participants' "sayings" and "thinking"</i>		
Methods of Teaching	Support, Preparation	The support from Methods of Teaching class was beneficial to preparation with realistic examples of situations and sense of preparedness and readiness to teach.
Self-development	Self-analyzing	The ability to self-analyze and reflect through mentoring relationships from Methods class and mentor teacher. Methods class was beneficial to self-reflection and identifying strengths and importance of feedback.
Mentoring Supports	Reflecting, Identifying	The awareness of challenges and positives of teaching and work with negativity too. Dealing with stresses of the profession and real-world aspect and applied in practice creating stronger relationships at school as novice teacher with mentoring support .
Expectations	Awareness	The expectations should be the same at university and school level as pre-service teachers had very different experiences, yet we all had same training
Structured Mentoring (University)	Missed Opportunity	The lack of structured mentoring as undergraduate level has led to a missed opportunity and feeling that senior year of undergraduate studies should have mentoring as graduate year is too late.
<i>Participants' "doings"</i>		
Mentoring Experiences	Collaborate	The collaborative, positive influences and willingness of a mentor to share ideas and experiences, by brainstorming concepts.
Value of Mentoring	Share Mentoring	The value of mentoring through internships and placement school, versus the advisory role at university for class selection. The increased awareness and understanding of field work earlier would have benefitted the practicum experience.
Creating connections (University)	Supporting role Placement	Assigning a specific mentor at university level supported by cooperating teacher within the internship program and being aware of quality of mentors before they place students.
Teacher Attrition	Reduce teachers leaving	Embedding mentoring will foster better connections, create stronger candidates, who are organized and will be supported and link the classroom to the teaching. Mentoring practices will reduce number of teachers leaving as they have someone they can trust.
Mentoring Guidelines	Standardizing Experience	By standardizing the mentoring experience for all members of the school community would assist in keeping new teachers who are still growing and learning with support. The need for more support for new teacher as mentoring is inconsistent with no structured mentoring time at the university level.
Pedagogical practices	Intentional practices/strategies	Intentional mentoring practices are needed within the content areas as the mentor teacher may not be math (as a novice teacher). Pedagogy strategies are not subject specific but need to be standardized.
<i>Participants' "relating"</i>		
Student Relationships Cooperating Teacher	Relationships Reciprocity	The supports needed to create relationships with students (school). The need for a reciprocal relationship with a cooperating teacher prior to entering student teaching. The building of relationships creating a supportive and collaborative experience.
Role of Mentor	Thoughtful	An experienced thoughtful individual who gives mental/emotional advice and support to mentee and understands having student teacher.
Mentoring Need	Supportive Prior to student-teaching	Someone to lean on and share concerns, struggles and successes with. The value of embedding mentoring into undergraduate teacher courses prior to field study/internship

Research Results

Archetype of Supervision, Support and Collaborative Self-Development

This theory of practice archetype provided a way to analyze the social practices of mentoring and discover certain conditions that make these kinds of practices possible. An analysis of these practice archetypes suggested various kinds of mentoring practices affected pre-service and novice teachers differently. Such an analysis, in turn, indicated whether or not different forms of mentoring might be necessary to be integrated into a program to transform the practice of mentoring and thus develop new or different kinds of dispositions in new teachers being mentored.

The five subthemes for practice archetype perceptions which supported the forms of understanding from participants' "sayings" and "thinking" are identified and further supported by participants' quotes from the individual interviews, online questionnaire and group interview. This revealed that the context of mentoring does not have one fixed and final meaning for pre-service and novice teachers as there is not just one aim or purpose for mentoring. On the contrary, 'mentoring' is a questioned notion as evidenced within each of the participants' quotes noting the differing mentoring experiences, what it meant to them, how they perceived it should be accomplished, and how relations affect one another in different school settings. It must be understood that different versions of mentoring are distinguished by their distinctive focus and motivated by different intentions. After analyzing each practice archetype, supporting supervision, support and collaboration regarding participant perceptions, the following subthemes were evidenced via the individual interview, online questionnaire and group interview.

The five practice archetype perceptions supporting participants' "sayings" and "thinking" revealed mentoring as enmeshed within the practice archetypes of *forms of understanding*. These practices were bound by what was perceived to have been said and thought within the practice of mentoring. Evidence of this practice was supported through the participants' quotes from the individual interviews, online questionnaire and group interview.

Participants "sayings" and "thinking"

Subtheme: The support from **Methods of Teaching** class beneficial to preparation with realistic examples of situations and sense of **preparedness and readiness to teach**.

Individual Interview responses:

Participant A: *Methods class really was beneficial ... prepare us for as realistic of a situation ...being able to pull from other people's experience ... the collaboration factor is huge*

Participant B: *your class (methods) was helpful ...practical resources and methods of teaching...might have been helpful to have another one before (graduation) that, before we start teaching.*

Participant C: *your class (methods)... prepared us for that.*

Participant D: *I gathered a lot of great resources especially like all the technology resources we had talked about*

Participant E: *drawing a lot on the things that we talked about in your class ...just because that's most of the experience ...required us to practice the things that we were going to be teaching...we practiced everything.*

Participant F: *besides your (methods) class had real example of situations... definitely helped.*

Subtheme: The ability to **self-analyze and reflect** through mentoring relationships from methods class and mentor teacher. Methods class beneficial to self-reflection and identifying strengths and importance of feedback for **self-development**.

Individual Interview responses:

Participant A: *advice ...we'd really work together ...collaborate a lot.*

Participant B: *an informal observation ... would give me really good feedback*

Participant F: *Because I'm going to school to be a math teacher and I don't even get to take a Methods class until I'm in grad school.*

Group Interview responses:

Group: *exposure to graduating seniors and graduate students ...would have increased my awareness and understanding of the field benefitted me.*

Subtheme: The **awareness of challenges** and positives of teaching and work with negativity too. Dealing with stresses of the profession and real-world aspect and applied in practice creating stronger relationships at school as novice teacher with **mentoring support**

Individual Interview responses:

Participant A: *mentor really helpedmy cooperating teacher too.*

Participant B: *helpful in some ways, we didn't have a super strong connection; she wasn't my mentor teacher, but we had a pretty good relationship*

Participant C: *kind of have us help in the classroom before teaching our own lesson. And then "Here are some things you could work on. Here's what you did good.*

Participant D: *I think after that first observation in that first lesson where I really was taking it on all by myself, I did feel pretty confident.*

Participant E: *"I just want you to be not stressed. I want you to realize that you can make a mistake and it's going to be fine and tomorrow's a new day."*

Subtheme: The *expectations* should be the same at university and school level as pre-service teachers had very different experiences, yet we all had same training.

Individual Interview responses:

Participant C: *everyone had such different experiences... sort of learning background stuff or theories and theoretical practices and not actually applying it.*

Participant D: *I liked to be more prepared just because I am more Type A*

Participant E: *everyone has such a different experience. expecting that you have management, how to deal with this, IEP's, everything else.*

Participant F: *more clear expectations, i more of a meeting, meet with a teacher and maybe a representative from (university) to just go over everything.*

Group Interview responses:

Group: *embedding mentoring practices into my coursework would have allowed me to understand the expectations and roles of my mentors in my graduate internship.*

Group: *don't know what the expectations from the university were as all of us had such different experiences in school*

Group: *Every school has its own climate and culture in classrooms... more expected of me at school, obviously, because I was there every day, especially as a student teacher.*

Group: *you're expected to go to your school and do what they tell you to do.*

Group: *They all had very different expectations in different situations*

Subtheme: The lack of *structured mentoring* as undergraduate level has led to a missed opportunity and feeling that senior year of undergraduate studies should have mentoring as graduate year is too late. (*University*)

Participant A: *I didn't really have any sort of mentor in that aspect, but I was in a program.*

Participant B: *I had an advisor, who helped me, didn't really do a lot of frequent mentoring,*

Participant C: *professors' kind of mentored us through the classes. There wasn't a specific like you're assigned to help us individually.*

Participant D: *there was not really any mentoring other than we did our own field study experiences...the secondary candidates could use a mentor that would help answer their questions and guide them along this journey.*

Participant E: *we had advisors but nothing like a mentor - got very little mentoring grad school portion - we're not assigned a mentor or anyone at (university) to guide us or to give us advice.*

Participant F: *(math professor) my mentor throughout college...me and her developed a good relationship. I went to her, literally, all the time anytime when I needed anything.*

Group: *mentoring should support student teachers entering their placement through consistent check ins (digitally) and in person meetings (biweekly) to ensure that the teacher candidate is not only getting everything out of their experience, but to also help hash out the difficult situations and conflicts that arise.*

Group: *if there were some more structured guidance from (university) like a student teacher can teach a maximum of this many different subjects.*

Group: *There was no structured mentoring at the university level, and there should be...that's the chance for us to ask questions. And I know that it's just a learning process.*

Group: *I think we didn't have the opportunity to ask as many questions, maybe. Or we didn't know what questions to ask.*

Summarizing participants' "sayings" and "thinking"

In summarizing the participants' "sayings" and "thinking" the Methods of Teaching course appeared to play an integral part in pre-service teachers' preparation and readiness. All six participants were able to articulate how this course prepared them for realistic situations and the importance of collegial collaboration for their placement schools. Four of the six participants suggested that another methods class should be added prior to their graduate year, possibly their senior undergraduate year. The participants also concluded that the methods class assisted them in self-reflection which they felt was necessary for their own self-development. With the aid of mentoring supports they believed that some of the stresses of the profession and real-world application were alleviated.

Five participants responses were able to vocalize these thoughts from their mentoring experiences through their individual interviews. When discussing the different expectations at the university and school-level, all six participants were very vocal in their responses as to how they had differed by experience. These findings are echoed through the literature review. When candidates in teacher preparation programs enter their clinical experience, there was an expectation that they already possessed a level of understanding and subject-matter mastery which allowed them to focus on how a topic was taught and on the skills and knowledge "a teacher need[s] to advance student learning" (Levine, 2006, p. 35).

The most prominent theme from the data analysis appeared to be the lack of structured mentoring as an undergraduate which, according to the participants, led to a missed opportunity by the university. The responses, six from the individual interview and four from the group

interview, took time to share their experiences. They reiterated the need for mentoring to be added within their undergraduate preparation and not only their graduate year as they were already in their placement schools and just trying to cope.

Subtheme: Participants “Doings”

The six practice archetype perceptions supporting participants’ subtheme of “doings” revealed mentoring as enmeshed within the practice archetypes of *Modes of Action*. These practices were bound by what was perceived to have been done in the practice. Evidence of this practice was supported through the participants’ quotes from the individual interviews, online questionnaire and group interview.

Subtheme: The collaborative, positive influences, and willingness of a mentor to share ideas and experiences, by brainstorming concepts through **mentoring experiences**

Participant C: *I didn't have too much of an experience – the mock lesson - only experience*

Participant D: *I another way for me to connect with another teacher who makes a difference*

Participant E: *it sort of really matched up well with me because she let me watch her once and then teach the lesson and repeat after her.*

Participant E: *I had two mentors that were total opposites from each other. One was very traditional and color coordinated notes and stamps and everything and then the other one was sort of like project-based learning.*

Participant F: *I had a complete 180 and I had a really awesome experience.*

Questionnaire: *so difficult to be a novice teacher and having a mentor is so significant*

Questionnaire: *The mentoring through the teacher education program through the internships as well as the methods of teaching mathematics at (university).*

Subtheme: The *value of mentoring* through required internships and placement school, versus the advisory role at university for class selection.

Participant A: *had confidence in me, they just let me go for it, really helped ...let me be independent there and it helped me grow a lot.*

Participant B: *two mentor teachers, because I taught different classes...we clicked a lot better than my other mentor the year before.*

Participant C: *kind of taught me that I have to go with the flow and everything's not always going to go according to plan.*

Participant D: *another mentor teacher who was not my cooperating teacher,*

Participant E: *literally just imitate and it made me ease into it but it made me feel way more comfortable to start teaching in a group setting.*

Questionnaire: *mentor teachers where I got a lot of feedback and advice about practical teaching*

Questionnaire: *feel comfortable to share any concerns or struggles with their mentor*

Subtheme: Assigning a specific mentor at university level supported by cooperating teacher within the internship program and being aware of quality of mentors before they place students.

Participant B: *they assign me the mentor teacher and then I start working with them.*

Participant C: *really helpful in getting me comfortable and just giving me experience.*

Participant F: *have a presentation about expectations...both there listening to the same thing.*

Group: *critical! I couldn't have done it without my cooperating teacher.*

Group: *Very critical! My cooperating teachers are where I got the most helpful feedback, ideas,*

Group: *My cooperating teacher played a critical role in mentoring me as a pre-service teacher.*

Subtheme: The increased **awareness** and understanding of field work earlier would have benefitted the practicum experience even more.

Participant A: *grateful that (the university) had the internship program a full year out of school.*

Participant B: *I think that was what really prepared me to be in a classroom to teach.*

Participant C: *I felt like we were really taught everything, the ins and outs*

Participant D: *they would give us advice from their experiences*

Participant E: *would have liked a little bit more sort of black and white guidelines, like*

Participant F: *I think there needs to be more emphasis on special Ed.*

Group: *need more teacher-like skills ...it's so overwhelming now*

Subtheme: Embedding mentoring will foster better connections, create stronger candidates, who are organized and will be supported and link the classroom to the teaching. Mentoring practices will **reduce number of teachers leaving** as they have someone they can trust.

Participant F: *people that have stopped being in the program because they've had such horrible field study placements...*

Questionnaire: *mentoring practices could reduce the flight of new teachers from the profession because they would have an individual that they trust and that understands them.*

Questionnaire: *A mentor would be able to truthfully and individually/specifically help the new teacher's/candidate's needs.*

Questionnaire: *Through embedding mentoring practices, the university would foster better connections with placements schools as a result of their strong candidates.*

Questionnaire: *Helping new teachers feel welcome, feel like their concerns are heard, and supporting them with advice and ideas for their teaching is critical.*

Questionnaire: *This would support them so that they make it through their first couple years, continue to grow as a teacher, and don't become isolated and negative.*

Questionnaire: *I think that embedding mentoring practices into my methods coursework would have allowed me to understand the expectations and roles of my mentors in my graduate internship.*

Questionnaire: *it could stop the flight of new teachers from this profession because good mentors create good teachers.*

Questionnaire: *embedding mentoring practices into my coursework would encourage me to become a mentor to other pre-service teachers.*

Questionnaire: *Teachers share their practice with younger teachers, then it keeps the cycle going. Those teachers go on to teach other teachers.*

Group: *mentoring will benefit my first year as a novice teacher provides me with a mini support system that has gone through many of the new things that I am currently experiencing*

Group: *embedding mentoring practices into my coursework would make me more aware of the challenges and positives of teaching.*

Group: *I think it would have prepared me also to work in this field with other educators and teachers who may display negative attitudes.*

Group: *senior year is kind of that year where we need mentoring... what are the things we're going to need to implement and do.*

Group: *a mentor to confirm or guide me how to move forward... I wouldn't feel so burnt out and I wouldn't feel so inadequate, and I wouldn't feel so stressed out.*

Group: *feel supported...being a new teacher is hard enough, because you're planning all these lessons for the first time, and you don't know how to deal with these issues yet.*

Group: *having people there to support you, and to let you know that you're still learning and growing, and you're not going to be perfect right away. And just to help give you resources and ideas. If everyone had that, I think a lot more teachers would stay in it longer.*

Group: *mentoring should be introduced to undergraduate teacher candidates as soon as they enter their first field study experience. (Fall of Sophomore Year).*

Subtheme: By standardizing the **mentoring experience** for all members of the school community would assist in keeping new teachers who are still growing and learning with support.

Participant C: *met my mentor about two weeks before the year started, not prior, didn't know*

Participant B: *wasn't a specific like you're assigned to help us individually.*

Participant D: *My principal gave me the choice to choose an adult in the building that I felt comfortable going to after the first few weeks of school but not everybody got to choose.*

Participant E: *I had two mentor teachers last year at (school)but I didn't actually meet them until that week of PD before school even started.*

Group: *would have been more beneficial having a more distinct set of guidelines*

Group: *a strong connection with someone that really vibes with you, is important, having a mentor is nice, but if they're not what you need, then it doesn't make sense.*

Questionnaire: *mentoring throughout the coursework, would benefit how I teach*

Group: *The University could be aware that the people they place student teachers with are truly ready to be mentors and are the appropriate people to help that individual student.*

Group: *mentoring should be introduced to undergraduate teacher candidates as soon as they enter their first field study experience. (Fall of Sophomore Year).*

Group: *I have a mentor, upstairs somewhere and I'm outside in the portables. I don't know her that well. I don't know who to go to when I have questions.*

Group: *Mentoring needs to be the year before student teaching, maybe the spring semester*

Group: *Mentoring will standardize the experience more, that's part of the problem.*

Subtheme: Intentional mentoring practices are needed within the content areas as the mentor teacher may not be math (as a novice teacher). Pedagogy strategies are not subject specific but need to be standardized.

Participant A: *I've never taught Algebra 2 before, so my confidence is a little lacking,*

Participant A: *spent time on differentiation, having it in a classroom made it a lot more real.*

Participant B: *she had a good pedagogy style, as well, that inspired me in my own thinking*

Participant D: *secondary, didn't have a ton of great coursework about social emotional learning*

Participant E: *there's something rewarding about learning something for someone else*

Participant F: *wasn't very prepared for middle school math and to handle behaviors, unsure of what to do.*

Questionnaire: *I feel prepared, know a lot more than I would have if I didn't have mentorship program.*

Summarizing participants' "doings"

In summarizing the participants' "doings", mentoring experiences were identified as a key factor for participants during their teacher preparation program and student teaching. This subtheme identified the different experiences of five participants who mentioned their experiences through the individual interviews and one other participant through the online questionnaire. There was a vast difference in the mentoring experiences for these participants

which elicited once again the need for mentoring to be standardized for all pre-service teachers in preparation programs. Another factor considered was the inconsistencies and capabilities of the mentors that the participants were guided by. The value of this experience rests on the quality of support pre-service teachers receive (Grossman, 2010), a theme which was consistent throughout the data analysis. This was deemed significant as having a mentor that would allow them to grow both emotionally and pedagogically was essential to their own pedagogical growth.

The value of mentoring, and the role of the mentor, needed to be an essential component of student teaching internships. The mentoring role needed to be more directly established at the university level and as a non-advisory role. The literature supported the finding on how successful pre-service and induction programs were in preparing teachers “is highly dependent on the quality and nature of the mentoring they receive” (Ward et al. 2013, p. 74). The literature studied supported this research but the emphasis on of mentoring being embedded earlier within teacher preparation programs still needs to be addressed. Embedding such practices to stem the flow of teacher attrition requires further research to be conducted. “Yet even when meeting the “highly qualified” criteria some novice teachers needed support to avoid feelings of being “lost at sea” (Kauffman, et al., 2002) evidenced in the participant responses of feeling unprepared.

The advisory role should be a dual role and supporting both the mentoring and advisory components. In carefully analyzing the excerpts from the interviews of five participants and two online questionnaire responses, the researcher noted how the emphasis varied when participants discussed their mentor relationship and the role of their mentor. Carver and Feiman-Nemser (2008) explained, “If mentor teachers are to promote effective teaching and learning, then they will need opportunities to learn to mentor” (p. 316). An area that was deemphasized was the assigning of specific mentors at university level to be supported by the cooperating teacher.

Participant responses on the selection of mentors being essential to successful relationships were supported through the literature as it is not enough to just be a good teacher; instead, mentors need to know how to teach teachers (Schwille, 2008). Although the participants were quite vocal about receiving the right mentor, the comments that stood out encouraged a university connection and specified knowing the quality of a mentor prior to placing student-teachers. All six participants felt it necessary to respond to being more aware of the depth of fieldwork being expected of them. Some participants even stated that the number of content areas they were expected to teach varied considerably, a crucial element for Lave and Wenger (1991) as experiences are seen within meaningfully structured situations. Although only one participant mentioned this in the group interview, fragments of lack of structure appeared elsewhere in more specific areas as novice teachers who were supported by mentors were less likely to move to other schools and less likely to leave the teaching occupation after their first year of teaching (Smith et al., 2004).

Although the individual interview questions did not focus on attrition, one participant chose to bring this into her response further supporting mentoring practices to prevent novice teacher attrition. To foster better connections and create stronger candidates, these practices would reduce the number of teachers leaving the profession. Participant responses indicated that having someone they can trust would make them stay. These responses indicated this is an area of great importance and concern as teacher attrition continues to plague the teaching profession as the experiences designed by educators are essential, suggesting opportunities for learning are embedded in the activities in which novices engage (Grossman et al., 2009). The participants' plea to be understood and heard was very vivid in both responses and behavior. Mentoring cannot only occur within the boundaries of the schools; it must begin within the teacher

preparation program as mentioned in the group interview, “Mentoring needs to be the year before student teaching, maybe the spring semester.” The participants’ responses indicated their concerns not just for themselves but for future teachers as student teaching is often regarded as the most important part of teacher preparation (Clarke et al., 2014). They also took time to reflect on when in their teaching preparation program mentoring should be introduced with some responses suggesting mentoring was needed from the first year and others stating it should be in their senior year. Regardless, the message was clear and should be an area of focus for teaching preparation programs.

The subtheme that follows supported this thought as four participants, one questionnaire response and seven group participants support the standardization of mentoring. This focus shifted to the school itself as the participants felt that all members of the school community should be involved in assisting new teachers, not just those who had been TEAM trained. These participants identified areas such as needing guidelines, mentoring within their coursework, a mentor being ready to have a student-teacher and so on. The responses were somewhat scattered, but the emphasis remained the same. A fitting end to this section of “participant doing” was how intentional mentoring practices needed to be included within content areas. The participants explained that their mentor was always subject specific and therefore could not guide them with subject matter needs. This section appeared to support the pedagogies that participants needed to be successful in all other content areas as well as differentiation of content and classroom management.

Subtheme: Participants’ “relating”

Five practice archetype perceptions supporting participants’ “relating” revealed mentoring as enmeshed within the practice archetypes of *Connecting the Mentoring*

Phenomenon. These practices were bound by the relationships created within the practice of mentoring. Evidence of this practice was supported through the participants' quotes from the individual interviews, online questionnaire and group interview. These practices focused on how relationships were fostered within the classroom and between the mentor. The researcher's literature review supported the results of this subtheme as teachers often reported that the clinical experience was the most influential aspect of their teacher preparation. University-based programs still struggled to develop clear connections "between what students learn in university classes and what they learn in the schools" (Levine, 2006, p. 28). These are collaborative efforts that encourage pre-service and novice teachers to find their way in teaching environment.

Subtheme: *The supports needed to **create relationships** with students (school).*

Participant A: *most positive experience was with my lowest class.*

Participant B: *He wouldn't...he didn't want to move onto the next thing until he fully understood*

Participant D: *we made a plan, made me really realize the importance of taking a step back and talking to our students like people because they are people with feelings and have had experiences with other teachers before you. I think that was a huge moment for me as a student teacher.*

Participant F: *a lot of these kids were going home to foster parents or to parents who weren't available to be there for them. So being able to be that person for some students and having students feel comfortable to come to me and talk to me and feel like they had an adult in their life that cared for them and loved them.*

Questionnaire: *mentor gave me a wholesome experience helped to feel very prepared for teaching.*

Questionnaire: *A good mentor is also able to be flexible and try new things. A good mentor is also someone who is likeable to the kids. When the kids can learn and go to their teacher for anything, whether it is for the content or not, it makes for a reliable mentor.*

Subtheme: *The need for a **reciprocal relationship** with a cooperating teacher prior to entering student teaching. The building of relationships creating a **supportive and collaborative** experience.*

Participant B: *had a good relationship with both my mentors at (school)*

Participant D: *During my building substitute responsibilities, I got to know her (cooperating teacher).*

Participant E: *feel more confident when you've built a relationship with the class.*

Participant F: *the teachers were always there for each other and were very supportive*

Group: *there are some teachers that probably just wouldn't be great mentors.*

Group: *there should be more educator/mentoring education/training for teachers. So that they can have more of that perspective in teaching other teachers.*

Subtheme: *An **experienced thoughtful** individual who gives mental/emotional advice and support to mentee and understands having student teacher.*

Participant D: *I remember her saying let's sit down and collaborate about how we're going to make this maybe more exciting for them or more fun.*

Participant D: *I was given the choice to select a teacher in the building that would be my mentor teacher, which was different and separate from my cooperating teacher who I student taught with. She really did let me implement my own style and change things up if I wanted to.*

Participant E: *had a good relationship with her, then built such a good relationship with class.*

Participant F: *loved my cooperating teacher- was so good at classroom management.*

Group: *someone who's also willing to improve their own practice- get a fresh perspective on the profession, and getting ideas from someone who's younger*

Subtheme: *Someone to lean on and share concerns, struggles and successes with. A guide to move one forward and understands having student teacher.*

Participant A: *she would let me be a really big part of her classroom- positive experience there.*

Participant B: *she would sit in the room with me and in the background and help out a little bit.*

Participant C: *I was with my mentor/ cooperating teacher, he would be in the room*

Participant D: *I was given the choice to select a teacher in the building that would be my mentor teacher, which was different and separate from my cooperating teacher who I student taught with.*

Participant F: *She would always build me up and make sure that I felt confident and secure in what I was doing before I did it so I wouldn't mess up in front of everyone... she gave me advice all the time about, just be yourself and show them that you care and show them that you're there for them. She was always just so considerate and helpful.*

Subtheme: *The value of embedding mentoring into undergraduate teacher courses prior to field study/internship or even earlier.*

Participant A: *mentoring as a guide...the nerves were there at the start, set those ground rules that my mentors were able to set in my own classroom,*

Participant D: *didn't feel comfortable going to my cooperating teacher... when I was entering my placement for graduate, I was so nervous, and I didn't feel ready*

Participant E: *very difficult internship in the student teaching. not prepared for dealing with the behaviors or how to accommodate modifications on a 504. I really don't know how to do that.*

Participant F: *field study (mentor) did a great job with me. I was so nervous, but at the same time, so grateful*

Questionnaire: *I think it (mentoring) should be introduced either in the third or fourth year of college. The first two years, you get your core classes and preliminary classes done then when the education classes start, mentoring can begin to get the knowledge of the teaching profession.*

Questionnaire: *Right away! Students should be able to pick a mentor that they believe can best benefit them.*

Questionnaire: *Maybe a year before they start their first internship at a school.*

Summarizing participants' "relating"

In summarizing "relatings" the first area of focus that came to the fore were the supports needed by the participants in making connections and relationships with their students.

Participants did digress into how difficult it is this year due to COVID to make real connections having never had their full class size physically with them. Some of the participants were very emotional when talking about the relationships they had made in the spring as they never managed to complete their student teaching experience. Four participants shared their experiences with student that had impacted their student-teaching and two questionnaire responses shared their feelings on how important it was for a mentor to understand their own students well. This practice reinforced the importance of reciprocity and having a mentoring relationship prior to student teaching. Participants felt that this relationship would be even more essential when the school and the university were connected in a collaborative manner. Three participants responded from the individual interview and two from the group interview, one specifically encouraging mentoring of teacher educator so that they would have more of a perspective in teaching other teachers.

Seeing the mentor as a guide was seen in the responses from five of the participants. It was very clear that having a mentor at school was a very positive experience although it seemed that there was a distinct difference between the mentor and the cooperating teacher within schools. Although the researcher did try and clarify this distinction, it seemed that the participants had differing views from their schools on the use of terminology too.

The final section referring to connecting the mentoring phenomenon reiterated one of the most prominent themes within the study which was the value of embedding mentoring into the undergraduate courses prior to student teaching or even earlier. The four participant responses and three group interviewees clearly stated that mentoring should be introduced early in teacher preparation programs. Some of the responses indicated why this need is so great and the feeling of being unprepared which had been detrimental to their first experience.

Before concluding the research another layer of evidence was acknowledged, and this came from conducting a social interaction analysis. The researcher was able to further witness the emotions that these pre-service, now novice teachers, shared throughout their experiences being honest, open and vulnerable, which resulted in rich feedback. During the Zoom meetings, it was evidenced that the participants were very passionate about sharing their own experiences. The individual interview gave them this platform and the researcher noted the facial expressions, gesturing, body language as well as their eye contact that accompanied the questions (see Table 14). The researcher felt that these emotions shared an in-depth level of understanding as well as an innate need to ensure that the researcher understood the importance of their responses.

Table 14*Behavioral Themes Social Interaction Analysis*

Participant	Emotion	Gesturing	Eye Expression	Body Language	Facial Expression
Participant A	Crying: Working with students and did not manage to have closure.	Helplessness: With students needing differentiation	Downward glance” Frustration	Confident Mentor was the coach	Focused Determined to be heard
Participant B	Laughter: Relief and thinking of the last year.	Excitement: New school has solid mentor set up	Eye Contact Confident in her ability	Calm and composed. Knows expectations from the school	Understanding and desire to ensure she will be heard
Participant C	Nervous: Feeling overwhelmed due to online teaching	Shrugs: Unsure of how students will learn this year	Downward often: Wanting to be honest and understood about needs for new teachers	Constantly moving: Sense of urgency to get organized and be perfect	Frowning and scared as she is unsure of what each day may bring with her students.
Participant D	Caring and emotional response to questions as she feels for her colleagues who are struggling.	Hands up and down: very excited about the new school year but nervous too.	Eye Contact: Very sure of her position at the school as she is with a colleague	Flexible and moving. Excited about the year and has a good support system	Happiness in that she is with a good team and is supported.
Participant E	Confused and annoyed at the lack of content knowledge she must teach.	Helplessness: Cannot understand why she was not prepared for this year.	Eye-Contact: determined to make sure results indicate there needs to be changes	Upset and rocking. Seems to be unsure of own ability in school - she is in struggling.	Angry that there are no supports at the school even with COVID– more support from college colleagues.
Participant F	Frustrated with the COVID situation and inequity of resources for students.	Helplessness as unable to change the situation but loves her job	Downward glances when discussing supports needed for this year – not sure where mentor is.	Frowning: more from trying to be heard and sharing experiences to influence changes.	Always smiling and positive ever though frustrated. Must look on the good side of situations and make the best of it.

Note: Social interaction analysis displaying participants’ active and reactive expressions.

Summary

Mentoring is defined in this study as a process to support pre-service teachers becoming educative in their practices to improve their self-reflection, self-advocacy and learn professional responsibilities, which positively affect students' learning. This study is significant in that the data gathered will guide educational policy makers in embedding standardized pre-service mentoring practices within teacher preparation programs. These will in turn support pre-service and novice teachers as they become effective educators within their classrooms. Embedding these practices would enable mentees to be aware of their own prerequisites inside and outside the school environment and encourage mentors to be attentive to the mentee's specific needs prior to student teaching or their novice year.

Entering schools as a novice teacher with embedded mentoring experiences will not only guide mentors but allow new teachers to be assimilated into the culture of their schools and possibly aid in the retention of experienced teachers. Guided reflections from pre-service experiences will further enhance the level of their novice teaching experiences. Evaluating educational mentoring practices, theories and experiences, pertaining to novice mentoring, teacher attrition and retention, would ultimately support all educational outcomes.

This research provided valuable insight for institutions of higher education as well as the broader field of educational research to consider embedding mentoring practices into their programs. These thoughts further indicated the importance of this dedicated, embedded, reflection time as an area of need for pre-service teachers, after having spent considerable time and effort preparing for their practicum. The participants of this research expressed continued concerns of feeling unprepared for their teaching experience and considered requesting a

methods course be included in their 4th year of the teaching program not only in their graduate year.

This research study was significantly important because it highlighted the critical issues that novice teachers' encounter in their first five years of teaching. The research has provided valuable information and findings that aim to benefit both pre-service and novice teachers' initial school experiences. The distinctive role of these novice teachers is of crucial value to schools as they bring updated research from their studies which can ultimately shift the growth mindset and culture of schools. Teaching students requires providing the best resources available. The research results indicated that teachers often receive less assistance in the early stages of their career when they need it the most, and this lack of assistance could be even more detrimental to the students. Evidence of this has been noted by the participants' own experiences and voiced further through their emotions.

Chapter 5 Discussion, Conclusion, and Recommendations

This qualitative interpretive research permitted pre-service teachers to evidence the importance of embedding mentoring practices into teacher preparation programs that promoted future growth and led to richer subsequent prolonged experiences in the teaching profession. The results of this research describe the perceptions and expectations of six participants and their experiences with mentoring through their five years of teacher preparation. These participants had all begun their first math positions at various schools and thus were able to retroactively respond to the questions in both interviews and the online questionnaire with a dual purpose. The analysis of the data revealed themes and subthemes which highlighted the need for an embedded mentoring structure.

This chapter comprises the significances of the results, how there are tied to the conceptual frameworks of Educative Mentoring (Feiman-Nemser, 1998), Situated Learning Theory (Lave & Wenger, 1991), the Magnusson, Krajcik, and Borko (1999) PCK Model and the emergent themes from the findings. These organizing frameworks guided the research in exploring how the early development of specific mentoring strategies enacted confidence within the mentee and mentor relationship in lowering the current attrition rate. This research adds to this theory of embedding mentoring practices earlier on in ones learning experiences supports best practice and an opportunity for growth (InTASC #9). Apart from the research results, this chapter also indicates recommendations for future research and practice, as well as implications that may be applied to the practices of educators, administrators, and other stakeholders who work with pre-service and novice teachers. The framework components, discussed previously in the literature, are grounded in culturally relevant mentoring practices deemed essential to support pre-service teachers in becoming productive novice teachers. Although the mentoring of pre-

service teachers as mentees and in-service mentoring may have somewhat differed, the basic practices, activities, and experiences remained largely the same. The results remained focused on these experiences and perceptions as pre-service teachers neared novice status.

The evidence collected from the research guided the identification of core mentoring practices to be embedded in future methods coursework. Both pre-service and novice teachers' responses from the individual and group interviews together with the online questionnaire accentuated the need to have mentoring relationships prior to their practicum which would further support and guide pre-service teaching and novice years of teaching. The researcher chose to share the experiences of the participants, verbatim, to further support the need for mentoring to be embedded not only in methods coursework but in subject content areas too. By highlighting these needs, the researcher was able to further witness the emotions that these pre-service, now novice teachers, shared through being honest, open and vulnerable, which led to authentic exploration and informative feedback.

Summary of the Findings

The research findings through the thematic analysis addressed commonalities that occurred in themes supporting mentoring practice. Each of the data resources was unique in its focus and the participants were able to voice their opinions, concerns and even share their emotions. Using Zoom for both the individual and group interview allowed the researcher to recognize some of the behaviors that are associated with new novice teachers. Their tone of voice, their passion for being a teacher, their emotions at needing support and even their strength of comradery shone through. Having recognized this added layer of support for the study, the research chose to add this aspect of understanding participants' perceptions more thoroughly. Drilling down further into the data, the results identified common traits that evidenced social

practices supporting the archetypes of mentoring. The descriptions and discussion included the experiences of the participants, using direct quotes and examples (Creswell, 2013).

The initial coding process allowed the data to become organized and yielded common perceptions and social practices. The questionnaire data gave students another platform to express their understanding of mentoring and share their personal experiences over the five years of student preparation. As stated previously, not all the participants had completed their undergraduate training at the university from which they completed their student teaching. This was apparent in some of their responses within the individual interview and online questionnaire. The researcher was aware of these different pathways but not prepared for the similarities of mentoring experiences. This confirmed the need for a more standardized mentoring system to be added to other teacher preparation programs, not just the university from which the participants graduated.

The major themes that arose within the thematic analysis from the individual interviews indicated that relationships, mentoring, readiness to teach and self-development were key for pre-service and novice teachers. It was evident that the methods class was an area in which these participants felt comfortable and were able to self-analyze and reflect through mentoring relationships from their colleagues and their school mentor teacher. They shared that the methods class was beneficial to their self-reflection and guided them in identifying their own strengths. Participants shared the importance of feedback in more than one of their responses. This correlated with the archetype of collaborative self-development and was further supported by the theory of practice pursued in order to make sense of and analyze this practical social action. Lave & Wenger (1991) state that “engaging in practice, rather than being its object, may well be a

condition for the effectiveness of learning” (p. 93). The major contribution of Situated Learning Theory is the notion of practice to interpret the reformulation of thinking and learning.

The online questionnaire responses from the six participants shared how an experienced thoughtful individual gives mental/emotional advice and support as they are someone to lean on and share concerns, struggles and successes with. Participants expressed their need for mentoring to be consistent throughout their training. The questionnaire responses supported a consistent check-in (digitally), in-person (bi-weekly), and collaboration to discuss difficult situations that might arise and emphasized the need for mentoring to be an established feature of pre-service teacher training. Participants were very clear in their responses on the impact both a mentor and mentoring would have had on their own experiences. The participants shared their personal memories but also shared concerns for their fellow novice teachers and what experiences they had incurred and how they had resolved these as a team, albeit when they were still student-teaching. The responses were very focused and, in some cases, very critical and even came across as emotional, using exclamation marks to emphasis their point. One response that stood out was the need for a mentor that knew how to work with a student-teacher. Being “aware of the quality of mentors before they place students” indicated that this participant had either had a bad experience or had supported a colleague through a negative experience. The participants were quite vocal in the group interview as they had prior knowledge of collegial mishaps and some of the responses to questions were affected by their tone of voice.

The other area of specific need for participants was creating strong connections with their mentor teachers. All participants reported that their student-teaching experience was the most influential aspect of their teacher preparation, yet university-based programs still struggle to develop clear connections “between what students learn in university classes and what they learn

in the schools” (Levine, 2006, p. 28). Once again, the terminology proved to be a challenge and the researcher did have to fact check with the participants during the group interview to ensure that the meaning of the words supported the intention of the response. This area of connectiveness again is supported by the chosen frameworks and proved to be a common theme throughout the findings. On the university level the responses supported assigning a specific mentor at university level and this person also having a connection with the cooperating teacher within the internship program. It appeared that connections are integral to the participants feeling of being supported and that there needs to be a bridge between the university and the placement school.

All the six participants stated they had no prior relationship with their cooperating teacher before they entered their student-teaching. The researcher found this astounding as their own experiences with mentoring and cooperating teachers was vastly different. Although this could be misconstrued as a bias, the researcher chose to identify the reasons behind this lack of connectiveness between the teacher preparation program and the placement school. Continued focus on connections was also seen in some of the participants’ comments on the enormity of their position as a student-teacher. Having noted the different experiences and pathways to student-teaching, these participants still shared similar comments on feeling unprepared for their student teaching and felt that an “increased awareness and understanding of field work earlier would have benefitted the practicum experience.” A recurring theme both within the data and the questionnaire responses was on how mentoring practices would reduce the number of teachers leaving as they have someone they can trust. Teacher attrition continues to plague the teaching world. The current COVID crisis will undoubtedly not ease this situation as both novice and

veteran teachers need constant mentoring to access resources and create connections with their own students online or using a hybrid model.

The lack of university mentoring structure and an inconsistent mentor figure, other than that of an advisor at the teacher preparation level, was reiterated within the comments. It was evident that the support system through the Methods of Teaching class was beneficial to their preparation as realistic examples of situations were discussed and situations resolved giving the participants a sense of preparedness. One participant shared her feelings specifically focused on how embedding mentoring “will foster better connections, create stronger candidates, who are organized and will be supported and link the classroom to the teaching.” According to the literature, “the effectiveness of mentoring ... is assumed rather than demonstrated” (Rodger & Tremblay, 2003, p. 3), and identified this embedding mentoring practices gap within teacher preparation programs. This was evidenced primarily through the initial open codes of the online questionnaire when the researcher became aware of the lack cohesiveness in a mentoring. A further participant stated that the value of embedding mentoring into undergraduate teacher courses prior to field study/internship or even earlier would help deal with the stresses of the profession and create “stronger relationships at school as a novice teacher.”

Although many of the previously discussed themes continued to be of uppermost on the list of responses, a new theme on “expectations” came to the fore. The researcher chose to take time to listen to all the participants as evidenced in the transcript. This was an area in which these six participants wanted to be heard and was supported through the literature as Levine (2006) stated “there is an expectation that they already possess a level of understanding and subject-matter mastery that allowed them to focus on how a topic was taught and on the skills and knowledge”: (p. 35). Analyzing this theme further it appeared that even though these

participants came from the same university, the expectations from the schools did not match the expectations from the university. Delving more into this concept, the researcher was able to ascertain that student-teachers were required to teach a different number of courses at their placement school. The participants felt that this was not shared clearly enough with the placements school and that there should be a set of guidelines for the schools. They all agreed that there is handbook given to cooperating teachers and mentors, but this was very detailed and not user friendly. The participants believed that schools needed a hands-on set of guidelines which were easily accessible and specific to the expectations of all student-teachers and their university.

Participants felt that their cooperating teacher and/or mentor should be given more guidance from the administration as well as the university. This discussion led to the participants reiterating the need for knowing about their own mentoring needs prior to entering their placement school. One of the comments stated that the lack of structured mentoring at undergraduate level has led to a missed opportunity and that they felt that their senior year of undergraduate studies should have mentoring as their graduate year was too late. Another area of concern that was voiced was that their mentor was not necessary a mathematics mentor as transferable mentoring possibilities within PCK intersects content and pedagogy, a hallmark characteristic of the concept. All these participants are mathematics majors and the researcher assumed that they would have been given mentors with a mathematics background. This was not the case and thus the researcher felt that this is an area of need and that the university should be aware that this was occurring within placement schools. Further to this discussion and realizing that these participants were actually seeing their responses from a dual perspective, one comment

resonated and supported this need, “intentional mentoring practices are needed within the content areas as the mentor teacher may not be math (as a novice teacher).

Although the group interview proved to be somewhat challenging, as all six participants wanted their voices to be heard, this research gave them a platform to be honest, exposed, yet understanding at the same time. Evidence of these experiences were shared and reiterated non-verbally through facial expressions and body-language on the screen. The researcher chose to add a Behavior Theme and Social Interaction Analysis from the individual and group interviews. This added layer of data served to confirm the intensity in which the participants spoke when asked specific research questions. The types of facial expression, whether actively, consciously or reactively, unconsciously, generated enabled the researcher to feel the participants’ emotional passion for teaching. These emotions strongly supported the need for the universities to be aware of the challenges facing new teachers and how early interventions are needed when pre-service teachers experience negativity within their practicum.

A further analysis of data led to the discovery of subthemes that validated the data and signified that mentoring is understood and conceptualized in various ways. The subsequent themes were analyzed using the participants’ perspectives in which mentoring is understood and discussed in as much as what the participants say in and about mentoring (sayings and thinking) when they understand mentoring within a discourse of supervision, or a discourse of support, or a discourse of collaborative self-development. By adding this subtheme layer, the researcher was able to further identify the commonalities which were occurring and validated the need for this research and verifying each research question. When looking at the responses from the perspective of the participants in which mentoring is enacted, research question #1, the researcher understood that having these participants in a somewhat “dual” role benefitted this

research. The impact of this dual role on future teacher preparation programs in how different people do (doings) in mentoring, supporting research question #3, and the development of new teachers and their professional practices supported by more experienced teachers. When looking at the importance of essential elements such as connections and relationships, research question #2, the participants were very vocal and emotional in their responses. The expectations of support that would prevent novice teacher attrition, research question #4 were supported by the group interview responses significantly. Using the Kemmis et al., (2014) archetypes subthemes supported the differing expectations to how pre-service teachers, and now as novice teachers, relate (relatings) in mentoring to collectively develop their professional identities, support their collaborative self-development, was extremely clear and expressed throughout the study.

Interpretation of Findings

The contributions from the three frameworks namely Educative Mentoring (Feiman-Nemser, 1998), Situated Learning Theory (Lave & Wenger, 1991), the Magnusson, Krajcik, and Borko (1999) PCK Model solidified the importance of embedding mentoring practices into future teacher preparation programs. The researcher read, watched and listened to all six of the participants relive their teaching experiences multiple times. The results concluded that the concept of embedding mentoring practices was considered fundamental for both pre-service and novice teachers as an essential resource to keep them in their chosen field of teaching. In the group interview a participant shared that mentoring should support student teachers entering their placement schools through consistent check ins (digitally) and in person meetings (biweekly) to ensure that the teacher candidate is not only getting everything out of their experience, but to also help hash out the difficult situations and conflicts that may arise. This social practice aspect of the frameworks continued to be supported by Lave and Wenger (1991) 'learning Pedagogy,

Culture & Society is not merely situated in practice – as if it were some independently reifiable process that just happened to be located somewhere; learning is an integral part of generative social practice in the lived-in world.’ Evidence of these experiences were shared by all six participants and reiterated within the group interview by a conducting a social interaction analysis.

Lave & Wenger (1991) state that “engaging in practice, rather than being its object, may well be a condition for the effectiveness of learning” (p. 93). The major contribution of Situated Learning Theory is the notion of practice to interpret the reformulation of thinking and learning. This theory of practice was pursued, and a practical social action analysis completed as another data point which visibly indicated how these participants were feeling emotionally, sociably and pedagogically. The literature continued to substantiate these thoughts confirming that mentors need to be aware of pre-teacher and novice pedagogy together with best practices as it is not enough to just be a good teacher; instead, mentors need to know how to teach teachers (Schwille, 2008). Participants’ perceptions confirmed that “pedagogy strategies are not subject specific but need to be standardized.” As stated, prior in this research, pre-service teachers enter the teaching workforce with a wide range of educational experiences from alternative routes to certification and through traditional teacher preparation programs. What was not apparent prior to the research was a vast discrepancy between the traditional teacher preparation programs and their emphasis on specific areas of pedagogy. Noting that the participants of this study were looking through a dual lens, having just begun their first teaching assignments, this study enabled the researcher to understand that their experiences were both immediate as well as reflective.

As many of the intricacies of student teaching are learned within the placement school and classroom, the participants’ responses confirmed that mentoring should be a reciprocal,

intentional and purposeful practice seen as an essential component of a pre-service teacher repertoire. Literature supporting this focused on the role of an educative mentor taking the stance of a learner, seeing themselves not only as a holder of knowledge but also as a receiver (Feiman-Nemser, 1998, 2001b) seeing the mentor/mentee relationship as one that further develops the practices of each partner. Evidence from this research established the need for embedding mentoring practices placement within teacher educational programs to better support a reciprocal relationship between the university, cooperating teacher mentor and subsequent mentee. This is also verified by Carver and Feiman-Nemser, (2008) who explained, “If mentor teachers are to promote effective teaching and learning, then they will need opportunities to learn to mentor” (p. 316). Thus, it is important to support mentors in embellishing their mentoring skills within their respective content areas, enabling them to provide a shared vision of effective mentoring for both pre-service and novice teachers.

The group interview gave the participants a platform to share their own experiences as well as those of their colleagues. It was clearly evident that these young teachers had been self-mentoring each other for the past year. They appeared to have continued this practice even though they are in different school as novice teachers. Their emotional and quite vocal responses to the question with regards to sharing their perspective of student teaching compared to the perspective from the university were heartfelt. These shared responses are indicative of the situation they had experienced as student teachers as well as the situation all teachers are currently faced with namely COVID. The researcher redirected them to refer to prior experiences first and this was achieved once they had all voiced their opinions. The clinical experience is often reported as being the most influential aspect of their teacher preparation, yet

university-based programs still struggled to develop clear connections “between what students learn in university classes and what they learn in the schools” (Levine, 2006, p. 28).

The literature review also indicated that the strength of the mentor lies in the quality of the mentoring practices. Norman and Feiman-Nemser (2005) wrote that in order to create better classroom teachers, “we need mentors who are teachers of teaching” (p. 695). Further evidence from the research supports the mentoring component even though there appears to be some inconsistency in the number of methods classes required by teacher education institutions. The cross-endorsement participants had received a very different form of support and felt that their colleagues had needed similar resources prior to secondary student teaching. Although this distinction was not apparent during the individual interview and questionnaire, the group interview was able to focus on this aspect of inconsistency. These participants’ journey had been very different addressing different aspects of teaching specifically social emotional learning through methods classes and group discourse. The secondary participants heard this and were not aware that this had been offered to only the elementary teachers and thus added this as a need for their own.

Again, the literature was able to challenge the thinking that although much research has addressed the value of educative mentoring practices during pre-service teaching and induction, less is known about how educative mentoring - (Feiman-Nemser, 2001b) which supports pre-service teaching and in turn a novices’ ability to adequately reflect and apply these skills. On referencing mentoring being an established norm for teaching preparation programs, all participants were able to indicate why this was so essential to their training during the teacher learning phase. The literature again supported their responses “the effectiveness of mentoring ... is assumed rather than demonstrated” (Rodger & Tremblay, 2003, p. 3). A review of the

literature confirming pre-service and novice expectations states that despite the differences in teacher preparation programs, all teachers are required to be “highly qualified” (Ed.gov, U.S. Department of Education, 2009). The era of high standards has led to greater teacher accountability. All six participants mentioned the difference in expectations and how these different from placement school to placement school and teacher preparation program to teacher preparation program even within the state of Connecticut. A general feeling of frustration was evident both in their responses and their demeanor on the zoom meetings. Responses such as “missed opportunity” and “critical to success” reminded the researcher to be empathetic yet still analyze the data as subjectively as possible. Literature continues to remain supportive. “Yet even when meeting the “highly qualified” criteria some novice teachers needed support to avoid feelings of being “lost at sea” (Kauffman, et al., 2002).

The participants’ questionnaire responses on the social aspects of mentoring were viewed as critical, essential, positive roles which all aid in developing new teachers as well as being supportive, collaborative, self-reflective, flexible and pedagogically prepared for having a new teacher or a student-teacher. One of the participants shared their feelings within the questionnaire responses that dealing with stresses of the profession and real-world aspect when applied in practice would create stronger relationships at school as novice teacher. This researcher chose to add mentoring as a sub-component to educational practices allowing for another layer of knowledge and support for pre-service and novice teachers.

Mentoring pre-service teachers on the enactment of PCK can help them manage the multiple tasks and contradictions of teaching and begin to negotiate the transition to novice teacher. A mentoring relationship would encourage critical incidents in practical experiences to be identified and resolved via reflection and thoughtful adaptation. Further support for the

inclusion of embedding mentoring into PCK was shared by Shulman (1986), stating “teachers need to master two types of knowledge: (a) content, also known as “deep” knowledge of the subject itself and (b) knowledge of the curricular development” (p. 12). This deep knowledge was evident through the triangulation of the data as well as the resources that were collected over the three weeks of research. The need to include Shulman’s (1987) Model of Pedagogical Reasoning into teacher preparation programs, was evidenced through the participants responses and their perspective of mentoring being the, “new-comprehension” activity that is forefront in the teacher preparation conversation.

One final, crucial, step involved returning to the participants to elicit their responses concerning the accuracy and credibility of the findings and interpretations ensuring that the transferability of these participants’ experiences to other teacher preparation programs could be evaluated. By triangulating the data, the various layers became even more evident from the participant interview and questionnaire responses. “Triangulation has been generally considered a process of using multiple perceptions to clarify meaning, verifying the repeatability of an observation or interpretation...triangulation serves also to clarify meaning by identifying different ways the phenomenon is being seen” (Stake, 1994, p. 241). From identifying the initial codes to themes and subthemes, the triangulation of the three data resources became more apparent. This method of triangulation was used to validate the information received from the individual and group interviews as well as the online questionnaire. By triangulating the data, the researcher gathered information concerning the phenomenon from more than one data source. Essentially, this method allowed the researcher to check the consistency of the findings that were generated by the different data collection methods against each of the research questions.

Apart from the three data sources, each archetype of mentoring referring to supervision, support and collaborative self-development was reinforced throughout the research questions. The first research question was supported by six participant individual interview responses together with the archetypes of mentoring as supervision and support. Archetypes of support and collaborative self-development were identified through the questionnaire and both interview responses with further data triangulation support found in the second research question confirming the addition of embedding mentoring practices as a necessary support. Research question three was supported by the archetypes of supervision and collaborative self-development through all three data forms. The final research question referencing novice teacher attrition identified all three archetypes of mentoring through the group interview and online questionnaire.

Triangulation allowed for multiple perceptions from the participants to be viewed and interpreted. It was evident that the exploration of perceptions from the six pre-service teachers with respect to embedding mentoring practices was verified through triangulation. Adding the dimension of mentoring within teacher preparation programs solidified the need to identify practices essential to the development and progressions of pre-service teachers through their educational journey in support of novice teacher retention.

Limitations of the Study

The limitations of this study were largely due to the nature of boundaries of the study. Although seven participants were originally selected for this study, only six were available to complete the entire research. With regards to the homogeneity of the participant pool, only seven participants took the Methods of Teaching class in 2019 and all were females with all six in a similar age bracket and at similar life stages. They were all recent college graduates from a

teacher education program at an elite institution of higher education located in an urban city and all had just entered their first novice teacher position. The researcher believes that by conducting this study in state educational colleges with a more heterogenous population with diverse backgrounds would benefit this research further but believes that the results may be very similar and would prove to qualify the need to embed mentoring as an essential support for all educators.

Another possible limitation to the research the data collected, through an interpretive qualitative method, may have been influenced by outside factors. The researcher was not able to control the nature of the mentoring within the various placement schools when the participants were pre-service teachers. Further limitations to this research were that participants did self-report their responses within the online questionnaire. Delimitations in this study included boundaries of the study in which data collected was limited to a math Methods of Training course.

On embarking on this research study, it was evident that due to COVID_19, participant responses to the interview and questionnaire questions may be seen through an emotional lens. It was apparent that this was not always the case and although the participants did make use of the dual lens of pre-service and novice teacher, they were very articulate and honest. Six of seven potential participants completed the entire research as one participant became ill and was unable to begin even though they had shared their consent letter. The researcher felt that although this could have been viewed as a limitation, the wealth of information gathered from the interviews and online data unquestionably confirmed the need for such a research to be conducted. The researcher was aware of possible time restrictions throughout the study specifically considering the participants novice teacher schedules.

The researcher understood the restrictions enforced by CDC regulations and thus all interviews were conducted via Zoom. This mode of research appeared to enhance the study further as it gave the researcher another layer of data to consider. The addition of behavior themes was able to give the researcher a social interaction analysis of how the participants viewed certain questions. Not being in person for the interviews was a limitation but the researcher chose to use this as an added layer within the research. The individual interviews indicated that participants were anxious to get their message across and through their body language; the researcher noted these areas of emphasis and intent.

During the online questionnaire, this behavioral theme was once again evident and served to confirm why some of the participant responses had been written in capital letters and exclamation marks added to the end of certain statements. The group interview was conducted after the questionnaire and thus enabled the researcher to be more aware of their feelings and their subsequently emotional status. One limitation of the group interview was the noise level as all six participants wanted to talk at the same time. The researcher had set protocols but did not want to lose any of the spontaneity which was being generated and thus chose to leave the participants to release their energy through questioning and asking for clarification.

An assumption that the researcher considered for this research was the difference in participants' perceptions of mentoring activities experienced over the course of their teacher preparation program. This assumption was confirmed and aptly noted in the study having heard the specific responses and seen the body language represented by the six participants. During the individual interviews this assumption became even more evident when terminology within the research questions was not comprehended by all participants. The researcher's awareness of these varying pathways to novice teaching was an added layer of support for the research itself.

The responses from the interviews and online questionnaire indicated these variations but solidified the intent of the questions. This acknowledgement brought variance to the data and allowed the researcher to gather more information about other teacher preparation programs.

Another assumption that had been contemplated was the idea that mentoring within teacher preparation programs with diverse curriculum might have been sporadic. This assumption was verified once the individual interviews had been transcribed. The results of the data confirmed that mentoring does not appear to be a consistent focus in teacher preparation programs and according to the participant responses is essential to assist novice teachers and assist with teacher attrition. Perhaps a deeper qualitative, comparative look at the availability of mentoring supports between universities and placements school, cooperating teachers and pre-service teachers would also be beneficial to educational communities and stakeholders. Identifying areas in which mentoring could be embedded is essential to continued support to establish connections and standardize expectations for teacher preparation programs and placement schools. The focus on embedding mentoring to improve teacher practices continues to be an area of emphasis in education.

The researcher created a study that is conducive to replication. Replicating this research study using both elementary and middle school participants would encourage mentoring to become an integral component of teaching practices. The vertical articulation of mentoring K – 12, would accentuate the foundations of the teacher preparation programs and transition to support the education of students within the classrooms. Designing a longitudinal study in education would allow the benefits of embedded mentoring to be analyzed over time. Being able to provide insight into, and analyzing, the influences of mentoring through supervision, support, and collaborative self-development for pre-service novice teacher would benefit both university

teacher preparation programs and schools. Following the same cohort of pre-service teachers as they transfer to novice teacher status over a period of three to five years would allow evidence of best practices to be analyzed. Due to the structure of this research, Zoom interviews and online questionnaire, the replication within other states as well as public and private teacher preparation programs would be possible. The use of technology will also enhance the nature of this study and it can be used globally thus giving an international realm to the investigation. As the interviews can be conducted via Zoom and questionnaire online, it would benefit universities to understand how monitoring is being conducted in other countries.

Education has become an accessible global learning forum and mentoring cannot be excluded from this conversation as it is foundational for teacher attrition worldwide.

Recommendations

This research may provide valuable insight for institutions of higher education as well as the broader field of educational research to consider embedding mentoring practices. Teacher education programs depend on mentoring to assist pre-service teacher candidates become effective, reflective practitioners. It was apparent from this research that teacher preparation programs needed to re-evaluate and possibly update their clinical experience programs by adding a mentoring component to stem the flow of novice teachers leaving the profession. National longitudinal data from the Baccalaureate and Beyond Survey (Ingersoll, et al., 2018) accurately documented the rates of cumulative beginning teacher attrition and found that more than 44 percent of new teachers in public and private schools left teaching within five years of entry. Clinical practices and partnerships have focused on developing standards to emphasize the integration of content and pedagogical knowledge, yet the emphasis must shift to self-evaluation and self-reflection through an embedded mentoring support. Mentors who share this orientation

attend to beginning teachers' present concerns, questions, and purposes without losing sight of long-term goals for teacher development (Feiman-Nemser, 2001a).

The researcher believed it was imperative that mentoring practices be embedded within the university coursework, beginning with methods of teaching courses but not stopping there. Novice teacher attrition would be significantly influenced by an established mentoring component within teacher education programs. The results of the interviews and online questionnaire have indicated that this lack of mentoring has become a barrier to pre-service teachers' successful transition to novice teacher. Ingersoll and Smith (2004) found that it is not the use of one single element that increased attrition rates but the bundling of multiple activities and supports. The research evidenced that working in tandem with attrition, education for school students will not improve until it is acknowledged that schools are places not only for teachers to work but also for teachers to learn and share their knowledge and experiences with their colleagues. This cannot be accomplished without mentoring being consistently offered to both pre-service and novice teachers. With that being said, many veteran teachers require mentoring more each year as the demographics and state requirements are adjusted. By embedding mentoring to support mentors and mentees, districts will be able to motivate and encourage new and sustained relationships between veteran and new teachers encouraging both to remain within the profession and provide continuity in student learning.

Framing this research were Feiman-Nemser (1998), *Educative Mentoring*, Lave & Wenger (1991) *Situated Learning Theory* and the Magnusson, Krajcik, and Borko (1999) PCK model. *Educative Mentoring* has become part of the continuum of pre-service and teacher professional development which focuses on improving a novice teachers' repertoire of proficiencies which ultimately affects student learning. Making sense of and analyzing the

practical actions, Lave & Wenger (1991) stated “engaging in practice, rather than being its object, may well be a condition for the effectiveness of learning” (p. 93). Finally, pedagogical content knowledge continued to underline and support this research allowing the mentoring aspect to be considered essential and viewed as a critical factor of quality teaching both theoretically and empirically. All three resources, both interviews and the questionnaire were instrumental in guiding the research and further supported the evidence gathered from the data analysis. Although the current mentoring model may be effective in certain school systems, this is not applicable for all districts. Researching mentoring within both urban and rural locations would allow a deeper identification of mentoring benefits to be addressed. Understanding the culture of schools, urban and rural, is another consideration of ensuring mentoring benefits both novice and veteran teachers. At the university level, mentoring within faculty is another area which can be considered beneficial to the longitudinal articulation of best practices.

The expectations from the research were upheld through the participant perspectives on embedding mentoring practices. Reform-based practices would be reinforced and sustained as pre-service teachers transitioned into their own classrooms and became a part of their teaching community. A critical component of this research identified mentoring as an essential addition for teacher education programs to ensure pre-service teachers could transfer this knowledge to the school environment both as a pre-service and novice teacher. This may have a ripple effect on mentors giving them a new view of mentoring and thus enabling them to take full advantage of these learning opportunities. Despite the recommendations of many education experts that cooperating teachers be well-trained and understand their roles and expectations, little attention has been placed on adding mentoring earlier in teacher preparation to guide and ultimately effect teacher candidate performance. This research study reiterated the need for inquiry research to

address the gap existing in mentoring practices and embedding these practices within teacher preparation programs to reduce attrition.

Implications

The primary concentration for this research identified the perceptions of pre-service teachers on embedding mentoring practices to support new candidates through their educational journey and transition to novice teacher status. As mentoring is a reciprocal relationship, this study focused on the contributions that embedding such practices would have on mentors and their own preparation for guiding novice teachers through their most formative years as young teachers with an emphasis on teacher retention. All teachers need support regardless of their own pedagogical practices. By choosing to embed mentoring as a reciprocal relationship, collegially, the intrinsic motivation supporting this practice will benefit both mentor and novice teacher. The evidence from the research indicated how this collective mentoring relationship is necessary to create a cycle of reflection and continued pedagogical growth. Through a process of consistent mentoring, stemming from self-reflection and self-actualization, pre-service teachers will be able to guide mentors in continuing their growth through collaborative self-development.

Confirmed through the literature review, educational researchers have suggested that social practices are and should be the primary objects of inquiry (Lave, 1998). This shift with regards to practice is concurrent with a general tendency in the social and human sciences where new approaches emphasizing practice and social interaction have questioned the validity of analytical accounts treating behavior as the enactment of pre-existing codes and structures (Pickering, 1995). Concepts such as structure, system, meaning and action are no longer treated as the primary and generic social entities, but the intelligibility of these concepts is founded in social practices. An essential component of understanding attrition was to explore whether the

social nature of the mentoring experienced within the teacher education program impacted the decisions of novice teachers to remain in the teaching profession. Novice teachers who were supported by mentors were less likely to move to other schools and less likely to leave the teaching occupation after their first year of teaching (Smith & Ingersoll, 2004). Consistent with the findings from the research the framework of the Magnusson, Krajcik, and Borko (1999) PCK Model embraced the philosophy that mentoring standards be incorporated into pedagogical content knowledge as mentoring would inherently guide pre-service and novice teachers to make connections within the concepts and across disciplines addressing common student misconceptions. The knowledge that PCK is not something that only good teachers possess; to the contrary, it is something that all who communicate ideas to others must have (Shulman, 1986) supports this educative research.

An essential component of understanding attrition was to explore whether the social nature of the mentoring experienced within the teacher education program impacted the decisions of novice teachers to remain in the teaching profession. Through nearly ten years of teaching a methods course, this researcher determined that a gap existed within the mentoring requirements at the university and at student-teacher placement school. This gap was addressed through collecting three forms of data and one behavior theme. The researcher saw this gap through a dual lens, not unlike that of her participants. Being a public-school teacher and adjunct, the researcher was privileged to view the angst that student teachers went through within the walls of the researcher's school district. Seeing the inadequacies of mentoring within the university and placement schools, drove this researcher to focus on the connections that should be established between the schools using a mentoring lens. Watching the participants struggle to

receive mentoring that would allow them to successfully transition to novice status, the researcher found a base for the research.

Educational leaders at all levels, elementary, secondary and university, need to be aware of the importance of mentoring becoming essential to the learning platform. Being aware of the need of educators, regardless of years of service, would assist educational leadership in identifying protocols to support all facilitators. Having prior knowledge of teacher attributes allows leaders to create a meaningful set of protocols to help aspiring teachers, and veteran teachers, with up-to-date best practices which are research based. The findings from this research supports the use of embedded mentoring by educational leaders as a reflective practice supported through mentoring archetypes. The themes and subthemes identified the need for mentoring to be addressed earlier for pre-service teachers in preparation programs. The transfer of this research knowledge would allow many levels of school and university leadership make the student-teaching experience more meaningful. Using the results of this research to create a hands-on user-friendly guide, would prompt the identification of teachers who have the attributes to become mentors and cooperating teachers. At the university level leaders need to accentuate this program earlier in all content areas not purely focused on methods courses. Taking the time to invest in pre-service and novice teachers by designing a “how to mentor - tool - kit” supported through the archetypes of mentoring would ensure teachers remain in the profession creating lasting connections within their educational community engaged as mentees within mentoring relationships.

If there was ever a time for educational leaders to look for an opportunity to motivate the best and strongest veteran teachers and support their novice teacher retention, the time is now. Turnover and attrition have been increasing over time (Goldring et al., 2014) and are higher for

U.S. teachers than teachers in other countries (Darling-Hammond et al., 2017). In these lean educational times, the implementation of an embedded system of mentoring as a consistent intervention by all educational leaders would benefit novice, veteran and pre-service teachers. Educational leaders who utilize mentoring, embedded within their content areas, will strengthen faculty relationships and their school community while increasing teachers' motivation to remain in the profession. If teachers are appreciated, supported, and intrinsically motivated, they will want to be in schools, and they will remain. School districts should begin to feel a shift of focus from teacher evaluation to teacher re-appreciation using mentoring which encourages teachers to collaborate and self-develop through professional development.

The researcher has continued to establish mentoring within her own school and knows that teachers' confidence in their capability can be positively impacted by an increase in mentee and mentoring relationships as these are designed to support a teacher's development of content knowledge with pedagogical emphasis. With the advent of COVID, technology has ensured that education has become an accessible global learning forum and thus mentoring cannot be excluded from this conversation. As educators of global students and cultures, mentoring will allow the transition from one international mindset to another. A global mindset is a mix of individual attributes that enable an individual to successfully influence those who are different from him or her (Javidan et al, 2011, p. 5).

Conclusions

Through the lens of mentoring, practices were identified and as the results dictate, should be embedded into teacher preparation programs specifically methods coursework to sustain the growth of pre-service and novice teachers in mentee and mentor relationships. Through this mentoring lens, participants were able to articulate their own needs for embedded practices to be

attainable through their own schools and allow them to share their educative experiences through immersion into self-reflection and collaborative self-development. The chosen literature together with the participant responses solidified the existence of a gap in teacher preparation programs.

To address this gap, the perceptions of pre-service teachers were analyzed and assessed to confirm the overall impact of mentoring practices being added consistently to the Methods of Teaching class and the effectiveness of these practices on their pedagogical skills. According to Pajares (1992), participants' perceptions of mentoring relationships have not been sufficiently studied due to the difficulty of uncovering perceptions that are not explicitly known or articulated (Wang, 2000). The results identified the serious lack of mentoring interventions being provided for pre-service and novice teachers which undoubtedly would support their transition to novice teacher and reduce teacher leaving the profession within five years of graduating. The data sources have verified the theoretical assumption of embedding mentoring practices prior to novice teachers entering the classroom. The identification of themes and subthemes from the three data resources suggested adding a more formal mentoring component to the Method of Teaching coursework. The results conclusively indicate that embedding mentoring practices into teacher preparation programs, prior to student teaching, field experience and/or internships, is essential to supporting pre-service teachers' transition as a novice teacher.

The purpose of this qualitative research study was to explore the perceptions of pre-service teachers on embedding mentoring practices within the methods of teaching class. This addressed the gap in existing literature that supported mentoring being addressed earlier within teacher educational programs, specifically Methods of Teaching. The evidence collected from the study guided the identification of these core mentoring practices being embedded in future methods coursework. Both pre-service and novice teachers' responses from the individuals and

online questionnaire accentuated the need to have mentoring relationships during their practicum which further supported and guided their first years of teaching. Induction programs are a global phenomenon which continues to be embedded in many other industries, and the teaching industry, for want of a better word, needs to identify similar effective mentoring components supporting pre-service teachers staying in the educational field as they transition to novice status.

Leadership comes in various forms and it was evident from the group interview that these young teachers had been self-mentoring each other over the past year, specifically during the spring. They have continued to self-mentor each other and use this practice even though they are currently in different school as novice teachers. It is actions such as these that cannot be ignored and are signals of an urgent need in educational practice. As a researcher, having the added benefit of watching these participants cry, plead and share their emotions in written responses, has made this research a privilege to conduct.

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Appendix A –Participant Invitation to Participate in Study Email

Dear Participant (Name)

I am kindly requesting your participation in a doctoral research study that I am conducting titled: Embedding Mentoring Practices.

The intention is to explore pre-service teachers' perceptions of embedding mentoring practices within the Methods of Teaching class. The study involves being interviewed individually, completing an anonymous online questionnaire, and be interviewed with your cohort group. The total time is approximately 1.5 hours over two weeks.

Your participation in the research will be of great importance to help better understand pre-service teachers' perceptions of mentoring practices prior to the on-site teacher practicum. The data gathered from this study will guide institutions of higher learning in embedding standardized pre-service mentoring practices within teacher preparation programs.

I look forward to working with you during this research. If you are interested in participating, please reply to this email as soon as possible to that I may send you the required informed consent form.

Sincerely,

Angela V. Swanepoel

M.A., Doctoral Student, University of Bridgeport

Appendix B – Approval of Research



APPROVAL OF RESEARCH

September 28th, 2020

Angela Swanepoel, Ed.D. (Candidate) Department of Education College of Engineering, Business and Education University of Bridgeport

Dear Ms. Swanepoel,

On *September 28th, 2020* the IRB approved the following human subjects' research:

Type of Review: Initial, Expedited.
Project Title: *Embedding Mentoring Practices.*
Investigator: Angela Swanepoel, Ed.D. (Candidate)
IRB ID: 2020-08-20
Funding Agency: None
Grant Title: None
Grant ID: None
IND or IDE: None

To request continuing approval, you are to submit a completed "UB HRP-212 FORM: Continuing Review Progress Report" and required attachments by August 28th, 2021. For study closure, you are to submit a completed "UB HRP-212 FORM: Continuing Review Progress Report" and required attachments by October 28th, 2021.

If continuing review approval is not granted before the expiration date of September 28th, 2021, this research expires on that date.

In conducting this research, you are required to follow the requirements listed in the *Investigator Manual*.

Sincerely,

A handwritten signature in blue ink, appearing to read "Mark H. Pitcher".

Mark H. Pitcher Ph.D.

Director, Health Sciences Inter-professional

Research
IRB Administrator
University of Bridgeport

CC: Dr. Patricia Buxton

Appendix C –University Cooperation Request and Email

EMBEDDING MENTORING PRACTICES

Appendix C –University Cooperation Request and Email

From: Swanepoel, Angela V. Prof.
Sent: Tuesday, May 19, 2020 9:04 PM
To: [REDACTED]
Subject: Dissertation Approval Updated

Good evening [REDACTED]

Please could you confirm this updated request for permission to use our 2019 [REDACTED] Graduates for my dissertation. I am in the final draft of my Dissertation Proposal and will be defending this in [REDACTED] 2020.

In no way will the results of my survey affect their grade nor influence the success of their pre-service teaching.

Identifying embedded mentoring practices will be framed by educative mentoring (Feiman-Nemser, 2001), situated learning theory (Lave & Wenger, 1991), and the Magnusson, Krajcik, and Borko (1999) PCK model. These embedded mentoring components would support pre-service teachers and their transition to novice teacher.

I will be sending our students a letter of permission even though they have already verbally agreed once I have IRB approval.

Have a great evening.

Kind Regards

Angela



[REDACTED]
Wed 5/20/2020 10:36 AM
To: Swanepoel, Angela V. Prof.

As long as you have permissions from students and IRB approval, I am fine with it. But I do want students to be able to opt out if they choose.

Congratulations, Angela! Almost there!

[REDACTED]

[REDACTED]
Dean, School of Education

[REDACTED]

Appendix D – CITI Training Certificates





Completion Date 01-Aug-2019
Expiration Date 31-Jul-2022
Record ID 32593862

This is to certify that:

Angela Swanepoel

Has completed the following CITI Program course:

Social & Behavioral Research - Basic/Refresher (Curriculum Group)
Social & Behavioral Research - Basic/Refresher (Course Learner Group)
1 - Basic Course (Stage)

Not valid for renewal of certification through CME. Do not use for TransCelerate mutual recognition (see Completion Report).

Under requirements set by:

University of Bridgeport



Verify at www.citiprogram.org/verify/7wd8c47b4f-2010-4a2b-9ea8-31ebb82c0aec-32593862



Completion Date 29-Jul-2019
Expiration Date 28-Jul-2022
Record ID 32593863

This is to certify that:

Angela Swanepoel

Has completed the following CITI Program course:

Social and Behavioral Responsible Conduct of Research (Curriculum Group)
Social and Behavioral Responsible Conduct of Research (Course Learner Group)
1 - RCR (Stage)

Not valid for renewal of certification through CME. Do not use for TransCelerate mutual recognition (see Completion Report).

Under requirements set by:

University of Bridgeport



Verify at www.citiprogram.org/verify/?w66875b86-3bb9-41a4-9a27-17865fcdd773-32593863

Appendix E – Consent Form

Methods II ED 506 Class of 2020

You are invited to take part in a qualitative research study to analyze the perceptions of pre-service teachers regarding the overall impact of embedding mentoring practices within the Methods of Teaching class and the effectiveness of these practices on pedagogy. You have been chosen for this research study because you participated in the Methods II coursework. Please read this form and ask any questions you have before agreeing to be part of the study.

This study is being conducted by a researcher named Angela Swanepoel, who is a doctoral candidate at the University of Bridgeport.

Background Information:

The purpose of this qualitative research study is to explore pre-service teachers' perceptions of embedding mentoring practices within the Methods of Teaching class.

Procedures:

If you agree to be in this study, you may be asked to:

- Participate in a group interview, in person or Zoom, where you will be asked about your mentoring experiences during your five years at your educational institution. This interview will last approximately 40 minutes to one hour.
- Participate in an individual interview where your personal perceptions and experiences will be explored. This interview will last approximately 25 minutes.
- Conduct an anonymous online questionnaire to inform the researcher of your knowledge of mentoring within specific content and contexts.

Voluntary Nature of the Study:

Your participation in this study is voluntary. This means that everyone will respect your decision of whether or not you want to be in the research study. If you decide to join the study now, you can still change your mind later. If you feel stressed during the research study, you may stop at any time. You may skip any questions in both the interview and questionnaire that you feel may be too personal.

Risks and Benefits of Being in the Study:

There are no risks associated with being a part of this study. Some benefits would include increased collegiality with your peers, a forum to explore answers to questions you may have, and exposure to many different mentoring strategies that could be implemented within your educational institution coursework.

Compensation:

There is no compensation provided for participation in this study.

Confidentiality:

Any information you provide will be kept confidential. The researcher will not use your information for any purposes outside of this research project. Also, the researcher will not include your name or anything else that could identify you in any reports of the study. You will receive a copy of the interview transcript to ensure trustworthiness.

Contacts and Questions:

The researcher's name is Angela Swanepoel. The researcher's faculty advisor is Dr. Patricia Buxton. You may ask any questions you have now. Or if you have questions later, you may contact the researcher via phone at (203)915-4275 or via email at aswanepo@my.bridgeport.edu or the advisor via email at pbuxton@bridgeport.edu.

The researcher will give you a copy of this form to keep.

Statement of Consent:

I have read the above information. I have received answers to any questions I have at this time. I am 18 years of age or older, and I consent to participate in the study.

Printed Name of Participant

Participant's Written or Electronic* Signature

Researcher's Written or Electronic* Signature

Electronic signatures are regulated by the Uniform Electronic Transactions Act. Legally, an "electronic signature" can be the person's typed name, their email address, or any other identifying marker. An electronic signature is just as valid as a written signature with both parties agreeing to conduct the transaction electronically.

Appendix F – Interview Protocol

Research Study: Interview Protocol for Embedding Mentoring Practices Interview:

Exact or similar wording so that study can be replicated.

Gentle reminders that if you are feeling stressed – let me know etc.

Date:

Place:

Interviewer: Angela Swanepoel Interviewee: _____

Purpose of the Interview: The purpose of this semi-structured interview is to collect data to analyze: -

- 1: What are pre-service teachers' perceptions on embedding mentoring practices within teacher preparation programs to support pre-service teacher candidates?
- 2: What are pre-service teachers' perceptions on embedding mentoring practices to support pre-service teacher candidates as they transition to novice teacher status.
- 3: What are pre-service teachers' perceptions on how embedded mentoring practices contribute to mentors being better prepared to support novice teachers?
- 4: What are pre-service teachers' expectations on how embedding mentoring prevents novice teacher attrition?

Procedures:

1. Interviews will take place after pre-service teachers have completed their school experience internships.
2. The researcher will interview each pre-service teacher individually.
3. At the beginning of the individual interview the researcher will share the purpose of the interview and ask permission to record the conversation and take notes to ensure accuracy. Participants will be reminded of their right to not answer questions or to stop the interview at any time without consequence.
4. The interviewer will ask questions, listed below. Based on the responses from the individual interview, follow-up questions may be asked for clarification or to elicit further explanation.
5. The interviewer will record notes on the “Interview Recording Sheet.”
6. The interviewer will record participant words/actions/comments as well as any interviewer reactions.
7. Immediately after the interview, the interviewer will record the end time and fill in notes to ensure accuracy.

Pre-Service Teacher Individual Interview Recording Sheet

Interviewer Name:

Date:

Participant (pre-service teacher) Name: (using a code, not a name):

Location (use a code):

Grade Level taught during teacher experience:

Program (ED 506):

Setting: (online)

Interview Start Time:

Interview Stop Time:

Questions:

Describe your experiences of having a student teacher when you were at school?

Tell me about your personal experience as an under-graduate within your teacher preparation program regarding mentoring.

Please share any mentoring experiences you received as an undergraduate.

Please share any mentoring experiences you received as a graduate student- teacher.

Would you consider yourself ready to student-teach?

What are the strengths of your teacher education program regarding readiness to teach?

Where could more emphasis be put within education programs with regards readiness to teach?

Did you have a relationship with your cooperating teacher before entering your placement school?

Tell me about the most recent mentoring experience with your university cooperating teacher supporting your student teacher placement.

Describe your pre-service teaching experiences with respect to feeling confident to enter your placement school.

Tell me about the most recent experience you had with mentoring in the classroom during your student teacher practice.

Describe your pre-service teaching experiences with respect to feeling confident to enter your classroom alone.

Describe for me the most positive experience you have had working with students as a student-teacher.

Describe for me the most difficult experience you have had working with students as a student-teacher.

Describe how you resolved this situation?

Did you seek assistance during this time? If so, to whom did you share this experience?

How would you describe your interactions with your university regarding expectations and planning for the field experience and collaboration?

Describe any training pre-teachers receive in order to prepare them to enter teacher practicum?

Appendix G – Online Questionnaire

Embedding Mentoring Practices Questionnaire

Please describe your experiences by answering the open-ended questions below to your best ability. You have been given the ability to write longer answers (more than one sentence) to the questions should you feel the need to do so.

1. Please share your mentoring experiences in the teacher education program. *

Long answer text

2. What does the word “mentoring” mean to you as a new teacher? *

Long answer text

3. What forms of mentoring are evident in your teacher preparation? *

Long answer text

4. In which teacher preparation courses were mentoring practices evident? *

Long answer text

5. Did you participate in mentoring other pre-service teacher colleagues? *

Short answer text

6. Do you think embedding mentoring practices from your first year of college/university would have impacted your pedagogy during your five years of study? *

Short answer text

7. Do you think embedding mentoring practices into your methods coursework would impact your role as a pre-service teacher? *

Short answer text

8. Do you think embedding mentoring practices into your methods coursework would impact your role as a novice teacher? *

Short answer text

9. Do you feel that mentoring embedding into your coursework will inform or impact your teaching in any way? If so how? Please describe. *

Long answer text

10. How would you describe your mentoring experience within your teaching practicum? *

Short answer text

11. When do you think mentoring should be introduced within teacher preparation programs? *

Short answer text

⋮

12. Please describe how you think mentoring should support student teachers entering their placement school? *

Long answer text

13. Describe your perspective of mentoring from a student-teacher point of view? *

Long answer text

14. What do you believe are the qualities of a good mentor? *

Long answer text

15. What do you believe is the role of the classroom teacher in mentoring a student teacher? *

Long answer text

16. How critical is the role of your cooperating teaching in mentoring you? *

Long answer text

17. Which mentoring practices are essential in your transition from student teacher to novice teacher? *

Long answer text

18. How could embedding mentoring practices assist in creating a better relationship between the university and placement schools? *

Short answer text

19. Teacher attrition (teacher turnover) is a major concern in the preparation of new teachers. Do you think mentoring practices could stem the flight of new teachers from this profession? *

Long answer text

20. How do you feel mentoring will impact your first year as a novice teacher? *

Short answer text

Appendix H – Group Zoom Interview

Research Study: Interview Protocol for Embedding Mentoring Practices Interview:

Exact or similar wording so that study can be replicated.

Gentle reminders that if you are feeling stressed – let me know etc.

Date:

Place:

Interviewer: Angela Swanepoel

Interviewee: _____

Purpose of the Interview: The purpose of this semi-structured interview is to collect data to explore: -

- 1: What are pre-service teachers' perceptions on embedding mentoring practices within teacher preparation programs to support pre-service teacher candidates?
- 2: What are pre-service teachers' perceptions on embedding mentoring practices to support pre-service teacher candidates as they transition to novice teacher status.
- 3: What are pre-service teachers' perceptions on how embedded mentoring practices contribute to mentors being better prepared to support novice teachers?
- 4: What are pre-service teachers' expectations on how embedding mentoring prevents novice teacher attrition?

Procedures:

1. Interviews will take place after pre-service teachers have completed their school experience internships.
2. The researcher will interview the pre-service teacher cohort.
3. At the beginning of the group interview, the researcher will share the purpose of the interview and ask permission to record the conversation and take notes to ensure accuracy. Participants will be reminded of their right to not answer questions or to stop the interview at any time without consequence.
4. The interviewer will ask questions, listed below. Based on the responses from the group interview, follow-up questions may be asked for clarification or to elicit further explanation.
5. The interviewer will record notes on the “Interview Recording Sheet.”
6. The interviewer will record participant words/actions/comments as well as any interviewer reactions.
7. Immediately after the interview, the interviewer will record the end time and fill in notes to ensure accuracy.

Pre-Service Teacher Group Interview Recording Sheet

Interviewer Name:

Date:

Participant2 (pre-service teacher2) Names: (using codes, not names):

Location of Group (Online)

Grade Levels taught during their teacher experience:

Program (ED 506):

Setting: (online)

Interview Start Time:

Group Questions:

Describe how you would go about making the decision to accept student teachers into your school.

If you were a mentor, what qualities would you look for in your mentee?

What is your perspective on the expectations of student teaching compared to the perspective on expectations of the university?

Describe how having student teachers in the building impacts the school and students.

What are your thoughts about the role of the mentoring within the university in preparing you as a pre-service teacher?

What are your thoughts on the role of administration in mentoring student teachers?

Describe your perspective of mentoring from a teacher point of view?

What is your perspective of mentoring in relation to the teaching practices?

Describe your understandings of how professional development fits with mentoring student teachers?

Is there professional development for student-teachers?

Do you think mentoring could be an option for a teacher's professional development contract?

Describe the role of the school district regarding mentoring student teachers?

Would you consider teachers to be teacher educators?

Teacher attrition is a major concern in the preparation of new teachers. What do you think can be done to stem the flight of new teachers from this profession?