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An examination of elementary teacher candidates' challenges in reflecting on critical incidents

Anna M. Quinzio-Zafran

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ABSTRACT

AN EXAMINATION OF ELEMENTARY TEACHER CANDIDATES' CHALLENGES IN REFLECTING ON CRITICAL INCIDENTS

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This dissertation examined the reflective practices of elementary teacher candidates. Specifically, this study examined how elementary education teacher candidates used reflection on self-identified critical incidents to close the theory-practice gap. Additionally, I studied how teacher candidates seek help when faced with dilemmas of practice. The participants for the study were elementary education teacher candidates enrolled in a clinical experience during the seventh semester of the elementary education program from one of the largest teacher education programs in the state in which I live. This study used a qualitative approach using the critical incident technique combined with case study. Data were collected from a Common Core-aligned lesson, a self-identified critical incident in a digitally recorded lesson, a Critical Incident/Help Seeking Form, and a small group interview. I argue that reflection on critical incidents has the potential to assist teacher candidates connect theory and practice, especially if they are open-minded about implementing theories and strategies they have learned in their teacher education coursework. It offers implications for teacher education programs and teacher candidates.

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AN EXAMINATION OF ELEMENTARY TEACHER CANDIDATES'
CHALLENGES IN REFLECTING
ON CRITICAL INCIDENTS

BY

ANNA M. QUINZIO-ZAFRAN
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A DISSERTATION SUBMITTED TO THE GRADUATE SCHOOL
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE
DOCTOR OF EDUCATION

DEPARTMENT OF LEADERSHIP, EDUCATIONAL PSYCHOLOGY,
AND FOUNDATIONS

Doctoral Director:
Elizabeth A. Wilkins

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I thank the young women who participated in this study for offering me a window into how they think about teaching and learning. Without their assistance, there would have been no study. May they have long, fulfilling careers as educators, maintaining the idealism of the beginning teacher while developing and deepening their pedagogy and content knowledge.

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the personal research project, and finish writing the dissertation. Our association was integral to the success of this endeavor.

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DEDICATION

This work is dedicated to my late parents, Peter and Evyonne Quinzio, who are smiling down with pride at this accomplishment, along with our angel, my sister Mary Jane.

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CHAPTER 1

INTRODUCTION

We teach to change the world. The hope that undergirds our efforts to help students learn is that doing this will help them act towards each other, and to their environment, with compassion, understanding and fairness. (Brookfield, 1995)

Teaching has two faces. To the public, teachers deliver instruction from books, supervise children at recess, assign homework, give grades, and have three months off. The other face of teaching is primarily invisible to the general public, even though it has been a part of teaching from the very beginning of time. Teaching requires content knowledge (Reynolds, 1995; Rosenfeld & Tannenbaum, 1991). Knowledge of content is an important variable, but not wholly sufficient for a teacher to be successful (Grossman, 1990). Knowledge of curriculum planning (Reynolds, Tannenbaum, & Rosenfeld, 1992; Rosenfeld & Tannenbaum), child development (Daniels & Shumow, 2003; McDevitt & Ormrod, 2008), motivation (Ames, 1992; Urdan & Schoenfelder, 2006), classroom management (Rosenfeld, Reynolds, & Bukatko, 1992), and educational foundations (Zeichner, 1993) are critical to effective teaching (Brophy, 1979; Cochran-Smith & Lytle, 1993; Shulman, 1987; Van Driel, Verloop, & DeVos, 1998). Amy Tsui (2003) suggests that it is the “melding of these knowledge domains that is the heart of teaching” (p. 58). So it becomes the responsibility of the teacher education program to determine how to integrate these varied kinds of knowledge into a teacher education program.

In an earlier time, teacher education was primarily designated as vocational training, based on an apprenticeship model (Gordon, 1991). Learning to teach was largely achieved by

imitating successful working teachers. As teacher education programs have transformed from a vocational model into models relying on constructivist principles, a greater emphasis has been placed on pedagogical content knowledge being acquired through involvement with content rather than imitation (Kroll & La Boskey, 1996). In a constructivist model, learning is an active process of knowledge construction and sense making. Knowledge is built and internalized by individuals through talking, reasoning, and problem solving with like-minded groups of people (Vygotsky, 1978). Pre-service methods courses model collaboration between and among the professor and students. These courses also serve as a models of discourse communities where students can clarify, elaborate on, and defend their ideas (Brown, 1994) as a precursor to their role with colleagues in K-12 schools.

In addition to having pedagogical and content knowledge, teachers must be reflective professionals. They are obliged to be responsive to students, parents, colleagues, and situations, so teachers need to be open to reflecting not only about their own perspectives, but also on the perspectives of others. They need to possess positive traits, guided by beliefs and attitudes related to values (Taylor & Wascisko, 2000). These dispositions are personal qualities which influence the professional decisions teachers make on a day-to-day basis. The importance of dispositions in teacher education is rooted in Dewey's *Human Nature and Conduct* (1922). Dewey coined the term, habits of mind, to describe the characteristics of teachers who effectively engage with others, at any opportunity, to further educational aims. The educational community remains concerned that teacher candidates are instructed in the discipline of teacher dispositions. The Council for the Accreditation of Educator Preparation (CAEP) requires their members to assess candidates in the dispositions of fairness and the belief that all students can learn to ensure that candidates can be objective (CAEP, 2010). Most teacher education programs have

established systems to develop and strengthen dispositions in their teacher candidates (Darling-Hammond, 2005; Lund, Wayda, Woodward, & Buck; Whitley, 2010). Carroll (2005) observes that standards for dispositional behavior be public, specific, and focused on moral behavior.

These standards for dispositional behavior need to be clearly expressed to teacher candidates as they arrive on campus coming from disparate educational communities.

Many teacher candidates come to the university with a rather narrow set of educational experiences. Many of them decided to become educators because they were inspired by a particular favorite teacher (Calderhead & Robson, 1991; Tabachnick & Zeichner, 1984). Many spent their entire K-12 years in one school system and maintain a clear set of beliefs about teaching and learning (Lortie, 1975). The literature suggests that they bring many personal presuppositions on what takes place in a classroom and plan to apply these to their own nascent careers (Calderhead & Sherrock, 1997; Fischler, 1999; Furlong, Barton, Miles, Whiting, & Whitley, 2000; Hattie, 1999; Kagan, 1992; Lortie, 1975).

As teacher candidates are exposed to other perspectives, theories, and ways of knowing through their coursework, opportunities surface for them to accept, reject, or modify their long held beliefs. Zeichner and Gore (1990) see this, the preservice education stage, as having three phases. The first is the general education coursework. They view this period as a time when students' horizons are broadened. The second phase is the methods and foundations coursework provided by teacher educators. The literature suggests that this coursework is not as influential as it is hoped to be by teacher education programs (Ashton, 1991; Bullough & Gitlin, 1995). The final phase is the student teaching experience. This is a time designed for the teacher candidate to use the theories presented in a practical way. Research indicates that often these theories are

seen by teacher candidates as too abstract, too idealistic, or too generic to relate to real classroom life (Hiebert, Gallimore, & Stigler, 2002).

Additionally, the tacit beliefs that teachers hold often prevent them from implementing the theories that are presented during their methods and foundations coursework (Levitt, 2002; Orton, 1996). Prawat (1992) suggests that many teachers commonly believe that student interest and involvement are *the* necessary requirements for worthwhile learning activities. These preconceptions about teaching and learning often do not agree with the theories inculcated in teacher education programs (Wubbels, 1992), and are difficult to change (Richardson & Placier, 2001; Scardamalia & Bereiter, 1989).

This study focused on traditional-age students who entered the university directly after high school. In four years, teenagers made the transition from their role as a student to that of an adult professional educator. This transformation required that they move away from thinking only about how to present lessons with a technical approach (Lave & Wegner, 1991), to how to move into the professional community as a contributing member with countless additional duties. These young adults must consider why certain beliefs are held, why certain actions are taken, and how those beliefs and actions influence others. As students at the university come into contact with peers of varied ages, backgrounds and experiences, they might begin to notice that some of their own deeply held beliefs are not shared universally (Astin, 1993). As they begin to be exposed to educational theories in their coursework and to other classrooms during their preliminary field experiences, there are more opportunities to enlarge and amend their perspectives (Bullock, 2004; McDonnough & Matkins, 2010). As teacher candidates are confronted with challenges in the classroom that cannot be solved with their present understanding or set of tools, they are forced to consider new ways of looking at, identifying, and

solving problems to modify their thinking and expand their ability to plan effective actions in the classroom. Since clinical experience is the bridge to an actual teaching position, it is imperative for teacher candidates to put into practice the content, pedagogical, and dispositional theories they have been exposed to during their coursework. Learning to reflect during these clinical experiences is important to the growth of teacher candidates.

Teaching is a demanding profession. Teacher candidates are often faced with dilemmas that offer no easy solution. There might be a philosophical disparity between the resource the teacher candidate is to work with to present material to students, and the theoretical beliefs of the teacher candidate in how that should be carried out. The math text might promote rote learning of facts, while the teacher candidate might prize real world application of the concepts of math. How can one serve the curriculum, make the professional choice of what is best for students, while making decisions that are in line with best practices; keeping in mind the opinions of the cooperating teacher, education professors, and the university supervisor? The knowledge base in teaching is always growing. How does one integrate new findings into present practice? What if the innovation is unconventional and not part of their cooperating teacher's practice? Determining answers to these kinds of questions is fraught with untidiness. Almost daily, a teacher candidate is forced to form compromises to appease various parties. The candidate needs to employ professional judgment to make these decisions. To be effective, these decisions need to be grounded in educational theory, in the teacher candidate's practical knowledge, and good common sense. Anna Richert (1990) suggests that mindfulness is an essential quality for a teacher candidate to possess.

The ability to think about what one does and why – assessing past actions, current situations, and intended outcomes – is vital to intelligent practice, practice that is reflective rather than routine. At the time in the teaching process when teachers

stop to think about their work and make sense of it, reflection influences how one grows as a professional by influencing how successfully one is able to learn from one's experiences. (Richert, 1990, p. 514)

Teacher candidates should consider previous feedback, consider the present context, along with the goals for their practice so they can reflect for purposeful growth. Often, as a teacher candidate, the first solution chosen for a dilemma is not always the best one. A better solution can usually be arrived at later, through reflecting on the perspectives of the other parties involved in the situation. Reflective thinking is essential to identifying, analyzing, and solving the complex problems that characterize classroom teaching. Many teacher candidates struggle to be reflective. Becoming reflective requires a substantial body of knowledge, a disposition to question, a deeply held conviction for fairness and objectivity, and a strong enough self-concept to believe that the only answers worth having are those that hold integrity by virtue of having been attained through contemplation of all available information, without bias toward any view (Baron, 1991; Perkins, 1991). Therefore, colleges and universities have placed an emphasis on integrating skills and strategies strategically placed throughout their teacher education programs to support students in developing a reflective stance.

Statement of the Problem

The need for reflective practice is also supported by the accrediting bodies. Teacher education programs are monitored and accredited by a number of governing bodies. These governing bodies, such as the Interstate New Teacher Assessment and Support Consortium (InTASC), Council for the Accreditation of Education Preparation (CAEP), and Specialized Professional Associations (SPAs), each have standards which stress the need for teacher

education programs to imbue each individual they graduate with the ability to be a reflective practitioner. If teacher candidates are to question their work to become reflective practitioners, then the questions need to be deeper than the typical ‘what?’ and ‘how?’.

Dobbins (1996) suggests that the process of reflection must be at the heart of the clinical experience in order to scaffold and support teacher candidates in making meaningful explications of their clinical experiences. Teacher candidates often maintain that the coursework they have taken supplies the needed theoretical background while their clinical experience provides required practice (Nettle, 1998; Smagorinsky, Cook, & Johnson, 2003; Waghorn & Stevens, 1996) creating a dichotomy between the two that is difficult to bridge. These students often maintain this dichotomy throughout their coursework and into their clinical experiences (Graham & Thornley, 2000). Zeichner and Tabachnick (1981) stated that many ideas that were developed and valued in coursework were discounted during field experiences because the theories were not supported in the classroom. Therefore reflection, as a process, has the potential to allow teacher candidates to be transformed into practitioners that are capable of distinguishing elements of theory *and* practice within the context of their own work. Current literature has identified aspects of reflection that are valuable to consider when designing frameworks for reflection. The structure of reflection should be meaningful to the teacher candidates (Ramsey, 2010; Shin, Wilkins, & Ainsworth, 2007; Shoffner, 2008). Structured reflection should also assist teacher candidates in looking at teaching through a wider lens than that of their own background as a student (Calderhead & Robson, 1991; Tabachnick & Zeichner, 1984).

Korthagen and Kessels (1999) offer three causes for the lack of transfer from theory to practice. The first is the role that preconception plays for the teacher candidate. They state that often teacher candidates plan the kinds of lessons that are congruent with their own experience as

students. This behavior often extends to experienced teachers, as well (Hubregtse, Korthagan, & Wubbels, 1994). The second cause they specify for lack of transfer lies in the reality that often teacher candidates are not motivated to study a theory. They lack motivation because they have not had a concrete personal concern that would prompt them to connect a theory to an action. Additionally, Joyce and Showers (1988) posit that once a personal concern has been identified, teacher candidates still need intentional coaching to relate the theory to their actions. The third cause that is presented has to do with relevant knowledge. The deep theoretical knowledge that is developed at the university is often at odds with the succession of quick decisions that are made in a classroom setting. Since the university supervisor has a limited amount of time to spend in the student teacher's classroom, his/her influence is limited (Barone, Berliner, Blanchard, Casanova, & McGowan, 1996). This would place the onus of responsibility on the cooperating teacher to be responsible for helping the student teacher make these connections.

Deborah Ball (2000) concentrates on the gap between subject matter knowledge and pedagogy. She opines that this gap is due to the amount of fragmentation in teacher education programs. This can be exemplified by tensions between the colleges of arts and sciences and the college of education or chunks of knowledge interspersed with chunks of practice in some teacher education programs. Ball identifies three concerns. The first is to determine content knowledge that is important for good teaching. She suggests that one must look past simply analyzing the curriculum. Attention should be given to the types of learning tasks that will facilitate student learning. The second concern is that having content knowledge does not necessarily mean that the individual can teach someone else that content. Ball proposes that one must work backwards to deconstruct the knowledge into meaningful chunks that can be

conveyed to others. This must be done in conjunction with the ability to prescribe which chunks are appropriate for a particular class or learner. Third, teacher candidates need to employ “pedagogical content knowledge” (Shulman, 1986, 1987; Wilson, Shulman, & Richert, 1987). Pedagogical content knowledge is a fusion of knowledge that connects content and pedagogy. This fusion can help eliminate the fragmentation between subject matter knowledge and pedagogical knowledge.

Other specific benefits noted in current literature include the validation of a teacher’s ideals (Howard, 2003), valuable challenges to institutionalized beliefs (Wheatley, 2002), and respect for diversity in applying theory to classroom practice (Ferraro, 2000). Due to the fact that often, most of the theoretical and content knowledge is delivered prior to clinical experience, many teacher candidates fail to see the connection between theory-based coursework and their practical work in the classroom (Cripps Clark, & Walsh, 2002). A major gap in the literature is a lack of understanding on how reflection can best be structured to move teacher candidates away from seeing theory and practice as parallel entities toward understanding that theory and practice are inextricably interrelated.

Purpose

This study sought to understand the reflective practices of elementary teacher candidates during their clinical experience. The purpose of this study was to examine how teacher candidates reflect on critical incidents, which were self-identified during their clinical experience, to bridge the theory-practice gap.

Research Questions

This study focused on the following research questions:

1. How does reflection upon critical incidents assist teacher candidates in connecting theory and practice?
2. How does reflection assist teacher candidates in planning for pedagogical, curricular, or dispositional change in their practice?
3. In what way do teacher candidates engage in the process of reflection to deal with dilemmas faced in professional practice?

Definition of Terms

Some of the terms in this study are universally accepted, while others may need further clarification. For the purpose of providing the reader with a clear understanding of this study, terms used throughout the document will be conceptually and operationally defined.

Critical Incident: A straightforward account of a very commonplace occurrence that transpires in routine professional practice which are critical in the rather different sense that they are indicative of underlying trends or motives, and are given significance by the teacher candidate's interpretation of the event (Tripp, 1993; 1994).

Critical Reflection: Critical reflection occurs when teacher candidates assimilate the cultural and political complexities of teaching into their reflective practice to produce profound change in thinking that can potentially impact the larger education community (Genor, 2005; van Manen, 1977).

Dispositions: The personal qualities or characteristics that are possessed by individuals including attitudes, beliefs, interests, appreciations, values and modes of judgment (Collinson, Killleavy, & Stephenson, 1999).

Practical Reflection: Practical reflection places an emphasis on clarifying theories and reasoning to make informed and intelligent decisions for the context of the classroom (van Manen, 1977; Zeichner, 1994).

Reflection: A process for improving one's practice by becoming professionally self-aware though combining research, knowledge of context, and balanced judgment about previous, present, and future actions, events, or decisions (Dewey, 1933; LaBoskey, 1993; Schön, 1983; Sparks-Langer, Simmons, Pasch, Colton, & Starko, 1990; van Manen, 1977).

Reflective Practice: An approach to practice that emphasizes the process of critical consideration that is based on multiple sources of knowledge, resulting in improvement of teaching actions before, during, and after the teaching actions take place (Ng, 2012; Schön, 1983).

Reflective Practitioner: A person who uses reflection as a learning tool to help synthesize, explain, make sense of, and ultimately learn from one's experiences (Cartwright, 2011).

Structured Reflection: A process that acts as a catalyst to transformational learning by using exercises, activities, or assignments that help student teachers question, make connections between, find congruity or disparity among assumptions held, theories and concepts, and experiences (Cunningham, 2010).

Technical Reflection: A type of reflection where the practitioner matches his/her own performance against external guidelines, usually concerning curriculum and classroom management behaviors held up to best practices teaching research (Mezirow, 1990).

Significance of the Study

The results of this study can be used by institutions of teacher education to implement effective strategies to facilitate reflection for teacher candidates. The primary benefit of reflection for teacher candidates is a deeper understanding of how they can develop a teaching style that assimilates theories they have learned from their teacher education program into their practice. It is hoped that teacher education programs will be able to use the findings of this study to design structures to assist teacher candidates to identify and reflect upon critical incidents that will hasten their ability to overcome the theory-practice gap.

Conceptual Framework

The framework of this study is rooted in the way of looking at reflection proposed by van Manen (1977), and amplified by a number of other researchers e.g., (Day, 1993; Farrell, 2004; Handal and Lauvas, 1987; Jay and Johnson, 2002; Larrivee, 2008a; Mezirow, 1990; Tripp, 1993). (See Table 1).

Table 1

Types of Reflective Thinking

Technical	Refinement of teaching strategies
Practical	The relationship between the problematic situation and the teacher candidate's actions
Critical	Deep introspection and commitment to social justice

Table 1 illustrates the types of reflection. Technical reflection is concerned with the refinement of technique. This exemplifies the behavior of teacher candidates when they are very concerned with following a particular set of procedures or steps exactly as given to them to accomplish a task. An example of this might be when a teacher candidate, working in a reading group, would continue asking the questions from the manual in the preset order, even though the conversation has already encompassed information pertaining to one of the later questions. Practical reflection represents the way that one knows and reflects on the connection between a problem and the actions employed. This typifies the behavior of teacher candidates as they begin to think outside of themselves to understand that their actions have the power to impact others positively or negatively. The teacher candidate begins to think about how to effectively redirect students when they are off task. S/he begins to think about the word choice and tone to redirect in a caring way that will allow the student to respond appropriately, yet save face. Self-analysis and a conviction to ethical social principles are the main features of critical reflection. Behaviors that represent critical reflection are those whereby the teacher candidate can deeply reflect, and amend his or her own biases and prejudices to make teaching choices that are based on the greater good. A teacher candidate who might set up a sharing circle to develop a sense of responsiveness to others' ideas and feelings illustrates this. This kind of scaffolding would foster social decision-making skills within the community of the classroom. The framework will be elaborated on in Chapter 2.

Methodology

The methodology used in this study was a qualitative approach using the critical incident technique combined with case study. Understanding how teacher candidates use reflection to

connect theory and practice required an approach that allowed me to richly describe details of their histories, contexts, and thinking processes. Data were collected through a Common Core aligned lesson plan, digital video recording, Critical Incident/Help Seeking Form, and a focus group interview.

Delimitations

This study was limited to teacher candidates in the elementary education program at one Midwestern University. Although approximately 21 teacher candidates were asked to participate, the study was limited to the number of possible teacher candidates that were willing to participate in writing a Common Core aligned lesson plan, recording a digital video, completing a Critical Incident/Help Seeking Form, and participating in a focus group interview. My aim was to collect data from a diverse group of teacher candidates in this pool. However, it was limited to volunteers by gender, ethnicity, and demography.

Organization of the Study

This dissertation is organized into five chapters. Chapter One provided an introduction to the study, and included a statement of the problem, research questions and assumptions, along with definitions of key terms. Chapter Two contains a review of the literature on the theories of reflection and techniques of scaffolding reflection for teacher candidates. Chapter Three details the research methodology. Chapter Four includes a presentation of the findings. Chapter Five offers conclusions, presents implications, and makes recommendations for future research.

CHAPTER 2

LITERATURE REVIEW

Introduction

The following literature review draws upon the pertinent work of academics studying the reflective behaviors of teacher candidates who are learning how to connect theory and practice to plan for change in their curricular and pedagogical practices. This chapter is organized into six sections. In it, I will identify the role of reflection in teacher standards, and will define reflection and critical incidents as they are used in this study. In the chapter, I will also establish how clinical field experiences provide teacher candidates the context to put theory into practice. I will then establish the relationship between critical incidents and reflection. Finally, I will cite studies that have used critical incidents as the impetus for teacher candidates to reflect.

Role of Reflection in Educational Policy and Standards

Over the past five decades, the American public has pointed to schools as one major cause of economic and moral failure in our society. External measures of action such as better curricula, better testing, and better appraisal of teacher competence have been put in place to ensure that schools will improve. As a response to these external measures, groups that are responsible for shaping the teaching profession have also worked to improve teaching from the inside out by defining standards for teaching and teacher education programs. One of the strands

that has been considered to be important throughout this movement is teachers' reflection on practice.

As a result of the 1983 report *A Nation at Risk*, schools were characterized as being in need of urgent improvement, and the public became concerned with the state of American schools. "The educational foundations of our society are presently being eroded by a rising tide of mediocrity that threatens our very future as a Nation and a people" (United States National Commission on Excellence in Education, 1983, p. 9). Numerous reforms took place as a result of this report. This publication enumerated seven recommendations for improving teacher quality, comprising of higher standards for teacher-preparation programs, competitive performance-based teacher salaries, 11-month contracts for teachers allowing increased time for curriculum and professional development, differentiated career ladders, more resources devoted to teacher-shortage areas, incentives for attracting highly qualified applicants, and well-designed mentoring programs for novice teachers. Teacher reflection plays a role in many teacher education programs (Hatton & Smith, 1995), is a key part of a strong professional development strategy (Hoban, 2002), and is an essential component in mentoring/induction programs for novice teachers (Snowman, McCown, & Biehler, 2012).

Three years later, the Carnegie Task Force of Teaching as a Profession issued a complementary report, *A Nation Prepared: Teachers for the 21st Century* to further address concerns regarding the teaching corps. Discussion surrounding this report led to the establishment of the National Board for Professional Teaching Standards (NBPTS) in 1987. The National Board strove to advance the caliber of teaching by setting exacting standards that were commensurate with masterful teaching. The first work of the National Board was to initiate a policy that would shape the National Board's perspective of what accomplished teaching looked

like. This led to their 1989 policy statement, *What Teachers Should Know and Be Able to Do*, which was updated in 2002. Proposition Four from this document is, “Teachers think systematically about their practice and learn from experience” (National Board for Professional Teaching Standards, 2002, p. 4). This systematic reflection encourages teachers to embrace an investigational and problem solving perspective, grounding their teaching decisions in the literature as well as knowledge of their students and contexts. Not only have rigorous standards for practicing teachers been established, there has been emphasis placed on reforming standards for teacher preparation programs.

The Interstate New Teacher Assessment and Support Consortium (InTASC) is an arm of the Council of Chief State School Officers (CCSSO). InTASC’s function is to promote standards-based reform of teacher preparation, licensing, and professional development. They have devised model core standards for licensing beginning teachers that are compatible with the standards of the NBPTS. InTASC has identified reflection as one of the key assumptions underlying the Model Core Teaching Standards and Learning Progressions for Teaching. They assert that, “Growth can occur through reflection upon experience, feedback, or individual or group professional learning experiences” (CCSSO 2013, p. 11). InTASC’s Standard Nine:

The teacher engages in ongoing professional development and uses evidence to continually evaluate his/her practice, particularly the effects of his/her choices and actions on others (learners, families, other professionals, and the community), and adapts practice to meet the needs of each learner. (p. 18)

This standard coordinates with NBPTS’s Proposition Four on systematic reflection. The consortium acknowledges that teachers are members of a variety of communities, and believe that in their work they need to constantly consider the consequences of their decisions and actions on members of all of the communities to which they belong

Additionally, the Illinois State Board of Education (ISBE) adopted a set of Professional Teaching Standards in 2002, which was updated in 2013. In particular, Standard Nine reads, “The teacher is a reflective practitioner who continually evaluates the effects of his/her choices and actions on others (students, parents, and other professionals in the learning community) and who actively seeks out opportunities to grow professionally” (ISBE, 2013, p. 7). One of the performance indicators for this standard is that a proficient teacher “reflects on professional practice and resulting outcomes; engages in self-assessment; and adjusts practices to improve student performance, school goals, and professional growth” (ISBE, 2013, p. 8). This statement reinforces the position of NBPTS and InTASC on reflective practice.

The accreditation body for teacher education programs advances the importance of reflection as a disposition in teacher candidates. The Council for the Accreditation of Educator Preparation (CAEP) is the result of the unification of the National Council of Accreditation of Teacher Educators (NCATE) and the Teacher Education Accreditation Council (TEAC) into a single accreditation body of teacher education. This came about when NCATE and TEAC began to explore a unification agreement in 2009. A team of 14 members equally distributed from the two groups worked for 17 months to find common ground to accept a merger. After working on the design of the new organization, the final consolidation took place in July of 2013. This merger creates a unified accreditation system that allows CAEP to create common standards for data in order to make comparisons and benchmarking possible, establish anchor points on commonly used assessments, and to research causal relationships between preparation and subsequent P-12 learning (Council for the Accreditation of Educator Preparation, 2013a).

CAEP is an independent body that operates on the basis of peer-review of providers and programs, determining quality on the basis of standards. Each institution of higher education under review participates in a self-study in which evidence is presented of the accomplishments of graduates based on particular criteria. The self-study is then reviewed by the accreditation body, validated by a site visit from a team of peers, and evaluated by the accreditation body.

CAEP's standards document cites reflection on practice as one of the "qualities outside of academic ability (that) are associated with teacher effectiveness" (CAEP, 2013b, p. 11).

Measures that are used as accreditation evidence include,

Evidence of candidates' reflection on instructional practices, observations, and their own practice with increasing breadth, depth, and intention with an eye toward improving teaching and student learning (e.g., video analysis, reflection logs). Evaluation is based on rubrics, and peer judgment. (CAEP, 2013b, p. 40)

Additionally, "evidence of teacher reflection on practice" (CAEP, 2013b, p. 44) indicates the ability of teacher candidates to apply content and pedagogical knowledge, assess teaching proficiency, and multiple measures of teaching practice including student learning and development. CAEP suggests the use of a standardized capstone assessment like the Teacher Performance Assessment (edTPA) or Education Testing Service (ETS) pre-service portfolio as a possible evidence measure that includes confirmation of teacher reflection on practice.

In an effort to shift the definition of teaching from successfully delivering curriculum to having a positive impact on student learning, InTASC commissioned a Performance Assessment Development Project in 1994 (Council of Chief State School Officers, 1996) to develop portfolio assessments to measure teacher candidates' readiness to become teachers of record. Building on this portfolio assessment as well as discipline-specific portfolios used by NBPTS to evaluate teaching quality, under the auspices of the American Association of Colleges for Teacher

Education (AACTE), Stanford Center for Assessment, Learning & Equity (SCALE) with editorial and design assistance from Pearson has developed the edTPA. The edTPA is a student centered, subject specific, multiple measure assessment of teaching. Elementary teacher candidates complete three literacy tasks: planning for instruction, engaging students in learning, assessing student learning, and one math assessment task. This assessment is designed to be educative and predictive of effective teaching and student learning. One of the four goals of edTPA is for teacher candidates “to reflect on and analyze evidence of the effects of instruction on student learning” (Stanford Center for Assessment, Learning and Equity, 2012, p. 1). These tasks afford elementary teacher candidates the opportunity to practice reflection in the context of their student teaching experience, and are scored by trained evaluators using 18 rubrics related to the tasks. This assessment brings about the inevitability of teacher education programs to ensure that teacher candidates are capable of reflecting critically on their practice to enhance their development and their employability.

In summary, a number of professional groups have been concerned with improving teacher quality. Since 1983, there has been an advance on upgrading the teaching profession. Through the establishment of the National Board of Professional Teaching Standards (NBPTS), policy was set to describe masterful teaching. In its document *What Teachers Should Know and Be Able to Do*, (NBPTS, 2002) systematic reflection was identified as one of five propositions of accomplished teaching. The Interstate New Teachers Assessment and Support Consortium (INTASC) is responsible for setting standards for teacher preparation and licensing. One of their ten standards aligns with the NBPTS proposition on reflective practice, with reflection addressed as an important quality to possess. The Illinois Professional Teaching Standards (ISBE, 2013) identify reflection as one of its standards. Additionally, the Council for the Accreditation of

Educator Preparation (CAEP) has encompassed the National Council for Teacher Education (NCATE) and the Teacher Education Accreditation Council (TEAC). These groups assert that teacher educators should assist teacher candidates in becoming reflective practitioners. The next section of this chapter will define reflective practice and how it will be used in this study.

Defining Reflective Practice

The importance of teacher candidates having the ability to reflect upon their practice has been supported by a number of theorists and teacher educators (Dewey, 1933; LaBoskey, 1993; Schön, 1983; Sparks-Langer, et al., 1990; van Manen, 1977; Zeichner & Liston, 1987, 1996b). The concept of reflective thinking in teaching is not new, although the concept has been widely interpreted by a number of theorists over time. This section will describe some of these theorists' conceptualizations and underlying principles of reflection. At the end of the summary, reflection, as it was used in this study, will be defined.

John Dewey

The construct of reflection stems from the work of John Dewey. He suggested that one main aim of education was to help people adopt habits of reflection so they can engage in insightful thought and action rather than impulsive or routine thought and action (Dewey, 1933). Dewey contended that people (in general) live their lives in a thoughtless way, based on tradition, impulse, and imitation. The idea of basing a teaching practice on tradition has been codified, speaking specifically about teachers by a number of researchers (Brownlee, Purdie, & Boulton-Lewis, 2001; Hatton & Smith, 1995; LaBoskey, 1993; Lortie, 1975; Pajares, 1992; Wideen, Mayer-Smith, & Moon, 1998) who suggest that many teachers base their practice on

what is remembered from their own prior schooling. Furthermore, many teacher candidates simply imitate the behaviors of their cooperating teacher (Hamman, et al., 2006; Pruitt & Lee, 1978), discounting what was learned in their own teacher education coursework. Dewey stated, “Such thoughts are prejudices, that is, pre-judgments, not judgments proper that rest upon a survey of evidence” (Dewey, 1933, pp. 4-5). He was making the point that peoples’ actions often are without careful thought of what is truly necessary and appropriate in particular situations.

Attention to detail in a classroom setting is imperative, as each group of students is unique, so decisions that are made need to take into account those particular students. Dewey was concerned that teachers who mindlessly follow routines would teach classes, not students (Farrell, 2012). Dewey stated that thought should precede action. He offered that “the active, persistent and careful considerations of any belief or supposed form of knowledge in the light of the grounds that support it” (p. 6). He believed that disciplined and systematic thinking ground a person’s ability to decide upon suitable actions for any circumstance.

Dewey (1933) defined reflection as “active, persistent, and careful consideration of any belief or supposed form of knowledge in light of the grounds that support it and the further conclusions to which it tends [that] constitutes reflective thought” (p. 16). In his book, *How We Think*, Dewey distinguished five phases of reflection. These phases do not necessarily follow a strict sequence. Having doubts about how to handle a situation that offers more than one alternative for action precipitates the need for reflection. The first phase of reflective thought is called *suggestions*. *Suggestions* arise when a situation is considered to be awkward or troublesome, and the mind begins to generate some possible solutions. The second phase of reflective thought is *intellectualization*. The difficult situation has been directly experienced and

is conceptualized into a problem. The third phase is called the *guiding idea*. One suggestion after another is used as a hypothesis to launch and guide observation and the collection of factual material. The fourth phase is *reasoning* which includes exploration of the problem, where one observes and examines the data, making inferences in order to begin sorting out what might be the best course of action. The fifth phase is called *hypothesis testing*. The refined idea is reached, and testing the hypothesis through action commences. Dewey stated that this action could be overt or imaginative. As the hypothesis is tested, mistakes can be uncovered. If a hypothesis cannot be verified, then the person needs to step back and use previous steps recursively. The inability to verify a hypothesis on the first attempt should not be viewed as a failure, but be considered as instructive. Failure can either point one toward a new problem, or can assist in shedding light on the original problem. An individual who really thinks and is involved in the process can learn as much from their failures as their successes.

Dewey (1933) also identified three characteristics of reflective practitioners: *open-mindedness*, *responsibility*, and *whole-heartedness*. First, *open-mindedness* means that reflective practitioners should be open to the theories and perspectives of others rather than simply follow a personally preferred routine or tradition. Second, *responsibility* refers to the expectation that, as a professional, s/he will be held accountable for the outcomes of her/his decisions. Therefore, it is important to thoughtfully deliberate these outcomes before taking actions that could affect other people. Third, *whole-heartedness* expresses that reflective thinkers examine their own positions and modify them if needed. This does not mean that one should consciously adopt new beliefs haphazardly, but to carefully examine others' perspectives, and understand how they complement or contrast with one's own convictions. Following these careful considerations the

practitioner confirms or amends his/her beliefs, and acts thusly. Building on the ideas of Dewey, the next section will explore Donald Schön's ideas on reflection.

Donald Schön

Years later, Donald Schön focused his dissertation on John Dewey's theory of inquiry. Schön continued his interest in learning more about the nature of professional knowledge. Just as Dewey was concerned with teachers' thoughtless and routinized work, Schön's 1983 volume, *The Reflective Practitioner: How Professionals Think in Action* focused on challenging the theory of *technical rationality*.

Schön disagreed with the construct of *technical rationality*, which is based on an assumption that problems of practice are routine, known in advance, and subject to rule-like generalization. Believers of this theory posit that professional practice is represented by the mere execution of a set of standard theories and methods across a variety of contexts. *Technical rationality* is linked with the rise of science as a culturally accepted and assumed as a universal truth (Gergen, 2000). It is a scientific approach, consisting of problem solving methods and linear, analytic forms of thought. Some view it as the only legitimate way that a practice can be built (Gagne & Briggs, 1974; West, Farmer, & Wolff, 1991).

Technical rationality holds that practitioners are instrumental problem solvers who select technical means best suited to particular purposes. Rigorous professional practitioners solve well-formed instrumental problems by applying theory and technique derived from systematic, preferably scientific knowledge. (Schön, 1987, pp. 3-4)

Schön (1987) specified that the logic behind *technical rationality* was flawed. The theory projects practitioners as automatons who accurately replicate formulas dictated by others. As long as the plan is consistent with the context, and the outcomes are agreed upon, then a

formulaic approach can work. Schön observed that following a protocol cannot tidily solve the types of problems practitioners face because real problems are complex. There are usually a number of possible solutions: solutions that need to take into account the context of the situation, not easily solved by following a stock approach. Schön proposed “the model of *technical rationality* is incomplete, in that it fails to account for practical competence in ‘divergent’ situations” (Schön, 1983, p. 49). He proposed the creation of a theory of practice that encompasses the use of intuition in concert with cognitive processes to operate in contexts that are complex and unique.

Schön referred to *knowledge-in-action* as the professional knowledge that practitioners use, apart from the academic, scientifically based knowledge that is a part of the *technical rationality* model. This knowledge differs from Dewey’s conception that people behave in impulsive ways, as it is grounded in a “tacit knowledge” (p. 52) where the information that is “known” has become so internalized that one might not be able to express how it is known. It is based, partially, on the past experiences of the practitioner, so these past experiences inform present action.

When we go about the spontaneous, intuitive performance of the actions of everyday life, we show ourselves to be knowledgeable in a special way. Often we cannot say what it is that we know. When we try to describe it, we find ourselves at a loss, or we produce descriptions that are obviously inappropriate. Our knowing is ordinarily tacit, implicit in our patterns of action and in our feel for the stuff with which we are dealing. It seems right to say that our knowing is in our action. (Schön, 1983, p. 49)

For Schön, this *knowledge-in-action* was crucial to the foundation of professional practice. While the practitioner does put thought into his/her behavior, much of the behavior of a skillful professional is spontaneous, revealing knowledge that is not influenced by specific cognitive operations. *Knowledge-in-action* is unconscious, so it cannot always be understood by

talking with a practitioner. It might be possible to infer knowledge-in-action through observation, although this still does not give the observer a window into the mind of the practitioner. In order to better understand this kind of knowledge, it is imperative to study another cognitive approach. Schön referred to this approach as *reflection-in-action*.

Reflection-in-action involves examination of beliefs and experiences, connecting them to the theories being used. Nonetheless, engagement in *reflection-in-action* requires one to be aware of *knowing-in-action*, moving beyond familiar ideas as practitioners begin to construct and employ a toolbox filled with images, ideas, and actions. Schön explained the model of *reflection-in-action* as a series of “moments.” The process starts with a classroom event, such as a math class with the teacher quizzing the students about the commutative property of multiplication. All goes according to the plan until one student (who is usually capable) misses an easy question. In another round of questioning, it happens again after the teacher had re-explained the concept. This incident causes the teacher to be surprised, because the lesson is not going according to his/her categories of *knowing-in-action*. The teacher can then take one of two paths, to either let it go, or to reflect on the incident. A reflective practitioner might reflect in one of two ways, according to Schön, *reflection-in-action* or *reflection-on-action*.

Schön defined *reflection-on-action* as “thinking back on what we have done in order to discover how our *knowing-in-action* may have contributed to an unexpected outcome” (Schön, 1987, p. 26). This reflection takes place later, when one has some quiet time to think about what transpired during a lesson. This is often the case for teacher candidates, as teaching episodes, themselves, seem to move very quickly because there is a great deal of thinking taking place due to concentration on technical aspects of the teaching episode. Some more experienced

practitioners might pause in the middle of the lesson to quickly stop and think about what has taken place, and how to get back on track. Schön referred to this as *reflection-in-action*.

These reflection models enable practitioners to expand their collections of strategies and ways of thinking about incidents that take place in the classroom. Reflection helps practitioners advance their expertise in handling the dilemmas of the classroom. Schön proposed that reflection has two stages: problem setting and problem solving. Problem setting is important because Schön (1983) claimed that real problems are rarely routine or easily solved by technical solutions. Real problems are intricate. There are often competing needs and a number of possible solutions to consider. Schön defined *problem setting* as the process in which a practitioner designates the things to which s/he will attend. He stated, “They (problems) must be constructed from the materials of problematic situations that are puzzling, troubling, and uncertain” (Schön, 1983, p. 40).

The reflective practitioner’s background and skill level play an important role in deciding what is “seen” as the problem. The practitioner frames the problem in a way that takes into account the pedagogical, content, and dispositional knowledge that s/he holds, in order to be able to advance his/her practice. Schön believed that the process of professional decision-making is more critical than the decisions that stem from the process. Schön stated, “It is not by technical problem solving that we convert problematic situations to well-formed problems; rather it is through naming and framing that technical problem solving becomes possible” (Schön, 1987, p. 5).

Schön envisioned *reflection-in-action* as the process that *knowing-in-action* is scrutinized, reconceived, and tested through further action. Clark (1995) explained, “this conversation between the practitioner and the setting provides the data which may then lead to

new meanings, further reframing, and plans for further action” (p. 95). Through *reflection-in-action* one considers the thoughts and actions that were taken prior to the incident considered as a problem. Reflection takes place as the teacher candidate begins to grasp how to proceed in a new situation by considering what is known already, how that knowledge can be restructured, and what new knowledge might be necessary to more fully understand the situation. This becomes a deliberative conversation between the teacher candidate and the context of the incident. The candidate then begins to develop some new strategies that take into consideration the “materials” of the situation. Then it is an instance of trying out these new planned actions, testing them out to see if they are viable. At this point, the teacher candidate uses what s/he feels might be the best action to take, and proceeds. Then s/he decides if the action was successful. If it was not, then the process repeats.

Additionally, Schön (1983) proffered three forms of experimentation: *exploratory* experiment, *move-testing* experiment, and *hypothesis-testing* experiment. The first, *exploratory*, is how professionals test the waters to get a feel for something. An example of this might be that the teacher candidate allows students to sit where they want to for a few days to get a sense of how students relate to one another. In the second, *move-testing*, specific actions are taken with an end in mind. For example, a teacher candidate might try music, a bell-ringer activity, a chime, or a call/response activity to see how students react if s/he has been having difficulty settling them down at the beginning of a class period. It is an experiment to gauge their reaction to a variety of strategies, or moves. If the teacher candidate gets a positive outcome, then the move is affirmed. If not, then that move is cast aside. The third form of experimentation, *hypothesis-testing*, is when the teacher candidate weighs the success of competing hypotheses. It is important for the teacher candidate to gain an understanding of why one particular trial serves his/her purpose

better than another. In this *hypothesis-testing* it is important for the teacher candidate to maintain objectivity, suppress his/her own biases, and make a decision based on the context of the classroom.

Other Theorists on Reflection

Max van Manen (1977), who, like Dewey saw reflection as a mental action, defined types of reflection. Van Manen proposed a way of looking at reflection that has three types: *technical*, *practical*, and *critical reflection*. Succeeding researchers have used van Manen's terminology as a launch point for their own frameworks.

In a review of the literature, most of the definitions of reflection, delineate three discrete types of reflection (e.g., Day, 1993; Farrell, 2004; Handal and Lauvas, 1987; Jay and Johnson, 2002; Larrivee, 2008a; Mezirow, 1990; van Manen, 1977). The three types are

1. The type that focuses on teaching behaviors or skills. There is usually a clear separation between reflection and action.
2. A type that considers the theory and reasoning for teacher actions. It begins to take into consideration the context.
3. Another type that examines ethical, social, and political effects of teaching.

The first type has often been termed as *technical* (Day, 1993; Farrell, 2004; Hatton & Smith, 1995; Valli, 1997). The second type has been referred to with a variety of terms, often depending on the theme of the rest of the work, e.g. *practical* (van Manen, 1977), *pedagogical* (Larrivee, 2008a), *comparative* (Jay & Johnson, 2002), *process* (Mezirow, 1990), and *conceptual* (Farrell, 2004). There is general agreement among the theorists that the third type is referred to as *critical reflection*. *Critical reflection* absorbs aspects of the previous two, but additionally

considers moral and ethical criteria (Adler, 1991), and positions analyses in the wider socio-historical context (Hatton & Smith, 1995).

Sparks-Langer, et al. (1990) developed the Framework for Reflective Pedagogical Thinking to assess the reflective thinking of teacher candidates. These teacher candidates were interviewed weekly and asked to reflect on successful and unsuccessful lessons and events in the classroom. Language used in interview transcripts and journal entries was coded using the Framework to match the responses to seven levels of reflective language (Table 2).

Table 2

Framework for Reflective Pedagogical Thinking

Level 1	No descriptive language
Level 2	Simple, layperson description
Level 3	Events labeled with appropriate terms
Level 4	Explanation with tradition or personal preference given as the rationale
Level 5	Explanation with principles or theory given as the rationale
Level 6	Explanation with principle/theory and consideration of contextual factors
Level 7	Explanation with consideration of ethical, moral, political issues

(Sparks-Langer et al., 1990).

Levels One through Three correspond to the *technical* type described by van Manen. Levels Four through Six are similar to his *practical* type. Level Seven is synonymous with *critical* reflection. This is in reference to the types of reflection found in Table 1.

Tripp (1993), a teacher educator, generated a protocol to refine the process of reflection. He encouraged his teacher candidates to think about ordinary events which, when examined, often give much information about the state of one's practice. The teacher candidates describe in writing: What happened? Why did it happen? What might it mean? What are the implications for my practice? Tripp looks at types of reflection (See Table 5), that can correspond to van Manen's (1977) typology (Table 1). Tripp's framework provides guidance for the analysis of the

critical incident with the educative goal of improving professional judgment. Many have characterized reflection as a typological framework, but there are also theorists who consider the personal characteristics of practitioners who are reflective.

One of these theorists is LaBoskey (1993), who developed a continuum for the reflective thinking of teachers. She describes a progression from *common sense thinkers* to *alert novices* to *pedagogical thinkers*. LaBoskey characterizes students entering teacher education program as being *common sense thinkers* or *alert novices*. Those who are *common sense thinkers* have a self-orientation. They maintain a short-term view. These students rely on personal experience and encounter a great deal of trial and error in their practice. They are often unaware of a need to learn, thinking they already know what actions to take from their own experiences as students. The ideas they have, though, were derived from a student perspective—not a teacher perspective—and are often inaccurate and incomplete. La Boskey uses the metaphor of teacher as a transmitter of knowledge to describe *common sense thinkers*. Moving along the continuum, *alert novices*, are prospective teachers who enter teacher education programs with a greater degree of orientation toward growth and inquiry.

The third progression of the continuum is that of *pedagogical thinker*. *Pedagogical thinkers* have a student orientation and a long-term view. They are able to differentiate between teacher and learner roles. They evidence openness to learning and have the desire to grow in their practice. *Pedagogical thinkers* are open to thoughtful experimentation and look for feedback. They display an awareness of teaching as a moral activity, and are grounded in knowledge of self, students, and subject matter. LaBoskey uses the metaphor of teacher as facilitator to describe *pedagogical thinkers* (p. 22). LaBoskey posits that it is important for

teacher education programs to purposefully include instructional activities that can aid teacher candidates in their growth toward becoming *pedagogical thinkers*.

Zeichner and Liston (1996b) propose that theories of practice and beliefs become more articulate when teacher candidates engage in the process of reflection. Through practical and personal theorizing, they become increasingly conscious and critical. Reflection assists teacher candidates in producing internal authority—they are beginning to articulate an attempt to come to know. As they enter the classroom they will find that there are many prescriptive curricular programs for teachers to deliver in the classroom, practitioners need to be able to strike a balance, considering the context of the students, the classroom, as well as the content. Zeichner and Liston describe the attributes that distinguish a reflective practitioner from a technician. They put this in practical terms when they point out that reflective practice involves teachers in examining, framing, attempting to solve dilemmas of classroom and school, and asking questions about assumptions and values they bring to teaching. It also involves attending to the institutional and cultural contexts in which they teach, taking part in curriculum development, being involved in school change, and taking responsibility for their professional development (Zeichner & Liston, 1996a). However, they suggest that the way that teacher candidates develop and reflect on their burgeoning theories and beliefs affect the degree to which they are likely to scrutinize and strengthen their own teaching practice.

Summary

Teacher education literature has described the focus of reflective practice in a variety of ways. Underlying the apparent similarities among those who embrace the concept of reflection are vast differences in perspectives about teaching, learning, and schooling. The term reflection

is vague and ambiguous, and there are many misunderstandings as to what is involved with teaching reflectively (Hatton & Smith, 1995; Larrivee, 2008b; Valli, 1997; Zeichner, 1994).

The general concept of teacher reflection stems from the work of John Dewey (1933) who encouraged teachers to examine the underlying thinking for their teaching actions and decisions. He identified three qualities of reflective teachers: *open-mindedness*, *responsibility*, and *whole-heartedness*. Schön (1983, 1987) built upon Dewey's work and proposed that there are two kinds of reflection: *reflection-on-action* (examination after the event) and *reflection-in-action* (considering the incident as it unfolds). Schön believed that reflection-in action depends on intuitive actions that lead to surprises. These surprises might be something pleasing and desired, or perplexing and unwanted. *Reflection-in-action* is confined by the *action-present*, which is the amount of time in which a move can be made to impact the situation. Killion and Todnem (1991) extrapolated Schön's ideas to include *reflection-for-action*, whereby the reflection guides future action. This extension of Schön's theory allows the reflection process to include past, present, and future timeframes.

Other researchers have developed frameworks to identify types of reflection. For example, van Manen (1977) generated taxonomy of reflection. The types ideally parallel the development of practitioners: *technical* (application of knowledge and skills), *contextual* (analysis of assumptions, meanings, and consequences of practices), and *critical* (questioning moral, ethical and socio-political issues). Sparks-Langer, et al., (1990) created another framework: The Framework for Reflective Pedagogical Thinking. This framework differentiates among seven types of language and thinking employed by a practitioner. The language ranges from "no descriptive language" to "explanations with consideration of ethical, moral, political issues" (p. 27). LaBosksey's (1993) conceptual framework looks at a teacher's

degree of orientation toward growth and inquiry: movement along a continuum from *common-sense thinker* to *alert novice* to *pedagogical thinker*.

Finally, theorists have a wide variety of beliefs about reflection. Some see reflection solely as a cognitive process. Some see it as taxonomy. Some see it as a developmental continuum. Others see it as being part of a person's make-up; their beliefs, values, and assumptions. Even though these theorists are unable to reach a consensus on the definition of reflection, there is widespread agreement among them that reflection is a key for personal growth. Additionally, there is agreement that reflection is not just thinking about something, but is an intentional process prompted when one is stimulated to reflect on an incident that evokes surprise, puzzlement, confusion, or discomfort (Fox, Brantley-Dias & Calandra, 2006, 2007; Griffin, 2003; Tripp, 1993). As an outcome of this reflective process, the teacher candidate attains a more profound meaning and insight of the critical incident (Levin, 2002; Muir & Beswick, 2007). The teacher candidates can use this insight to plan for future teaching choices. Each one of these theorist's constructs have merit, but I must decide on a definition for my study. Therefore, I have purposely chosen to define reflection in this way: A process for improving one's practice by becoming professionally self-aware through combining research, knowledge of context, and balanced judgment about previous, present, and future actions, events, or decisions.

The next section explains why clinical field experiences are important for teacher candidates. Clinical field experiences are designed to provide candidates with structured opportunities to put into practice theories and techniques that they have been exposed to in their teacher education coursework. Additionally, they provide teacher candidates with authentic events to reflect on how they are developing their skills, strategies, and dispositions for the classroom, and set goals for future growth.

Clinical Field Experiences

Clinical field experiences provide a number of challenges: not limited to classroom management, content area expertise, pedagogical competencies, communication with parents, working with colleagues, and building rapport with students. Teacher candidates need to be able to construct their own teaching narratives that are informed by research, theoretical frameworks, and outside experts (Sparks-Langer & Colton, 1991), but also need to be connected to their experiences in the classroom. This is important so they can come to understand the complexity of teaching and see the value in transforming their knowledge into a usable form. Daloz (2000) stated that students in late adolescence are beginning to be metacognitive: they are capable of reflecting on the breadth of and deficiencies in their knowledge. Piaget (1972) implied that in this formal operations stage, candidates are able to synthesize a variety of concrete experiences to reason between justified beliefs and opinion. This is important for teacher candidates as it relates to how they link theory to practice. This construction of knowledge through the use of critical incidents promotes the practice to theory approach (Korthagen & Kessels, 1999). Field experiences are rife with the opportunity for teacher candidates to develop insights into their professional practice. I am interested in learning how teacher candidates incorporate what has been learned from their coursework into their teaching practice. This section of the chapter explains and defines critical incidents and how they can be used to give insight into how teacher candidates articulate what they know, how they know it, what they do not understand, and why that might be the case.

Critical Incidents

The term *critical incident* originated historically where it alluded to some event or situation which designated an important turning point or life-changing moment for a person, an institution, or social phenomenon (Tripp, 1993). In everyday life, this kind of life-changing moment occurs infrequently. People do have significant events happen in their lives that cause them to change their behaviors or perspectives. However, most people go about their daily lives experiencing commonplace happenings that do not seem to be out of the ordinary. These typical events though, taken together, often uncover unrevealed trends, motives, and patterns of thinking or behavior. Tripp observes that these kinds of events appear to be typical, but in hindsight, become *critical* because they are open to analysis. Tripp asserts that critical incidents

are not “things” which exist independently of an observer and are waiting discovery...but like all data, critical incidents are created. Incidents happen, but critical incidents are produced by the way we look at a situation: a critical incident is an interpretation of the significance of an event. (p. 114)

The criticality is based on the justification, the significance, and the meaning given to them (Angelides, 2010). This analysis can help people, in this case teacher candidates, reflect on these *critical incidents* to provide an approach to effect deeper and more profound levels of reflections, as well as a means to challenge their schema (Griffin, 2003; Hamlin, 2004).

These deeper, more profound types of reflection are possible because the critical incident relies on analysis of the meaning of the event. The critical incident is an ideal vehicle to examine multi-faceted problems and identify the underlying assumptions that caused the teacher candidate to choose particular teaching actions. In describing the critical incident, the teacher candidate is urged to use professional vocabulary. S/he connects theory to practice through explanation and analysis. The teacher candidate also has an opportunity to connect his/her

practice to professional standards. The candidate can use what s/he has discovered about him/herself as a teacher to plan for future classroom actions.

A *critical incident* is created when an event is observed and noted by a teacher candidate who describes and explains an incident. Then, the teacher candidate looks for a general meaning to the incident and classifies the event by giving it a title and explaining the incident. Next, the candidate takes a position regarding the general meaning of the incident. Finally, the teacher candidate who experienced the critical incident describes future actions s/he hopes to take that stem from the understanding of the wider meaning of the incident (Tripp, 1993). There have been modifications to Tripp's *critical incident* format including the addition of an emotions component, the use of the word *I* by the writer to take responsibility to describe every actor's role accurately with deepened understanding of their perspectives, a classification component to relate the incident to many aspects of teaching and learning (Griffin, 2003), and cultural backgrounds, beliefs, and biases (Brantley-Dias, Dias, Frisch, & Rushton, 2008).

The *critical incident technique* has its roots in the seminal work of John C. Flanagan (1954) who used it to determine effective and ineffective behaviors for United States Air Force pilots in combat missions. Through their descriptions of the incidents, pilots could deduce what actions led to particular outcomes. They would then either continue with successful actions, or deduce what needed to be changed to be more effective. Due to its success in the military field, the use of critical incident technique has been expanded over time to apply to other specific occupational groups, such as doctors, nurses, accountants, social workers, and educators when a need arose for professionals to reflect on their practice to effect change. The critical incident technique is a reliable qualitative tool that can be used to prompt a detailed description of a particular event (Woolsey, 1986).

David Tripp (1993), a teacher educator who has written extensively about *critical incidents*, believes that those who study *critical incidents* should assume a diagnostic stance to their work to help them derive meaning from these studies. In order to diagnose incidents in teaching practice, teacher candidates need to be able to describe them objectively, determine what is significant about the meaning of the incident, choosing the best diagnosis based on an understanding of the context, their knowledge base, and the significance of the situation. Finally, they need to apply what they have learned to plan future action. It is important that the incident be described in detail so that there are sufficient facts available that the interpretation can be rooted in truth.

As teacher candidates begin to build their practice, they are working consciously and technically to develop procedures, so that these procedures will become part of their practice. As these customs are developed and routinized, it is important to continuously consider how these actions can be viewed through various lenses, especially that of their students, so that the actions are not so routinized that they no longer have meaning to all of the stakeholders. As these behaviors are reflected upon, it should cause teacher candidates to consciously revisit the theories that have informed their behaviors. This is an important way to connect theory and practice purposefully.

For the purpose of this study I define *critical incident* per Tripp (1993; 1994) as a straightforward account of a very commonplace occurrence that transpires in routine professional practice which are critical in the rather different sense that they are indicative of underlying trends or motives, and are given significance by the teacher candidate's interpretation of the event. The following section explains how the use of critical incidents can be a stimulus for reflection for teacher candidates. Critical incidents can be used to encourage teacher candidates

to explain and justify aspects of their teaching behavior. These are occasions for learning that can lead a teacher candidate to generalize ideas and answers that are transferrable to other teaching situations.

Connecting Critical Incidents to Reflection

When Schön (1995) discussed *knowing-in-action*, he referred to professional knowledge that presents itself through the intuitive action of the practitioner. One cannot always infer what is known by observing the action, nor can what is known always be understood by talking with the practitioner. This prompts one to consider how *reflecting-on-action* can impact a teacher candidate's practice. David Tripp (1993) claims that routines that teachers establish become habits over time. He suggests that: "We often cannot say why we did one thing rather than another, but tend to put it down to some kind of mystery such as 'professional intuition' or simply 'knowing'" (p. 17).

Schön (1987) contended that this practitioner's reflection occurs through the way the problematic situation is framed. This framing is determined by the practitioner's content knowledge, pedagogical knowledge, past history, role, and political/economic perspectives. The teacher candidate frames the incident and reflects, based on his/her experience. It is important to understand where the reflection comes from. Schön (1995) explained that

Although we sometimes think before acting, it is also true that in much of the spontaneous behavior of skillful practice we reveal a kind of knowing which does not stem from a prior intellectual operation. (p. 51)

Additionally, he opined that often when one attempts to explain how one knows, s/he is unable to find the words to express the ideas, or obviously inappropriate descriptions are produced.

Furthermore, Schön believed that tacit rules and procedures govern how individuals behave and

reflect. He suggested that there are actions, acknowledgements, and decisions that people carry out unconsciously. Often, people act without being able to acknowledge how they learned to do something. It is possible that the person was, at one time, aware of how s/he assimilated the knowledge that was rooted in the action. It is also possible that the person was unaware of how s/he came to know what was enacted. In both of these cases, Schön suggested, “We are usually unable to describe the knowing which our action reveals” (p. 54). These implicit rules and procedures might also influence a teacher candidate’s reflection. Schön stressed that *reflection-in-action* depends on the element of surprise. If everything transpires as expected, it is easy to continue with little thought. But when one’s unconscious performance produces surprises, whether they are pleasant, awkward, or undesirable, one might respond by reflecting on the results, the action, and the knowledge that underlies the action.

Additionally, Dewey (1993) asserted that the object for reflective thinking is to resolve problems:

Demand for the solution of a perplexity is the steadying and guiding factor in the entire process of reflection. Where there is no question of a problem to be solved or a difficulty to be surmounted, the course of suggestions flows on at random. (p. 14)

When the teacher candidate experiences and identifies an incident that causes him/her to have a feeling of disequilibrium or surprise, it is important for the candidate to take time to consider what variables were at play to precipitate the outcome. Reflection on the incident can lead the candidate to a better understanding of what took place, and how her/his actions and/or attitudes played a role in the outcome. Once s/he discerns this, planning for future action can take place.

Examples of Studies Using Critical Incident Technique

This section of the chapter is devoted to a review of studies that have used Critical Incident Technique as a way to stimulate reflection in teacher candidates. Critical incidents have been used in a number of settings and situations for this purpose. In Table 3, I identify studies that have used critical incidents as the impetus for reflection. The table conveys information about the authors, research questions posed, sample, method, and key findings.

These studies offered information to assist me in planning for my study. O'Sullivan and Tsangaridou's (1992) study about undergraduate P. E. majors' field experience was interesting in that it took place during the teacher candidates' program which allowed for them to show growth over time in their thinking about content. This study exhibited a high degree of consideration for ethics. It was important that the materials turned in for the study did not count toward the teacher candidates' grades, and that the reports and questionnaires were submitted voluntarily. Also of interest was their finding that there was an importance placed by the students on interesting lessons, rather than lessons that supported the content and skills from the curriculum.

In the study conducted by Graham, et al. (2012) on induction for Newly Qualified Teachers (NQTs) in England, the researchers used critical incidents as a learning tool in conjunction with a model for improving practice. The researchers modeled how to analyze critical incidents and connect the literature to the new teachers' practice. What was significant in this study was that the researchers, within the framework, encouraged the participants to use the model in personal ways. The NQTs were able to focus on an aspect of practice that they felt needed improvement. The researchers considered that taking action following the reflection was crucial. This idea could enrich the design of my study.

Table 3

Studies Using the Critical Incident Technique

Study	Research Questions	Sample	Method	Key Findings
O'Sullivan & Tsangaridou (1992)	<ul style="list-style-type: none"> • What issues did the teacher candidates attend to as significant events from their teaching, and did these issues change during the field experiences? • What were the characteristics of field experience lessons they perceived as successful? • What were the characteristics of field experience lessons they perceived as unsuccessful? • What were the physical education majors' conceptions of teaching? 	39 physical education majors in field experience prior to student teaching	Qualitative	<ul style="list-style-type: none"> • Concern for skill knowledge or content knowledge was consistently absent in the critical incident reports and questionnaires. More emphasis was placed on how to make lessons interesting. • The participants' writings reflected a dominant message of the values of the teacher education program, and were entirely technical in nature. • The teacher candidates were greatly concerned for students' involvement in activity and their success in reaching their lessons' goals.
Graham, Lester, & Dickerson (2012)	<ul style="list-style-type: none"> • Using the Discover-Deepen-Do model of analyzing critical incidents: • How did Newly Qualified Teachers (NQTs) identify and reflect upon their personal practice, identifying professional development needs relevant to their personal and institutional context? • How did NQTs reflect through personal inquiry upon the nature and extent of their professional development against relevant professional standards addressing appropriate issues of ethics and diversity? • How did NQTs develop and sustain confidence in their professional expertise and increase their autonomy in terms of their professional development? 	121 newly qualified teachers in the United Kingdom	Qualitative	<ul style="list-style-type: none"> • Themes that emerged from the study included: • The opportunity to write about issues that were troublesome in the context of the classroom was very helpful. • The NQTs were developing as confident and critically reflective practitioners as a result of contemplating critical incidents. • There was impact beyond the NQTs' own practices. Pupils, other staff, parents, and outside agencies were positively influenced. • There was short and long- term impact on NQTs. • The process allows the NQTs to personalize their needs.

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<p>Morey, Nakazawa, & Colvin (1997)</p>	<ul style="list-style-type: none"> • This study compared the student teaching experiences of teacher candidates in Japan and the United States as a means: • To understand the similarities and differences in acculturation in the two countries. • To implement a common research methodology as a way to achieve an understanding of the two systems. • To understand the potential of teaching vignettes, in the form of critical incidents in promoting and revealing thoughtful practice. 	<p>80 teacher candidates from Japan 73 teacher candidates and first year teachers from the United States</p>	<p>Qualitative</p>	<ul style="list-style-type: none"> • Within the category of curriculum and instruction, Japanese and American teacher candidates were primarily concerned with effective teaching methods. • 89% of Americans and 65% of the Japanese showed some or clear reflection in their writing. • Some teacher candidates from both countries questioned their ability to become teachers.
<p>Brantley-Dias, et al. (2008)</p>	<ul style="list-style-type: none"> • What types of reflection are evident in preservice science teachers' written and spoken analysis of critical incidents which they identified from a videotaped lesson? • What do teacher candidates in science learn from reflecting on critical incidents in their teaching? 	<p>8 student teachers in biology: 3 at middle schools, 5 at high schools</p>	<p>Qualitative, Multiple Case Study</p>	<ul style="list-style-type: none"> • 5 of 8 participants evidenced a growing knowledge of students. • All eight were able to reflect-on-action • 4 of 8 participants were able to reflect-for-action. • All participants reflected technically. • 6 reflected contextually. • 3 reflected critically. • It is important to help teacher candidates recognize their use of contextual and critical lenses to support personalized professional development goals. • Teacher educators and researchers should respect the diversity of teacher candidates' forms of reflection.

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<p>de Jong, Lane, & Sharp (2012)</p>	<p>To what extent did the simulated critical incident and active recall facilitate teacher candidates' understanding about their professional role as a teacher in regulating their emotions in the possible event of critical incidents occurring in a school context?</p> <p>What was the overall efficacy of using simulation and active recall to enhance student engagement and learning?</p>	<p>106 teacher candidates in Australia</p>	<p>Mixed Methods</p>	<p>59% of teacher candidates agreed or strongly agreed that the use of simulation helped them understand their ability to regulate or control their emotions in the possibility of a critical incident occurring in their school context.</p> <p>Due to the highly charged nature of the simulated incident, 65% of the teacher candidates felt their written descriptions were less than 50% objective.</p> <p>70% of the teacher candidates felt that the use of simulation increased their engagement.</p>
<p>Griffin (2003)</p>	<p>The researchers evaluated critical incidents written by teacher candidates for a level of reflective language and thinking, the degree or orientation toward growth and inquiry, and modes of reflective thinking.</p>	<p>28 undergraduate teacher candidates in a six week half-day field experience</p>	<p>Mixed Methods</p>	<p>Through self-assessment, 19 of 28 participants perceived that the use of Critical Incidents improved their ability to analyze and evaluate their own practice and to see situations from multiple perspectives.</p> <p>One half of the participants realized that attending to details of the incidents were important, and that using the literature helped them understand the implications of what transpired as well as provided them guidance as they reflected.</p> <p>Comments from the self-assessments supported Dewey's (1933) three attributes of reflective persons: open-mindedness, responsibility, and whole-heartedness.</p>

In the study on Japanese and American student teachers, Morey, et al. (1997) compared the student teaching experiences of the students from the two countries. This study was of interest to me because the researchers used the Critical Incident to learn how student teachers construct pedagogical and content knowledge. The researchers scored the critical incidents for three categories: primary topic, self-confidence, and level of reflection.

The Australian study by de Jong, et al. (2012) used a single simulated critical incident to see how teacher candidates learn how to regulate their emotions. The researchers defined the Critical Incident a bit differently. Most other researchers would have designated this as a critical event. What was of real interest, though, was that the researchers felt that due to the highly charged emotional nature of the event, less than 30% of the participants were able to objectively describe the incident. I question the lack of instructions given to the participants in how to write a critical incident, but understand because the researchers were most concerned with how the teacher candidates would respond in the moment.

The multiple case study on science teacher candidates by Brandtley-Dias et al. (2008) combined the use of digital video and Critical Incidents. Teacher candidates digitally recorded a lesson of their choice. Then they analyzed their videos to look for critical incidents. The researchers used a Critical Incident Report protocol that was based on Tripp's (1993) and Griffin's (2003) examples. The student teachers completed the Critical Incident Report reflection. This protocol gave very specific instructions on how to complete it. The teacher candidates were also prompted to make specific connections to science standards and university portfolio standards. They were additionally asked to express their beliefs about teaching and discuss further action. The researchers watched the videos and conducted semi-structured interviews with each of the teacher candidates. They analyzed the data within and across cases

using constant comparative methods. Initially, the researchers coded the reflection data using Sparks-Langer et al.'s (1990) framework, but found that simply designating a level did not do justice to the rich, thick data provided by the student teachers. Subsequently, they employed a model authored by the main researcher and two colleagues from an earlier study. They coded for categories of reflection (time), type of reflection, and the competency displayed. The researchers were also concerned with supporting personal growth goals just as Graham, et al. (2012) were.

The use of video, in conjunction with the well thought out critical incident form and the semi-structured interview provided a very dense data set to work from. The richness of video data that can be repeatedly viewed for analysis added an important dimension to this study. Their multi-dimensional framework encompasses the competencies of knowledge, pedagogy, and dispositions that relate to my research questions.

Maureen Griffin's 2003 study of half-day field experience for teacher candidates looked at how they reflected on Critical Incidents. Griffin modified Tripp's 1993 Critical Incident Report to assist the participants in providing rich data. This study took place in conjunction with a class on reflection. The researchers assessed the teacher candidates' levels of thinking, orientation toward growth and inquiry, and mode of reflective thinking. Griffin utilized Sparks-Langer et al.'s (1991) levels for measuring and describing reflective thinking.

Conclusion

This chapter has explored interpretations of reflection in terms of standards, and how theorists view reflection. It has shown how Critical Incident Technique can precipitate reflection, and has also explored how teacher candidates can use critical incidents as a channel

for reflection. The methods used for conducting this study focused on reflection and critical incidents with teacher candidates will be described in the next chapter.

CHAPTER 3

METHODOLOGY

Introduction

The purpose of this study was to examine how reflection on critical incidents, identified by teacher candidates, assisted them in bridging the theory-practice gap. The study also attempted to learn how teacher candidates sought help when faced with practice-based problems. In this chapter, the study's research methodology will be presented in five sections: research design, sampling procedures, data collection, data analysis, and limitations.

Research Questions

This study focused on the following research questions:

1. How does reflection upon critical incidents assist teacher candidates in connecting theory and practice?
2. How does reflection assist teacher candidates in planning for pedagogical, curricular, or dispositional change in their practice?
3. In what way do teacher candidates engage in the process of reflection to deal with dilemmas faced in professional practice?

Research Design

The aim of a qualitative approach is to provide a complex understanding of how teacher candidates used critical incidents as an impetus for reflection to plan for change in their practice (Bogdan & Biklen 2003; Creswell, 2009; Mertens, 2010). In order to understand how teacher candidates were able to use reflection to connect theory and practice, a qualitative approach to this study was most appropriate. This study employed a multiple case study approach as well as the critical incident technique (Brookfield, 1990; Flanagan, 1954; Tripp, 1993). As participants in this investigation, teacher candidates shared their descriptions of critical incidents. Qualitative methods (Creswell, 2009; Guba & Lincoln, 2005; Merriam, 2009; Mertens, 2010; Miles & Huberman, 1994) allow for description of the ways teacher candidates used reflection to construct their personal philosophies of how theory and practice converged and applied to their classroom work. Furthermore, qualitative methods denote how others (cooperating teacher, trusted professors, university supervisor, peers) influenced teacher candidates' ability to reflect when faced with dilemmas of practice.

The case study approach was the type of qualitative research that best suited my study. Merriam (1998) defines case study as “an intensive, holistic description and analysis of a single instance, phenomenon, or social unit” (p. 21). She asserts that case study is used when the researcher seeks to gain an in-depth understanding of the circumstances and significance for those involved. Merriam argues that to a case study researcher, the process should be more relevant than the outcome, and that a rich context is more significant than a specific variable, and that discovery overrides confirmation (Merriam, 1998).

Yin (2008) suggests that a case study is most appropriate for research questions that ask “how” (p. 13). He further states that when the investigator has less control over “a contemporary set of events,” or if the variables are such a part of the context that the researcher is unable to predict them, that the case study is a good choice. The questions in this study all ask “how,” making case study a good fit (Yin). Additionally, since the researcher was not connected to any of the teacher candidates as a cooperating teacher or university supervisor, there was no control over the events which happened in their clinical experiences (Creswell, 2009). Nor did the researcher foresee the kinds of experiences the teacher candidates had (Creswell; Yin).

Merriam (1998) maintains that case studies have three essential designations: particularistic, descriptive, and heuristic. The first, particularistic, indicates that case studies concentrate on a particular situation, event, or phenomenon. Merriam defines a particularistic study as one that will “focus on a particular situation, event, program, or phenomenon” (p. 43). Merriam continues that it is “a good design for practical problems...arising from everyday practice.” The researcher looked for information and insights that were unveiled and what that information stood for. It can suggest a course of action in a similar situation to the reader. By clearly bounding the case, it allowed the researcher to focus on practical problems. Merriam’s second quality of importance is descriptive. She maintains that the end product of a case study should be a thick description. This means, “the complete, literal description of the incident or entirety being investigated” (p. 29-30). The thick description emphasized the complexities of the circumstances, and presented information from a wide variety of viewpoints in different ways. The third quality of a case study, as outlined by Merriam, is that it is heuristic. Heuristic means that the case study can clarify the reader’s understanding of the situation being studied. The

reader might expand on his/her own experience, ascertain a new significance, or confirm one's own knowledge.

Merriam (1998) distinguishes among three types of case study: descriptive, interpretive, and evaluative. The first type, descriptive case study, offers a comprehensive report of the phenomenon being studied. These cases usually richly document a particular sequence of events. Lijphart (1971) characterizes these studies as being “atheoretical” because they simply describe a situation, but offer no theories on their own. Collectively, descriptive studies can be accumulated to be used to develop or test theories. Merriam's second type, interpretive case study, focuses on the use of rich, thick description. The descriptive data in this kind of study are analyzed to establish categories that clarify, validate, or dispute theories that are held prior to the case study. Instead of using description to simply allow the reader to “see” into the case, the researcher develops themes or categories that support an interpretation. That interpretation might suggest relationships among variables within the context, or might be used to construct theory. Merriam's third example of case study, the evaluative case study, requires the researcher to ultimately provide an honest in-depth analysis of the case in layman's terms so that stakeholders will be able to understand. This is an interpretive study because of the rich, thick descriptions and development of themes that were interpreted.

For this study I used a basic multiple case study design, defined by Merriam (1998). The study included rich description of each of the teacher candidates' *critical incidents*, made interpretations of their lesson plans, videos, reflections and focus group responses, and sought to understand how they used reflection to link theory and practice in their work. The data were analyzed by using tools that identified the kind of language used in the reflections on the *critical incidents*.

Participants

Each case was bounded as that of a traditional aged teacher candidate from a large Midwestern university. Elementary teacher candidates (male or female), who were enrolled in a clinical experience during the fall semester of 2014, at a large, public Midwestern university served as the population from which the cases were drawn. The sample for this study was chosen because it represented the teacher candidates from one of the largest teacher education programs in the state in which I live. It is nationally accredited. The university prizes rigorous course work, action research, and significant clinical field experiences for its teacher candidates. Practical experience is a major element of the elementary education program. Teacher candidates participated in four distinct field experiences prior to the student teaching semester. The first, during the second semester, was a 30-hour experience focused on child development to ground candidates in an understanding of the developmental needs of early childhood, elementary and middle school age students. This was designed to help candidates decide on an age group specialization. The second, during the fifth semester, was a 30-hour non-classroom based experience on learning in diverse contexts. This experience was designed to give candidates an experience that lets them see children in a less formal learning situation to see how students use their personal interests and community assets to enhance their learning. The third, in the sixth semester, was a 45-hour classroom-based teaching experience focused on English Language Arts and social studies. The fourth was a classroom-based 60-hour teaching experience during the seventh semester.

This university places considerable value on its graduates as knowledgeable, reflective teachers who use research-based practices ([REDACTED] University, 2007; [REDACTED]

University, 2010). Since this study was interested in how teacher candidates reflect on critical incidents to learn about how they plan for pedagogical, content knowledge and dispositional change in their practice, I felt that teacher candidates who have been part of this program were able to offer a deep understanding of how they reflect on their work. I hope, too, that they were able to use the experience to enrich their student teaching semester.

Students from a large public university offered the researcher a diverse pool of participants. A public university draws students from a variety of backgrounds and cultures. The students came from different demographic areas: major cities, suburban areas, small towns, and rural communities. Students came from many different kinds of prior school experiences. The cases reflected some of that diversity. I selected Elementary Education teacher candidates for my study because I sought to gain insight that would help me understand their thinking about how they connected theory and practice. Since the researcher was a student with limited time and resources, I used a sample of convenience (Merriam, 2009). Mertens (2010) defines convenience sample as “the persons participating in the study were chosen because they were readily available” (p. 322). I employed a convenience strategy (Patton, 2002) to select six female participants who were traditional-aged teacher candidates from the selected public university who participated in a field experience during the seventh semester of the elementary education program prior to the student teaching semester. There were 21 teacher candidates in the pool of possible participants.

I attended a session of the assessment course connected to the clinical experience which all of the teacher candidates in the pool were enrolled in, where I briefly explained the study and sought participants. All six participants consented to complete the following: (a) plan a lesson that they digitally recorded, (b) complete a Critical Incident/Help Seeking Form (Appendix D),

and (c) participate in a focus group interview (Appendix E). The participants were given the opportunity to choose a pseudonym that was be used to protect their identity in any and all publications of the study. Each of the participants requested that I just use their first names, so to protect their confidentiality; I chose pseudonyms for each of them from a list of the most popular girls' names from the year of their birth.

Description of Assessment Course

The teacher candidates in this study were all enrolled in one section of a course on assessing student learning that was tied to their clinical experience. To prepare for this clinical experience, the teacher candidates focused on learning about how assessment plays a role in teaching and learning. The teacher candidates met with their instructor three to four hours per week prior to their four-week field experience. The teacher candidates familiarized themselves with how to use observations, surveys, and interviews as a means to get to know their students.

They learned about the three phases of classroom assessment to help them prepare to make good decisions in the classroom. The three phases of assessment studied by the students consist of: early assessments, instructional assessments, and summative assessments. They were taught that early assessments aid teachers in making decisions that elevate instruction, communication, and cooperation in the classroom. Teachers use instructional assessments to make decisions about what will be taught, how it will be taught, what kind of materials will be used, the effectiveness of the lesson, and how to make revisions that respond to student needs. Teachers use summative assessments to make formal decisions about student achievement and placement. These summative assessments are based on systematic data that is collected about students over a period of time.

Their readings and discussion focused on the ethical standards for teachers and how ethical issues relate to assessment. These ethical issues are important for educators to internalize because they are the foundation for treating students fairly. They learned of their obligation to treat students as individuals, respect diversity, not to show favoritism or disdain for any student, to keep them physically and emotionally safe, and keep confidential information private. Additionally, they were exposed to the importance of the ethics of assessment. The teacher candidates learned students deserve fair and impartial decisions about their work. They discussed how to construct and administer fair and clear assessments, and that students should be familiar with how to approach and practice particular kinds of assessment before they are faced with taking them for a grade. They brainstormed how to motivate students to do their best. Some examples included making learning social, showing enthusiasm for teaching, use of a variety of teaching methods, and tracking individual improvement. Equitable accommodations for students with disabilities were presented. The decisions made surrounding assessment can hold long-term consequences for students, so it is imperative that teacher candidates understood this responsibility (Cooper & Speece, 1991; Osborne & Russo, 2014).

The instructor addressed how teacher candidates approach assessment of classroom and school environments by considering classroom/school organizations, classroom/school safety, and the procedures and routines that are employed in the classroom/school. The teacher candidates learned how to use checklists to assess the physical environment of a classroom. The importance of posting a limited number of rules for students was stressed. They also learned about effective procedures to look for in schools and classrooms that can head off misbehavior.

During this course, the instructor addressed two specific teaching models (Weil & Calhoun, 2009). The first was the Information-Processing Model. This model emphasized ways

to enhance people's inherent drive to make sense of the world around them by acquiring and organizing information, recognizing problems, and generating solutions to them. Development of abstractions, related vocabulary, and how to have discourse about them is also emphasized in this teaching model. The second model was the Social Family teaching model of building the learning community. The Social Family Model is a framework of classroom management that builds the learning community by developing cooperative relationships in the classroom. The development of positive school culture is a process of developing integrative and productive ways of interacting as well as norms that support powerful learning activity.

When developing the community environment, the teacher candidates learned that it is important to look at data about people, practices, and perceptions. In elementary classrooms, academic, and social data needs to be gathered. Teacher candidates need to assess students' academic capabilities, the potential to work effectively with other students, the amount of time they can be task-focused, their general behavior, and any specific needs they might have. The sources for this data might come from student records, other teachers, conversations with students' parents, student questionnaires, and observation.

The teacher candidates learned about the inter-relationship among the classroom environment, student learning, and teacher disposition. Teachers, through a blend of content mastery, grasp on teaching strategies, and interpersonal skills effect student learning. The university instructor made connections among these constructs. She focused on the importance of social emotional learning in the classroom that helps students demonstrate caring for others, make sensible decisions, and learn how to handle challenging circumstances productively. Addressing social emotional learning in the classroom works to promote students' feelings of self-determination, interconnectedness, and capability. This is important to all students, but

markedly so for students with Individualized Educational Plans and English Language Learners. Differentiation in lesson planning was discussed. The teacher candidates were reminded that differentiation usually includes what students learn, how students learn, and the end result of student learning (Tomlinson, 2003). They conferred about ways to utilize a variety of instructional approaches, keeping in mind the strengths and needs of their students, which they could incorporate into their lesson plans. In addition to instructional approaches, the university instructor directed the teacher candidates' attention to the significance of formative and summative assessment activities, and how to incorporate these activities purposefully into lessons and units.

Another aspect of the course was to become literate about data. The candidates were exposed to approaches to observe, analyze, and respond to a variety of assessment data in an effort to sustain improved teaching and learning. The instructor focused on the differences among assessing for planning, instruction, and learning. Assessment for planning required the candidates to be reflective by thinking about how standards, objectives, content, and activities support the formal and informal evidence gathered to plan appropriately. Assessment during instruction required the candidates to be focused on how to be responsive to informal student cues and feedback to content and activities presented in the moment to differentiate for student needs. This monitoring is complicated because there is so much happening in the classroom simultaneously, with the candidate needing to manage varying individual academic comprehension, interest levels, and behaviors while staying on pace with their lesson. This is where knowing the students as individuals comes into play to more easily make the correct modifications to a lesson on the fly. Additionally, the candidates learned how to plan summative assessments to evaluate student achievement. The instructor stressed the importance of good

instruction, review before the test, students' familiarity with question formats, scheduling, and giving information about the test.

The candidates learned about test construction, administration of tests, and grading. They were introduced to types of test items. These included multiple choice, true-false, matching, short-answer, essay, and interpretive exercise items. The advantages and disadvantages of each of these items were discussed. The candidates learned how to write clear and simple test items. They also learned how to organize, review, and assemble tests with clear directions. Guidelines for administering tests were specified. The need for objective scoring of short answer and essay items was addressed. The teacher candidates learned about Universal Test Design, assessments that work equally well for all students regardless of their characteristics, and how to make appropriate test accommodations for students.

The instructor underscored the importance of the use of authentic assessments. In the elementary classroom, authentic assessments often measure communication skills, psychomotor skills, concept acquisition, or affective skills. The candidates concentrated on defining the purpose of assessment, identifying performance criteria, developing observable performance criteria, creating a setting to observe the performance, and developing a tool to describe and score the performance. This included learning about anecdotal records, checklists, rating scales, rubrics, and portfolios.

To support the teacher candidates in their clinical experience, best practices across the curriculum were addressed. In English Language Arts, the candidates read and discussed articles by Pam Allyn and Lucy Calkins that emphasized the importance of inquiry-based practice, the roles of writing, critical thinking, and metacognition with a priority placed on teachers as modelers of learning. Best practices in math were presented through articles written by Marilyn

Burns. This included the role of discourse in math classrooms and the use of math games to engage students' interest. Active assessment in science through guided inquiry was introduced to the teacher candidates. The candidates read articles by Hein and Price that encourage assessment methods that emphasize what children know rather than what they do not. The discussion broadened the candidates' knowledge of assessment tools like observation, use of photographs, student interviews, and work samples. They further discussed how to find evidence of science learning through students' written work. In social studies, the candidates explored how daily activities and routines can help develop civic ideals in students. Student engagement through debates, discussions, projects, and simulations stimulate decision-making, problem solving, and issue analysis.

Since the teacher candidates were working on a practice portfolio to prepare to be ready to assemble their edTPA portfolio during their student teaching semester, the instructor spent time debriefing the students on their clinical experience's learning segment commentaries. This included discussing the edTPA rubrics to guide the candidates toward providing evidence in their responses that would support at least level three in the rubrics. During the final week in class, in preparation for their student teaching semester, the students discussed the importance of professionalism, ethics, and reflection.

Data Collection

Data were collected using multiple methods: a written, Common Core aligned, lesson plan with the lesson digitally recorded, critical incident/help-seeking form, and a focus group interview. All methods were field tested with one teacher candidate prior to data collection. (Merriam, 2009; Mertens, 2010). I asked a former colleague if I could approach her student

teacher from a private university to pilot my study. The young woman agreed to participate. She completed a written, Common Core aligned lesson plan (using her university's plan format), a digitally recorded lesson that corresponded to the plan, a critical incident/help seeking form, and an individual interview.

Lesson Plans

The use of lesson plans as a qualitative research tool can give an indication of the candidates' understanding of content and pedagogical knowledge. Each participant was asked to provide one Common Core aligned lesson plan. In order to standardize the lesson plan's contents, and have the ability to systematically collect data, the participants used their university's lesson plan format (Appendix B). Each participant was asked to submit one Common Core aligned lesson plan that corresponded to the digitally recorded lesson that was submitted featuring the Critical Incident described in the form. Every participant sent her lesson plan to the researcher via email. The lesson plan could have been sent before the lesson was digitally recorded or along with the digital video. The participants all sent the plan and video concurrently.

Digitally Recorded Lessons

The use of digitally recorded lessons gives teacher candidates a chance to see themselves in the act of teaching. Welsch and Devlin (2007) found that video based reflection helped student teachers reflect on the extent of student learning, success of their methods, and how they would adapt future teaching more than memory based reflection. In a study using video as a reflective tool, Armstrong (1999) found that teacher candidates gained a sense of independence,

as well as personal and practical knowledge of teaching. This is so important as teaching can be an isolating profession. Wedman, Espinosa, and Laffey (1999) found that participants who viewed video of themselves teaching came to view teaching as a process.

For this study, each participant digitally recorded one Common Core aligned lesson that they planned. The participant sent out a Student Consent Form to be permitted by the parents of their students to record digital video of the classroom (Appendix C). The participant could use any digital recording device. I asked each participant to review the digital recording and select 15 minutes of video that exemplified the event that was identified as the critical incident. Most of the teacher candidates had difficulty editing the videos down to a 15-minute segment. Five of the six participants sent the entire video to me, and told me which segment of the video to consider. The video was emailed to me in a generic format along with the Critical Incident/Help Seeking Form. I transcribed the audio of each digital video segment.

Critical Incident/Help Seeking Form

To encourage rich and thick responses, participants were requested to focus on incidents that they had recently taken part in first-hand. They were directed to describe the critical incident from the digitally recorded lesson that represented positive or negative aspects of their clinical experience. They were urged to provide factual reports of the events that transpired. All participants were given the same instructions and form to complete (Appendix D).

There were five steps included in the critical incident procedure as outlined by Flanagan (1954).

1. Determine the general aim of the activity.

2. Develop plans and specifications for collecting factual incidents relating to the activity. Ensure that the instructions for the participants are clear and as specific as possible.
3. Collect the data.
4. Analyze the data to summarize and describe in an efficient manner.
5. Interpret and report, keeping transparent any possible biases that have been established by procedures that are chosen.

Teacher candidates often have dilemmas arise during their field experience due to their inexperience in implementing professional knowledge, limited opportunity to work with colleagues and students, and unfamiliarity with the school environment. In an attempt to better understand how to support them, it was important to learn about their help-seeking behaviors.

This study was designed to find who was asked for assistance in resolving a dilemma of practice, and asked how the teacher candidate approached the person for help: in a face-to-face contact, by phone, or by email (Hsu, 2005; McNally, Cope, Inglis, & Stronch 1997). Hsu carried out a study with high school student teachers in Taiwan to identify how student teachers seek out assistance for dilemmas of practice. The questionnaire that Hsu used was the basis for the form developed for this study to understand the process of reflection, e.g. with whom the teacher candidates engaged with to deal with issues.

The teacher candidates were also asked to complete the second part of the critical incident/help seeking form designed in Microsoft Word, electronically (Appendix D) where they described the problem, whom they contacted, how many times, and the communication channel they used. The participants returned the form to the researcher by via email.

Small Group Interviews

The participants were invited to participate in one small group interview (n=3). The interviews lasted between 60 and 90 minutes. The participants had a one-week window between the end of their field experience and the beginning of final examinations, so the timing of the interview was crucial to avoid potential conflicts with their schedules. Since all of the candidates were going to student teach in various locations during the next semester, they were also preparing to leave their campus homes for the last time. I used a digital voice recorder to create an accurate transcript upon completion of each small group interview. The environment was organized to be comfortable for the participants, with face-to-face seating to enhance eye contact. I moderated the interview and provided guidance and open-ended questions in an effort to lead the discussion to ascertain how the teacher candidates reflected on the critical incidents they identified during their field experiences (Appendix E). The richest data came from the group with three participants.

I chose to use small group interviews for many reasons. The participants were asked to provide information and feedback about the critical incidents they chose, and the impact of reflecting on those incidents. Krueger and Casey (2009) define focus groups as “a carefully planned series of discussions designed to obtain perceptions on a defined area of interest in a permissive, non-threatening environment” (p. 2). While my small groups did not meet the size recommended by Krueger and Casey, 4-16, I used the focus group protocol in my small group interviews. While often used as a self-contained qualitative data collection tool (Pizam, 1994), I utilized the small group interview as a supplement to my other data collection tools: the lesson plan, digital video, and Critical Incident/Help Seeking Form. This allowed me to obtain in-depth

feedback regarding the participants' attitudes, opinions, perceptions, motivations, and behaviors (Krueger & Casey, 2009; Morgan & Krueger, 1998; Patton, 2002; Vaughn, Schumm & Sinagub, 1996). Focus groups are group interviews, which are designed to capitalize on the group's evolving interaction (Morgan, 1997). This contrasts with individual interviews, as the group can produce responses as a result of being together. By no means was I trying to consolidate individual interviews into a single, more efficient interview (Morgan & Krueger, 1998), but was attempting to capitalize on the opportunity to collect data from the participants while observing their interaction (Raby, 2007, 2010). The participants had just finished their final clinical experience prior to student teaching. I made the most of this shared experience to develop camaraderie among the participants (Lincoln & Guba, 1985; Patton, 2002). This allowed for multiple perspectives, and the opportunity for participants to build on each other's responses. Additionally, student development theory advances the idea that a group interview setting is more comfortable, since traditional-aged college students can feel intimidated in a one-on-one interview with an adult's focused attention (Chickering, 1969; Erikson, 1994; Lemons & Richmond, 1987). The use of a supportive environment, like the small group interview, enhanced the participants' ability to share personal insights and experiences (Lemons & Richmond, 1987). After the interview was conducted, the digital audio recording was transcribed, verbatim, to a Microsoft Word file by me as suggested by Seidman (1991).

Data Collection Tools

Each data collection tool was designed to answer one or more research questions. Table 4 shows the alignment between each question and data collection instrument.

Table 4

Research Questions and Data Collection Tools

	Digitally Recorded Lesson	Critical Incident/Help Seeking Form	Small Group Interview
How does reflection upon critical incidents assist teacher candidates in connecting theory and practice?	X	X	X
How does reflection assist teacher candidates in planning for pedagogical, curricular, or dispositional change in their practice?	X	X	X
In what way do teacher candidates engage in the process of reflection to deal with dilemmas faced in professional practice?		X	X

Data Analysis

Coding

The data in this study were centered on critical incidents reported by the teacher candidate participants. Interpreting the data provided insight into the ways that teacher candidates know and reflect. Each of the kinds of data -- digital video, Critical Incident/Help Seeking Form, and small group interview--was analyzed using systematic, inductive methods of coding. This process allowed the data to be “segregated, grouped, regrouped, and relinked in order to consolidate meaning and explanation” (Grbich, 2007, p. 21).

Patton (2002) posits that coding is a form of content analysis, whereby one identifies, codes, and categorizes for primary patterns in the data. The researcher begins by using *open coding*, to label units of meaning with codes because one is open to all possibilities at the early stage of data analysis, developing a codebook that identifies codes assigned to the developing

themes. Merriam (2009) suggests that the transcripts are read and re-read to reflect on the data to continually analyze and refine the coding. This coding was carried out to associate information to categories for analysis from all data sources (Tables 3 and 4), and to build additional interpretive themes related to the analysis (Merriam, 2009; Mertens 2010). I coded the larger body of responses, using open coding to break down, examine, compare, and categorize the data (Merriam, 2009; Saldana, 2013). The researcher approached the data with an open mind, setting aside any predetermined notions about the phenomena being studied. This allowed for a fuller understanding of the participants' experiences.

The first step required me to identify the big ideas in the data. I identified big ideas that represented the findings from the lesson plan, digital video, Critical Incident/Help Seeking Form, and small group interview. These big ideas provided the initial framework for the development of the major findings. Folch-Lyon, and Trost (1981) recommend that this process was important to allow me to grasp the key ideas while differentiating the most significant themes from those that are less important. It was vital to read and reread the material many times to carefully consider the data.

Once the big ideas were identified, the second step was to unitize the data. I identified the units of information that became my basis for defining categories. These units of information assisted me in answering my research questions. I looked for direct quotes that supported the units of information. I also identified relevant information in my documents and transcripts by using a highlighter to distinguish the information to categorize them. Next, I wrote the units of information on 3x5 index cards. I wrote subject and transcript information on the backs of the cards so I was able to return to the original information for verification purposes.

The third step was categorizing the units. The units that were identified in the previous step were sorted into piles that represented categories. This brought the related information units together for each organizational theme. I defined rules to determine the properties of the categories to provide for inclusion of data and recorded them in my analytic memo journal. This also assisted the doctoral student acting as my critical friend who collaborated with me in ensuring credibility. I dedicated a number of large manila envelopes to this process. Each envelope was labeled in pencil with the category name and the inclusion criteria for each category. I sorted the units into the corresponding envelopes. When all the information had been identified, I carefully reviewed it, and looked for any units that did not relate. At this point, it was necessary to revise some criteria for inclusion. This sorting process continued until the initial categories had been exhausted. New categories emerged. As this happened, I wrote this into my analytic memos journal. I returned to these categories at a later date. Once all of the units were categorized, I reviewed them. It was important that each of the units related to the category it was placed in. I looked for any overlap and reconsidered the criteria for inclusion. I found that some categories were too encompassing, and needed to be further subdivided. Some categories did not have enough units to further consider them for inclusion, so I put the data into the miscellaneous envelope. Once these categories were organized to my satisfaction, I considered what I would do with the units in the miscellaneous envelope. I reread them and reconsidered their inclusion in the revised categories. At this time, some of the data units in this group were discarded because they were unrelated to the emerging themes. While these data units did not belong in any identified categories, they still supplied information that provided context that I could potentially use to deepen the understanding of the study. I stapled these cards into my analytic memos journal for later use.

The fourth step was to reexamine the ideas produced in the first step. I considered if any of the big ideas found in the first step were supported by the categories that were generated. Considering the units of information in the categories, these big ideas were refined. These refined ideas become the themes.

Critical Incident/Help Seeking Form

This form was used to generate data for all three of the research questions. First, the researcher planned to identify type and level of reflection reached by the teacher candidates from their responses on the Critical Incident/Help Seeking Form based on the theories of Day (1993), Farrell (2004), Handal and Lauvas (1987), Jay and Johnson (2002), Larrivee (2008b), Mezirow (1990), and van Manen (1977). David Tripp's four-level analysis figure (Tripp, 1993, p. 27) was adapted to assist in the analysis. Tripp's original four levels are called Practical, Diagnostic, Reflective, and Critical. The Practical level relates to the refinement of teaching strategies and is similar to van Manen's Technical reflection. The Diagnostic and Reflective levels were combined because they both reference the relationship between the problematic situation and the teacher candidate's actions. These levels are equivalent to van Manen's Practical Reflection. The Critical level is concerned with deep introspection and a commitment to social justice (Table 5), just as van Manen's Critical type does.

The researcher read the Critical Incident/Help Seeking Forms carefully to identify the meaning of language used (Saldana, 2013) in the questionnaire to code the kinds of questions (from Table 5) that were addressed by the teacher candidates. The teacher candidates' language provided a window into the way they reflected on the problematic situation. I found a general meaning and classified the incident according to one of the judgments in Table 5.

Table 5

Kinds of Judgment and Analysis

Kind of Judgment	Kinds of Analysis		
	Information required	Questions asked	People involved
Technical	Procedural	What should I do? How? When? Where?	For and/or with whom?
Practical	Descriptive	What happened?	Who was involved?
	Causal	What made it happen?	Who acted?
	Effectual	What does it do?	For whom?
	Affectual	What does it feel like?	For whom?
	Semantic	What does it mean?	To whom?
	Explanatory	Why did (does) it occur?	With whom?
	Personal Evaluative Justificatory	Do I like it? Is it a good thing? Why?	Do others like it? For whom?
Critical	Classificatory	What is it an example of?	Whose classification?
	Social	Is it just?	For whom?

Based on Tripp (1993).

Additionally, I studied how teacher candidates used reflection to address the theory-practice gap. The Critical Incident/Help Seeking Form was analyzed to determine use of support for decisions that were made. I coded for seven types of thinking about how theory plays a role in practice. I employed a coding method for pedagogical thinking used in previous studies done by the Collaboration for the Improvement of Teacher Education (Sparks-Langer, et al., 1991). They developed the framework for reflective pedagogical thinking based on Van Manen's (1977) three types of reflection, cognitive psychology theory (Leinhardt & Greeno, 1986), and experiential learning theory (Kolb, 1984).

The framework for reflective thinking developed by Sparks-Langer et al. (1991) is illustrated in Table 2. The first six types are examples of cognitive reflection. Type seven is critical reflection. Cognitive reflection is defined as how teachers process information and make decisions. Critical reflection considers how universal beliefs, mores, and values drive the thinking (Sparks-Langer et al., 1991). Progression through the types reveals a deepening understanding of how pedagogy informs instructional practice. The researcher coded the responses, using open coding from data on the Critical Incident/Help Seeking Form using the descriptions in the Framework for Reflective Thinking (Sparks-Langer et al., 1991) to break down, examine, compare, and categorize the data (Merriam, 2009; Saldana, 2013).

The help seeking section of the form (Appendix C) was designed to gather data that was used to devise follow-up questions for the small group interview (Merriam, 2009). Additionally, the researcher sorted the data into categories and calculated frequencies and percentages of the help-seeking occurrences for each of the participants and problem categories. This numerical data adds to the richness of the qualitative data, but the study itself distinctly remains qualitative (Maxwell, 2010).

Analytic Memos

Writing analytic memos is a critical aspect of effectively analyzing qualitative data (Miles & Huberman, 1994). Writing about the process of collecting data, as well as what is seen (and not seen) in the data was helpful (Corbin & Strauss, 2008). I was able to make analyses at different points throughout the research project. There were times when the analyses did not seem as if they were in agreement, but as I read and reread, often putting together thoughts from disparate readings helped me gain insight into the teacher candidates' thinking. These

handwritten notes, kept in a notebook, served as a record of thoughts from different points in the process to serve as an audit trail (Merriam, 2009).

Establishing Rigor

A fundamental concern in any research study is to build in fitting procedures that assure the researcher and reader of the quality of the research, its process, and its findings. Guba (1981) and Lincoln and Guba (1981) established criteria set for qualitative studies to ensure trustworthiness. (See Table 6.)

Table 6

Steps Taken to Ensure Trustworthiness

Credibility	Member checks Critical Friend
Transferability	Convenience sampling Dense description of findings and cases
Dependability	Documentation of methods and methodological choices Systematic collection and management of data Recording and transcription of small group interviews Preservation of primary source data Use of analytic memos
Confirmability	Triangulation of data Grounding findings in data Reflexivity of the researcher Audit trail

The first element of trustworthiness is credibility. Credibility means that the researcher can establish confidence in the truth of the findings for the participants within the context of the study (Lincoln & Guba, 1985). Guba (1981) has also referred to credibility as truth-value. In this study it was my job to represent the realities of the teacher candidates as adequately as

possible. Therefore, I used member checks to ensure that the descriptions or interpretations made were accurate. I shared the applicable findings with each teacher candidate for her input on the accuracy of the data or interpretation by sending the written analysis back for comment. Additionally, another qualified doctoral student was asked to carefully follow the course of research to ensure that the data and interpretations are congruent. I asked her to review all of the steps that I have taken. Finally, to review coding, I employed a critical friend to give input on coded themes, so I could reflect on the discussions. The critical friend was another doctoral student, familiar with coding, who was asked to read coded information to concur that the codes are appropriate.

The second aspect is transferability. Transferability refers to the degree to which the results of a study can apply to contexts outside of the study situation (Guba, 1981). Lincoln and Guba (1985) state that the person who wants to apply the findings to another context or population needs to take more responsibility than the original researcher. They posit that as long as the original researcher presents adequate descriptive data to allow comparison, then he/she has addressed the issue of transferability.

Dependability, a third criterion of trustworthiness takes into account the consistency of data. That is, whether the findings would be the same if the study was replicated with the same participants or a similar context. In a multiple case study, the study focused on the range of experience of the teacher candidates rather than the average experience. Guba (1981) contends that dependability can be established through dense description of research methods, triangulation of data, peer examination, and systematic management of data.

The final criterion of trustworthiness is confirmability, which refers to the freedom from bias in procedures and results (Sandelowski, 1986). This was addressed through an audit trail,

reflexivity of the researcher, basing findings on data, and triangulation of data (Guba, 1981).

After the small group interview, the researcher looked at the data from all three versions of the critical incident (the digital video, Critical Incident/Help Seeking Form, and small group interview) to continue the analysis in an effort to triangulate the data (Creswell, 2007; Merriam, 2009; Miles & Huberman, 1994; Patton, 2002; Saldana, 2013).

Role of the Researcher

For this study, I was considered as an outside researcher. There was no prior relationship with the teacher candidates or the university other than what has been described. The professor of the assessment class, who supervised the clinical experience, allowed me to address her students as a guest to explain my study and recruit participants. I sent reminders to them via email to be cognizant of the timeline of my study and to complete their documents and digitally record their lessons. In order to have a context about what the teacher candidates were learning in their assessment class and its application to the clinical experience they would participate in, I downloaded the class syllabus, purchased the text, and read along with them during the course of the semester. My awareness of the program itself was limited to the information gleaned through reading the conceptual framework and familiarizing myself with the course sequence of the elementary education curriculum. I learned that while the teacher candidates in this program had abundant opportunities to reflect, theories of reflection had not been taught outright. Following the study, I sent emails of the relevant small group interview transcripts and descriptions/analyses of the critical incident to each teacher candidate to ensure that they concurred with the representation of what was said during the small group interview and the description of the lesson or analysis.

Conclusion

This chapter included the description of the research design, data collection, along with data presentation and analysis. The next chapter includes the results of the data collection. It is hoped that the data analysis will lead to a rich description of how teacher candidates use reflective processes to align theory and practice, and that these results might be transferable to the wider research community.

CHAPTER 4

FINDINGS

This chapter presents the data from the critical incident/help seeking forms, lesson plans, digital videos, and small group interview interviews obtained from teacher candidates during the semester prior to student teaching. This chapter begins by providing the reader with information about the participants and their self-identified critical incidents. These descriptions offer a window into the experiences of the teacher candidates. I will then answer the research questions and indicate the types of reflection connected with the critical incidents related by the participants in this study.

Description of Critical Incidents

The teacher candidates, through their questionnaires and small group interviews, identified critical incidents they had experienced during their digitally recorded lesson. Each of them expressed great difficulty in watching themselves on their videos, and none had previous experience in analyzing their teaching performance through digital recording. Their university instructor recorded the lessons. This added to the pressure to perform for some of the candidates.

During the small group interviews, I noted the body language of the teacher candidates. Ashley and Taylor participated in one small group interview. Ashley displayed confidence in her ability to work through her difficulties, even though she questioned many aspects of her performance during her clinical experience. Taylor was less confident. She appeared unsure of

her ability to be knowledgeable enough about reading content knowledge to help her students learn. Jamie, Jessica, and Megan participated in a second small group interview. Jamie was very confident about the work she did in her clinical experience. She sat up straight and made good eye contact with me and the other participants. She often wanted to be the first person to answer a question, and would follow up after others responded. Jessica was thoughtfully confident of herself. She carefully considered the questions before answering. Jessica was also careful to affirm the other two participants' answers by nodding her head or offering verbal agreement. To prevent Jamie from answering first, I said that I would like to not always follow a pattern to have the participants answer, that I wanted to change it up a bit. Megan sat directly across from me at the table, between Jamie and Jessica. She sat a bit back from the table, but always had a pleasant expression on her face. She often concurred with Jamie, by saying, "That's right" (Small Group Interview). I thought she sometimes did this to dodge the question, but I would ask her to elaborate on what she meant by her agreement. She was most passionate about making connections between what she had learned in her psychology classes and her education classes. I spoke with Emily in a one-on-one interview. She kept getting off track, by asking me questions, so there was a lot of redirection back to the interview questions on my part, so I felt as if I was obtrusively probing.

Ashley

Ashley described a reading lesson that she taught to a third grade class based on a fiction selection, *The Great Ball Game*, retold by Joseph Bruchac (1994). The literacy strategy she focused on was the text structure of sequencing. The related skill was looking for signal words (e.g. first, next, finally). She used a SMART Board to teach the lesson, and followed up with a

writing activity where each student worked with a partner to sequence and discuss six images from the story. After sequencing the images, the paired students wrote a six sentence retelling of the main events of the story in correct order using signal words. Ashley identified her critical incident as being unable to let go of focusing on her own teaching performance, rather than being focused on the students' learning. She said, "Initially as a teacher candidate or new teacher, you do miss a lot. You're more focused on yourself, your delivery, and making sure you're hitting all the points" (Questionnaire).

Ashley described herself as being a "bit nervous, but excited to have the opportunity to be engaged with the class" (Questionnaire). She felt self-conscious about the presence of the camera as well as that of her instructor. Although uncomfortable watching the video, Ashley felt that she had "overall success with the lesson" (Questionnaire). She shared that "from the student perspective it would have been interesting, especially with the visual aid of the SMART Board and the fact that they could participate in the discussion and follow with a hands-on activity" (Questionnaire).

Ashley stated that her coursework had helped her plan and deliver her lesson, "especially in terms of alignment with standards and objectives" (Small Group Interview). She was concerned that this lesson wasn't engaging enough to be considered by the students as "fun." Ashley had learned in her coursework the importance of incorporating her knowledge of student interests to inform her teaching. She related,

Students learn best when using content they are interested in. I think students learn best in an open, relaxed environment where they can have fun. While this may not have been the most "fun" lesson, when reflecting I thought about how to bring this element to my (future) teaching practice. (Questionnaire)

Ashley indicated, “Continued research and practice will contribute to my skill development and improvement as an educator” (Questionnaire). As a result of reflecting on aspects of this lesson, Ashley stated, “As a teacher, this incident directs me to always be open to developing and refining my skills, but at the same time believing in myself and my abilities” (Questionnaire).

Jamie

Jamie taught a unit on Early America to fifth graders, with the overarching question, “How was America founded” (Lesson Plan)? She had written an extremely detailed plan employing the historical fiction book *The Buffalo Jump* (Roop, 1996) for this lesson. The reading strategy was to determine how to identify the theme of the book. The related skills addressed were to identify similes, symbolism, and how to draw conclusions from text.

Jamie began the lesson with the students at their seats. The students each had a copy of the text. During the opening segment of the lesson she asked the students to use the illustrations in their text to begin to build an understanding of what life was like for settlers and Native Americans in Early America. Jamie asked questions about information that could be gleaned from the illustrations about how people lived, dressed, travelled, and got their food. She also asked how nature influenced the lives of the Native Americans. As students answered, Jamie wrote the information on the whiteboard. She made the point that image clues add richness to the information in the text and that accessing these images aide comprehension.

After viewing her video, Jamie noticed that she was using overly casual language with the students. She identified this as a critical incident. One example she noted was, “Whenever I was teaching, instead of saying ‘class,’ I said, ‘you guys.’ This is unprofessional, and I need to learn to say ‘class’ instead” (Questionnaire). Her students referred to each other as “you guys”

(Digital Video), and spoke very casually in the classroom. Jamie did not think that the students noticed or negatively judged her, but was concerned that she was giving them the wrong impression. She was worried that if she continued speaking this way over time, it would undermine her position as teacher in the classroom. She noted that, “It is my responsibility to be professional in my work, and to model that for them (the students).” She indicated, “This can be fixed with practice easily” (Questionnaire).

The other critical incident that Jamie noted was a positive one. As stated earlier, her lesson plan was quite detailed. She had thought about, and was prepared for, any eventuality. She had written multi-level questions, follow-ups, potential misconceptions, and factual information about the topic that would support questions from students. She connected InTASC Standard nine (Professionalism, Leadership, and Advocacy) to this incident. Jamie revealed her coursework “helped me with preparing for my lesson by giving me insight and direction as to what discussion questions I wanted to ask my students as we read together” (Small Group Interview). She felt that it was important to “spend a lot of time typing up and preparing my questions. I wanted to know what I wanted to ask ahead of time” (Questionnaire). Jamie indicated that she had planned in this way for all of her clinical experience lessons so that she would feel totally prepared. “It is a little time consuming, but helped me get to where I wanted to be” (Small Group Interview).

Emily

Emily taught a reading lesson to first graders using the Reading A-Z book *Curls that Swirl* by Cheryl Ryan. The objective for this lesson was for students to distinguish and decode the r-controlled vowels that make the /er/ sound (er, ir, and ur). She directed the students to go to

their “sit spots” by the SMART Board. Next, Emily introduced the book and a teacher-made er, ir, and ur poster. She briefly taught the high frequency word “those” and reviewed the suffix –ed. The students were asked to describe the illustration on the book cover. Emily asked the students to make predictions about the storyline based on the information they gleaned from the cover art. Emily conducted a quick picture walk, with the students making predictions about the illustrations. She then read the story to the children where they picked out the /er/ words throughout the text. When Emily finished reading, they discussed the story. The students returned to their seats, and completed a fill-in-the-blank worksheet using a word bank of /er/ words spelled with er, ir, or ur.

After watching the video three times, she identified her critical incident. Emily was surprised at how unenthusiastic she appeared while teaching this lesson. “I knew that I was nervous because my university instructor was recording me. I wasn’t sure how well she liked me” (Questionnaire). All through the lesson Emily was thinking about how she would be judged by her performance. Her cooperating teacher made her nervous, too. “My classroom teacher was scary to me. She sat in back and didn’t necessarily watch me. She was helping a kid that didn’t have consent to be videoed” (Small Group Interview).

Emily described herself as feeling like she had covered the information in the lesson sufficiently, and that her university instructor “didn’t have anything to say except for good things so that made me feel good” (Questionnaire). She explained that, “I thought I was up there looking all enthusiastic and all happy and ready to teach and everything. But then when I watched the video, I didn’t look like I was so into the lesson” (Small Group Interview). Prior to coming to this classroom for clinical experience, she had observed in the classroom on three occasions. Emily explained, “When I watched her (the cooperating teacher) over that three week

period, I felt like I should teach like her to gain her acceptance and fit into the classroom” (Small Group Interview). She noted that she felt “restricted being in other people’s classrooms” (Questionnaire).

As a result of this incident, Emily realized that, to be successful in her own right, she must strive to let go of her idea that she needs to emulate cooperating teachers’ instructional styles. Emily wrote, “I need [to] learn how to share my ideas for how I would like to teach a lesson with my cooperating teacher and listen to her feedback” (Questionnaire). She also realized that in order to be the kind of teacher she wants to be, she would need to “see if my teaching way works by trying out the kinds of lessons I want to teach” (Small Group Interview).

Taylor

Taylor described a reading lesson she presented to second graders. The objective of this lesson was to listen to the tenth chapter of *The Candy Corn Contest* (Giff, 1984), and identify the plot of the chapter. She defined the plot of the story as “the beginning, middle, and end details and the problem of the story” (Lesson Plan). In preparation for the lesson, the students had performed a brief oral retelling of what had transpired so far in the story during center time.

During the lesson, Taylor read aloud while the students whisper read from their own texts. After they read the chapter, she explained to them that the plot of a story consisted of the details that form the beginning, middle and end. For example, Taylor told the students that the beginning of the story (or a chapter) typically introduces what is happening, who is involved, and where it takes place. She explained that the middle part usually involves the problem, and the end wraps up the solution to the problem. Taylor modeled with a plot chart that was completed by her with details provided by the students. The lesson concluded with the students predicting

what would happen in Chapter 11, the final chapter of the book. Later, the students completed an assessment consisting of five true-false questions about what constitutes the plot of a story.

Following the assessment, Taylor realized that

I had not been clear with what the plot is and how it relates to the parts of the story map. The students were confused about how the plot related to the characters and the setting. The students told me that the characters and setting were part of the plot. (Questionnaire)

Taylor expressed conflicting emotions. She was concerned about the students. “Part of me felt worried that I messed up majorly and that I had just given these students the wrong information” (Small Group Interview). She was not sure about how she would handle going back to the class telling them that she had given them confusing information. “I was concerned that now they were going to have to be given further instruction to undo what I had just spent three days teaching them” (Small Group Interview). She also was concerned about how her cooperating teacher would regard her. She shared that emotion in this way: “I felt like I had let the classroom teacher down. She was counting on me to teach her students what they needed to know to be successful” (Questionnaire).

In retrospect, Taylor “realized that I had left out an important part of the lesson” (Questionnaire). Through her instruction, she “had not made it clear that there was a difference between plot, characters, and setting, but that they are all intertwined” (Questionnaire).

Megan

The critical incident in Megan’s fourth grade lesson emerged from her culminating activity at the end of a novel unit for the book *Frindle* (Clement, 1994). Her stated objective for the lesson was for the students “to explain the book with an 85% verbal comprehension rate” (Lesson Plan). She invited the students to the carpeted area with their books. The students made

predictions about what they thought would happen in Chapter 15. Megan began reading the last chapter of *Frindle* (Clement) aloud dramatically, pausing for questions while the students followed along in their books. About halfway through, the students returned to their seats to finish the chapter on their own. The class then reconvened to discuss the ending of the book, and reflect on what they learned from this text. At the end of this discussion, Megan gave each of the students a letter from “Mrs. Granger” (the fictional teacher in the book).

Congratulations on finishing *Frindle*! I hope that you enjoyed it. Just remember that you can do anything that you set your mind to whether it be by making up a new word or getting an A on your *Frindle* test. (Lesson Plan, Questionnaire)

The students read their letters and were directed to complete their chapter summary page as independent practice, and then staple all of their summaries to make booklets to create a study guide for the summative assessment.

The critical incident Megan identified was that she was gratified that she had been able to sustain student interest and engagement throughout a challenging book unit. “I was proud of all my students because they were able to finish this book and contribute greatly to all of the conversations” (Questionnaire). She felt that the book could have been too challenging, but through appropriate teacher scaffolding and the commitment of the students, the students felt proud of themselves for sticking with and understanding the book. “Every student was interested in the book and loved reading it. I was so happy that I was able to encourage each student to want to read and to like reading” (Questionnaire). She owed success for her unit, in part, to using knowledge of her students’ knowledge and interests to inform her instruction. “As students finished early on certain assignments, I would ask them what they liked and disliked” (Questionnaire). She was able to connect this incident to three InTASC standards: Standard one (Learner Development), Standard three (Learning Environments), and Standard five (Application

of Content). Her coursework helped her plan and deliver lessons by focusing on questioning that would help students “use deeper thinking skills in order to discuss with their peers what was going on within the book” (Questionnaire). This incident directed Megan to “continue examining my students’ needs, and to talk to previous teachers, family members, staff, etc. when figuring out what needs each of my students has” (Questionnaire).

Jessica

Jessica’s critical incident emerged from a lesson that she taught to third graders. The strategy for this lesson was to identify the meaning of an unknown word by using a variety of context clue strategies. The students completed a pre-assessment to determine their prior knowledge on the use of context clues. To begin the lesson, Jessica gathered the students on the carpet to play a game called Context Clues Trivia (a teacher prepared PowerPoint activity). For the first trivia question, she modeled her thinking process out loud for the students. She repeated the process for the next two slides. For the fourth slide, Jessica invited a student volunteer to come up to do the modeling for the class. This boy explained his thinking procedure, and underlined the context clues in his sentences just as Jessica had done. Following this modeling, the students worked with elbow partners to figure out the unknown words for the next three slides, discussing correct and incorrect responses. The students repeated the process working with other partners to enhance their understanding. They worked independently on the last two slides. Jessica then directed the students to return to their seats for a post-assessment where the students used the process to circle words they used to figure out the meanings of the underlined words.

Jessica's identified critical incident was the segment of her lesson when she "incorporated a student into the delivery of instruction" (Questionnaire). She called upon a student volunteer to model an example. "The student volunteer walked his classmates through the thought processes that he used to find the meaning of an unknown word" (Questionnaire). Jessica felt an immense sense of pride for her student and for herself.

It was such a joyful moment to watch a student fully grasp the concept that was taught so well that he was able to model it to the entire class. Seeing a student use what I taught, and expand that knowledge by teaching it to the class was very rewarding. (Questionnaire)

This incident allowed Jessica to realize how important it is to allow students to have an essential role in instruction.

Jessica connected Pearson and Gallagher's (1983) Theory of Gradual Release of Responsibility model of instructional scaffolding and Vygotsky's (1978) Theory of Proximal Development to this incident. She wrote:

In this lesson I put into practice a sequence of focused instruction, guided instruction, collaborative practice, and independent practice. I learned that students often understand material better when a peer is explaining, because the language and examples that are used are told in the conversational tone most students are used to. (Questionnaire)

Jessica also connected this incident to InTASC Standards five (Application of Content) and six (Planning for Instruction).

Through observation of the students for her work on a context for learning document for class, Jessica noted that she became more aware of the importance to "document all the types of supports and strategies that I would need to incorporate into the lessons to help all students learn" (Questionnaire). She also spoke of the importance of effective planning that had been stressed by her university instructors. Through her coursework she learned how to connect the instruction and assessments to lessons' objectives. In addition to lesson planning, she credits her

coursework for her ability to be aware of “many different supports, strategies, and techniques that can aid the instruction in the classroom” (Questionnaire). Her coursework inspired the strategies she employed in this particular lesson. She also indicated, “I feel that practice, and advice from my cooperating teacher is what made my lesson delivery improve” (Questionnaire).

As Jessica’s beliefs about teaching are forming, she indicated that this incident manifested her view that having students directly involved in the instructional process is important. She claimed, “As a teacher I feel I need to continue to make activities and lessons unique, fun, meaningful, and effective for my students” (Questionnaire). Further reflection on this incident “directs me to be open to try new things” (Questionnaire). She also noted that trying new things calls upon one to reflect on each lesson in order to grow professionally. “As I try these strategies out, I need to remember the importance of reflection. I need to reflect on how these strategies went to make modifications to better them” (Questionnaire).

Summary of Critical Incidents

The six teacher candidates identified seven critical incidents. The criticality of the incidents was designated by each teacher candidate, according to Tripp (1993). All six teacher candidates focused on aspects of their own performance. They viewed four of the seven incidents as improvable aspects of their practice. The other three incidents were perceived as positive characteristics of their practice, which they wished to sustain and continue to improve (Table 7).

Table 7

Critical Incidents Identified by the Teacher Candidates

Teacher Candidate	Critical Incident	Improvable Aspects of their Practice	Positive Characteristics to Sustain and Improve Upon
Ashley	Letting go of attention on her own teaching performance to focus on students' learning	X	
Jamie	Using overly casual language Realizing the importance of detailed lesson planning	X	X
Emily	Appearing to lack enthusiasm for teaching	X	
Taylor	Rectifying unclear teaching	X	
Megan	Sustaining student interest throughout a novel unit		X
Jessica	Incorporating a student in the delivery of instruction		X

Recurring themes resulting from data that emerged are delineated within each research question narrative. Themes arose primarily from transcripts of the small group interviews, critical incident/help seeking questionnaires, lesson plans, and digital video of the teacher candidates' lessons.

Research Question 1

How does reflection upon critical incidents assist teacher candidates in connecting theory and practice?

Two themes emerged from the data. The themes were *Student-Centered Teaching* and *Social Emotional Development*.

Student-Centered Teaching

One of the major themes that emerged from the data was striving for student-centered teaching. In an attempt to move the focus of instruction away from the teacher, a variety of learning experiences, instructional approaches, and instructional support strategies were planned to address the particular learning needs, interests, wishes, or cultural backgrounds of individuals or groups of students. As greater emphasis was placed on students' ability to think critically and actively engage in their learning, the teacher candidates needed to know how to create a classroom environment that fostered such an environment.

Taylor said, "A lot of our focus here [at this university] is reflecting on what you're doing, always making sure that you are putting students first" (Small Group Interview). Ashley supported Taylor's claim, even though she had difficulty in practice letting go of focus on her own teaching behaviors. Ashley was cognizant that student centered teaching was what she was striving for. Ashley realized that she needed to shift focus away from her teaching to student learning as a concrete step toward making that adjustment in her planning and teaching. She expressed, "I just think again with practice, truly meeting the needs of students, losing yourself in the lesson where you're not really the focus and it's the students" (Small Group Interview). Ashley shared a concern, however, that sometimes in the classroom hands-on activities are abandoned due to limitation of time. She stated,

I've had a teacher tell me that she realizes that bringing in additional resources and giving them [students] opportunities to do more hands-on work to reinforce the concept is important. Even though she knows that, she rarely does it because she feels like she's limited on time, and she has to get through the textbook and the slides. Then there are the quizzes and tests that have to be taken on certain dates. (Small Group Interview)

Ashley was troubled by the way limited time detracted from a teacher's ability to provide students with active learning tasks; Megan, however, voiced how important it was for her to plan engaging activities for students within the constraint of limited classroom time. She kept student-centered instruction at the forefront of her reflection on the critical incident related to her novel unit. Megan understood the need to use knowledge of her students to inform teaching and learning. Her emphasis was to consider students' reactions to learning activities they participated in to sustain student interest as she planned each lesson in the learning sequence. She was proud of having kept her students engaged during the *Frindle* unit. In this unit she attributed much of the success she had to planning hands-on activities relating to the novel.

Megan explained,

The more students actually get to do something, instead of copying stuff down on their paper[s], will get them interested and ready to learn, have them obviously like it more, want to learn more about it, and give you more feedback than to (just say) a worksheet would have been. (Small Group Interview)

While Megan focused on knowledge of students' personal interests to make her instruction engaging for the students, Jamie took that idea a bit farther. Jamie, who reflected positively on her planning, asserted that it was also important to know how students learn best. She maintained, "They all learn differently" (Small Group Interview). She related her own experience as a learner as an example. She considers herself to be a visual learner. Jamie told me that she learned so much more in classes where she could see an example of a teaching strategy, and then try it out. She stated, "I have to be interested in it too. The more interested I am in something, the more I am engaged in it, and the better I learn it" (Small Group Interview). Jamie appears to have extrapolated her experiences as a student to influence her work with students in the classroom. Jessica used knowledge of student learning styles to support varied

student learning needs through her instructional planning. Jessica, whose critical incident centered on incorporating a student in her instruction, was also interested in designing lessons that took into account students' diverse learning styles. She remarked,

All learners learn best in a different way. That's why I feel like it is important to incorporate many different styles of teaching and learning into the classroom so that all the students can learn in a way that suits them best. (Small Group Interview)

Like Jessica, Emily was beginning to see the importance of utilizing a variety of instructional strategies to maintain student interest. Emily, concerned that she didn't seem enthusiastic about her teaching, spoke of the difference between this clinical experience placement and one from a previous semester. Her past placement during the sixth semester was in a fifth grade classroom where she said, "I wasn't really working on my teaching strategies. I was more focused on the content, and if I got it right" (Small Group Interview). These distinct experiences led Emily to begin to focus on different aspects of instruction to suit the classroom context. This new understanding caused her to re-evaluate how much emphasis she placed on selecting teaching strategies during planning. In her present first grade placement during the seventh semester, Emily told me that she placed more emphasis on matching her activities to formative assessments. She was also increasingly concerned with student interest, asking, "Do they like it? Do they enjoy it?" (Small Group Interview). Drawing on the experience she had during her past clinical experience during the sixth semester, and her present experience in the seventh semester, Emily began to recognize the importance of matching a task to the relevance of students' prior learning along with knowledge of students' background experiences and interests.

Student-centered teaching attends to the process of learning rather than simply focus on content delivery. These teacher candidates were at different points on a continuum of implementing that kind of teaching. While Ashley and Taylor did not offer concrete examples of

how they planned to utilize student-centered teaching strategies, they both had an awareness of its importance. Ashley understood that students who were actively involved in learning had a greater desire to deepen their learning, but heard conflicting messages in the field, which caused her some unease about how to proceed. Taylor explained that her ideal role as a teacher was, “to step back and let the students do what they need to do...give them the material and facilitate the learning” (Questionnaire). She realized that, based on reflection on her critical incident, there was still a need on her part to consciously provide the correct materials and coaching to match students’ needs. Emily experienced some understanding of student-centered teaching by reflecting on the different emphases on content between the classroom from a previous semester’s clinical experience and her present placement, and the need for greater emphasis on using knowledge of students’ academic understanding and interests. Jessica and Jamie both actively planned student-centered lessons, and were looking for more engagement strategies to try out during student teaching. Jessica was aware that she needed to continue to identify how her students learn best, and employed a variety of strategies that met their learning needs. Additionally, Jamie expressed the importance of keeping in mind the interests and aspirations of the students in order to keep them engaged in learning tasks.

Social Emotional Development

The second major theme that emerged was how the social emotional development of students contributed to productive learning environments. Social emotional development contributes to children’s ability to develop meaningful partnerships, their sense of belonging, and sense of value to others. Additionally, social emotional development impacts cognitive, motor, and language development as well as provides the foundation for self-esteem and interactions

with others. Teachers need to have the ability to facilitate the development of a psychologically safe environment that promotes positive social interaction for students (Catalano, Haggerty, Oesterle, Fleming, & Hawkins, 2004; Jennings & Greenberg, 2009).

Emily spoke about how she began to see the role of the teacher as much more than simply that of an instructor. “You are so much more than a teacher. You’re a counselor. You’re a nurse. You are a mom, but you’re a teacher, and it’s so much! They are constantly watching you” (Small Group Interview). She valued being in a classroom where the students worked well with each other. Emily noted that her cooperating teacher worked hard to consciously structure activities that support student cooperation and collaboration. One of the activities that her cooperating teacher planned to foster a feeling of community was a weekly visit from a student’s family member(s) who would bring a game or activity for the class to participate in, along with a snack. Emily was pleased to see how it “extended the family into the classroom. The children and the family members were so proud” (Small Group Interview). To support student relationships when Emily has a classroom of her own, she would like to implement social-emotional lessons with her students. She declared that she wanted to help them, “Feel happy, and ready to go, and ready to learn, and be excited at school, and actually know their classmates, and not worry about outside stuff” (Small Group Interview).

Just as Emily noticed that her cooperating teacher spent a lot of time planning activities that encouraged development of self-esteem, Ashley was inspired by the way her cooperating teacher modeled her disposition for respecting and caring for the students in her classroom. Ashley believes, “They learn best in a setting where they feel safe, where they trust the people around them, and when their uniqueness is recognized and honored” (Small Group Interview). These beliefs were affirmed for Ashley through the words and actions of her cooperating teacher.

Ashley will remember her cooperating teacher for the way she was committed to the education of all of her students. “You could tell it was a priority for her, just the way she modeled through all of her language and teaching, even indirectly to me, the importance of learning...the importance of the dignity of the children” (Small Group Interview). Ashley thought about students who have needs beyond the academic. She stated, “You see students living in poverty and those who might have family issues. Creating a compassionate, trusting environment in the classroom is a priority for me when I have my own classroom to provide kids a safe haven” (Small Group Interview).

Like Emily and Ashley, Jessica spoke about the importance of building and maintaining students’ self-esteem. She has learned this through her coursework and discussions with her cooperating teacher. Jessica shared, “You’re trying to lift them up, because if they don’t have the confidence or social skills, they’re not going to want to learn, they’re not going to want to be in school” (Small Group Interview). She, like Ashley, realized that events outside of school could correlate to how students behave or attend in the classroom. “There are just all sorts of different things that go on with them besides school, and you have to remember that while you’re teaching them” (Small Group Interview). Jessica understood some students require the teacher to refocus and redirect them because of obstacles they face outside the classroom, while other students with competing needs require the teacher to affirm that they are doing well and find ways to help them keep up the momentum.

In addition to treating students with respect and building their self-esteem, Megan, an elementary education/psychology major, spoke about how important it was to develop a positive classroom environment to support students’ social emotional development. Through her clinical experience, she was able to experience the application of theories she had been conceptually

exposed to during her coursework. Megan appreciated how her courses in the psychology department provided her with a strong grasp of theories about childhood development, while her coursework in the education department provided concrete examples of how to apply those theories in the classroom. She felt that it is important for students to trust each other in the classroom. Megan spoke about having a few shy students in her class. Due to the environment established by her cooperating teacher, “They were raising their hands, they were ready to talk. Even if they got it wrong, they wouldn’t shut down. They would still be working with their peers, figuring things out” (Small Group Interview). Megan discerned that the cooperating teacher, through her attitudes and actions, was able to influence classroom dynamics to maximize student learning.

Classroom dynamics also influenced students’ learning in Taylor’s classroom. Taylor spoke about how students working well together enhanced their ability to understand. “A lot of the students can show their understanding by being able to help other students” (Small Group Interview). She liked the way students in her classroom were so open to one another. “The students were able to give more instruction to the ones needing it, even without providing the answers. They helped them learn how to find the answers” (Small Group Interview). Taylor saw firsthand how learning is socially situated (Bandura, 1977; McCaslin & Good, 1996).

Jamie, too, commented on the easy camaraderie among her students, realizing the importance of socially situated learning. “They could play off of each other’s strengths and weaknesses” (Small Group Interview). She was roused by the way that students could effortlessly work with a variety of people when the lesson was structured to include discussion. “They would talk to people they normally didn’t talk to as much, because they had similar views or different views on the book” (Small Group Interview). Jamie felt it is important to provide

students the opportunity to practice their social skills. They were able to “stand up, speak their minds, and not worry about what others are thinking about them with no conflicts or arguing” (Small Group Interview).

In summary, each of the participants was conscious of the role that social-emotional development plays in establishing a positive classroom-learning environment. Emily viewed the role of the teacher as a complicated one, which s/he is not just in charge of teaching content; caring for the social-emotional needs of the students is just as important as delivering content knowledge. Ashley concurred with Emily about the importance of students’ social-emotional needs, and grasped how important the role teacher dispositions of respect and caring play in creating a safe environment for children. In addition, Jessica stressed the importance of supporting students’ social-emotional needs by staying aware of what is happening with students in and outside of the classroom. Megan’s clinical experience allowed her to make connections between elements of her coursework in psychology and education and how they complemented each other, while Taylor and Jamie absorbed how social connections among the students enhanced their ability to learn, especially when the students were confident enough to stand up for their convictions.

Research Question 2

How does reflection assist teacher candidates in planning for pedagogical, curricular, or dispositional change in their practice?

Pedagogical Change

The themes of *Instructional Planning* and *Classroom Management* emerged from the data. The lesson plans of each of the candidates ultimately contributed to the critical incidents.

Roots of most of the improvable and sustainable aspects of practice within the lesson plans foreshadowed the incidents identified by the teacher candidates through viewing the digital videos. Classroom management was also a concern for the majority of the teacher candidates. Five of the six teacher candidates addressed classroom management during the small group interview.

Instructional Planning

Instructional planning played an important role for the teacher candidates. It was the process that allowed them to be prepared for their teaching. Planning time allowed them opportunity to consider students' prior knowledge, abilities, strengths/weaknesses, and interests to design a lesson that would achieve the desired outcomes (through prompting on the university lesson plan template). The enactment of their plans provided them with evidence to reflect upon. Through their reflections, the teacher candidates revealed some incomplete understandings of pedagogical issues related to their teaching as well as strengths.

Ashley utilized a “before, during, and after reading” format for her whole group lesson on signal words. Based on the lesson plan and video, her lesson was primarily teacher-centered, with Ashley introducing the book, reading aloud to the class, and guiding the discussion. Ashley identified her critical incident as her difficulty in letting go of her own teaching performance to focus on students' learning. She described her ideal role as a teacher, “to facilitate their learning” (Small Group Interview), yet in most of this lesson Ashley was in the spotlight. She shared, “Again, it's easy to say or to assume that we know the best practice, but I think when you get in the classroom, it can be a really different story with the pressure and responsibility” (Small Group Interview). She told me she felt intimidated by the use of basal readers in her clinical

experience. In her coursework she wished the instructor had clarified how to implement reading best practices in a basal environment. “Maybe she could have gone into more detail to describe, ‘This is how I would organize this lesson for the day, and this is how it (the basal) would be used’” (Small Group Interview). The lesson Ashley taught was incongruent with the beliefs she held.

Taylor’s lesson on plot was designed for a small group. This lesson was part of a continuing sequence of lessons using Patricia Reilly Giff’s (1984) chapter book, *The Candy Corn Contest*. During the small group lesson, the students “whisper-read with the teacher as a group (all students read in unison in a hushed tone)” (Lesson Plan). The purpose of the lesson was “for students to identify the plot in the chapter they will be reading” (Lesson Plan). Based on the digital video, Taylor moved quickly from reading to completing a Plot Chart using student-provided details from the story. This led to Taylor’s critical incident of the need to rectify unclear teaching at a later date. She did not take the time to ensure that students had a clear understanding of the definition of plot before she moved to the activity of identifying details in the chapter. Her lesson plan placed more emphasis on good oral reading, “by enunciating every word and recognizing punctuation” (Lesson Plan), than laying a foundation for the students to comprehend the lesson objective of understanding plot. Only after the assessment did Taylor realize that she had missed the mark in her lesson.

Emily taught a whole class lesson to “distinguish and decode er, ir, and ur controlled vowels in words by reading *Curls that Swirl*, and completing a fill in the blank worksheet while achieving six out of seven questions correctly” (Lesson Plan). In the plan Emily wrote that she would say, “R-controlled vowels are treated as one sound even though you may hear two sounds” (Lesson Plan, confirmed in Digital Video). This was a confusing way to explain this

concept, which she ultimately corrected. Emily's critical incident was her appearance of lack of enthusiasm for teaching. Emily appeared to have scripted her lesson so tightly and was focused on moving from one point to another that she had difficulty connecting with the students. "It was disappointing when I didn't explain one thing about the sounds the right way. I did try to address that really quickly, though" (Small Group Interview). She said, "When I watched it (the digital video), I was like, 'Man that didn't look like I was very happy or excited'" (Small Group Interview).

Jamie's improvable critical incident was using overly casual language. There was no evidence in the lesson plan to indicate that planning was involved in this language use, but Jamie identified that her detailed lesson plan played a critical role in the success of her lesson. Her objectives included social studies content goals, literacy goals, and process goals related to classroom discussions. One aspect of Jamie's plan that was not apparent in any of the other teacher candidates' plans, was that she had sketched out her long-range organization for the unit and articulated how this lesson fit into the scope of the unit. Additionally, she anticipated possible misconceptions on the part of students and included background information she could share to mitigate them. Jamie also wrote questions providing specific supports. "Using this example, 'Many men had landed on this thin ledge as hundreds of buffalos flashed by.' How can you use this sentence to infer that Little Blaze knows that he will land safely?" (Lesson Plan). She shared, "In my planning it's important to make sure I have questions to engage the high-level learners, the mid-level learners, and support those who struggle" (Small Group Interview). Additionally, she wrote out specific times during the lesson that particular students leave to go to resource classes so she could offer quiet reminders to them.

Megan's identified critical incident was sustaining student interest in a novel unit.

Megan felt that her planning throughout the unit contributed to its success because she constantly checked in with the students to determine what activities they had found to be engaging and enjoyable. Student discussion was an integral facet of her unit. Megan wrote specific discourse supports into her lessons to encourage students to communicate with each other about the book. She had prepared posters with sentence frames that would help students express an opinion, ask for clarification, paraphrase, and acknowledge ideas. Some examples of the sentence frames included, "In my opinion, _____. I believe that _____. What do you mean? Will you explain that? So, you are saying that _____. In other words, you think _____. My idea is similar to _____'s idea." (Lesson Plan, seen in Digital Video). Megan reminded students to employ these sentence frames to make their conversations purposeful and respectful. Megan said use of these sentence frames, "encouraged my students to use deeper thinking skills in order to discuss with their peers what was going on in the book" (Questionnaire).

The planning that Jessica did contributed to her positive critical incident of incorporating a student into her instructional design. Her objective was clear, "The students will be able to correctly identify the meaning of 4 out of 6 unknown words in a variety of sentences using context clue strategies" (Lesson Plan). To focus the class on the lesson, she completed a quick pre-assessment on context clues. Like Jamie, Jessica also took time to include possible misconceptions students might have about context clues along with clarifying information she could share. She set clear expectations for the students, stating,

In just a moment we are going to get ready for today's activity. We are going to be playing Context Clues Trivia to help us find the meaning of some words that may be a little unfamiliar to us. In order to play we need to remember to sit on the carpet quietly and respectfully so that we can all learn and have fun while playing our game. You

won't need anything, so just leave all of your materials at the table. (Lesson Plan, confirmed in Digital Video)

Jessica modeled for the students, with an easily replicable sequence, how to use context clues to determine the meaning of an unknown word. First, she read through the sentence several times, then she verbally stated her thinking process for determining the meaning of the underlined word, then she highlighted the clues she used in the sentence that helped her. She modeled, using exactly the same procedure, two more times for the students. She then invited a student to come to the SMART Board to model the thinking process for the class. This worked successfully because she had clearly thought through her thinking process sequence, distilling it down to a few steps that were appropriate for third grade students to replicate.

Instructional planning is the foundation of any lesson or unit. Ashley's perceived inability to let go of her focus on herself as a teacher to concentrate on the students was complicated by the fact that her lesson was teacher-centered, which was at odds with her beliefs about student-centered instruction. Taylor struggled in providing accurate instruction for her students because her learning objective did not match her learning activities as well as it could have. Emily was so focused on delivering her scripted lesson that it was difficult to convey her excitement for teaching to the class. Jamie cited careful planning for her successes in the classroom. Megan sustained student interest in her novel unit by scaffolding students' ability to hold academic discussions through her use of sentence frames. Jessica's thoughtful planning allowed her to draw a student into her lesson to model a thinking strategy for his classmates. Like instructional planning, classroom management was another vital aspect of teaching for these teacher candidates to grasp.

Classroom Management

As teacher candidates, they entered classrooms with established rules and procedures. The candidates did not have a participatory role in the creation of these approaches to management; but they, nonetheless, reflected on how they viewed the systems. They considered how these experiences would impact the choices they make when going on to student teaching and later, as they create a classroom management approach for their own future classrooms.

Emily described the management system in the classroom she worked in.

They used a checklist strategy. She [the cooperating teacher] has a clipboard, and it has all the kids' names on it. It [the checklist] has three boxes next to each name. If any of the students are giving you trouble, not paying attention, whatever, hoarding [congregating] in the hall, anything...they get a warning. You tell them, 'You have a W (warning) next to your name. Don't do anything further or else you're going to get minutes off your recess.' After that it was 5, 10, 15 [minutes]. Fifteen minutes was the duration of the recess. (Small Group Interview)

Emily noted that some students received 15's once or twice a week. She disclosed, "I hated seeing them out of recess. It was the kids that were always having trouble with reading or have ADHD and couldn't sit down" (Small Group Interview). Emily felt that it was difficult to see students who were not as successful in the classroom, being kept away from an opportunity to socialize and move around. She also expressed the concern; "Students don't take it very seriously either because they're still around the people at recess, just sitting out" (Small Group Interview).

When asked what she would have done differently, Emily responded that she hadn't put much thought into what she would do, but that she would try to figure out a different way to do it. She shared, "I haven't really figured out what I like, I just don't like the recess thing. I am not sure what I would do" (Small Group Interview). Emily expressed that she is more

comfortable when the classroom is organized. She told me that in her coursework related to classroom management, the focus was on having a preventative classroom management philosophy. “I like procedures. I like when the kids know how the classroom works, they know what, when, and how to do things” (Small Group Interview). She spoke about how she noticed behavior incidents during bathroom breaks, stating, “At least one person got in trouble in the bathroom every single time we went on classroom bathroom breaks. I would do that whole situation differently to prevent it” (Small Group Interview). Emily elaborated on what she plans to do in her own future classroom.

I want them to know that when they do something, the second they do it, that they shouldn't have done that...make them think about why they did it. I want them to know by the third week that if they do something they shouldn't be doing, the whole time they're doing it, they know that it's not what they're supposed to be doing. Before they even try to do it, I want them to be aware of what they are supposed to be doing. Some kids honestly forget that they're not even supposed to do some of the things they get in trouble for, because the expectations weren't clear. I just want everything to be very clear and organized, with set procedures for classroom routines like bathroom breaks and lining up. (Small Group Interview)

Unlike Emily's view of a structured environment, Ashley viewed classroom management as one aspect of teaching that needed to be integrated with the context of instruction. While implementing teaching strategies,

In this lesson I put into practice a sequence of focused instruction, guided instruction, collaborative practice, and independent practice. I learned that students often understand material better when a peer is explaining, because the language and examples that are used are told in the conversational tone most students are used to. (Questionnaire)

Ashley stated, “There is more to consider. There's behavior management. There's that student over there who has some needs, and you're trying to be mindful of all that” (Small Group Interview). She felt that at times it could be overwhelming to attend to so many tasks at one time, yet do a good job.

Like Ashley, Taylor felt a bit overwhelmed making simultaneous decisions within the classroom. She told me she worked with 25 second graders, where, “There was just a lot of energy going on in there” (Small Group Interview). The English Language Arts period was structured around five centers in an effort to differentiate for reading levels. This was a management structure Taylor was unfamiliar with through her previous external clinical experiences. She noted, “We did a lot of things a little differently—different from what I know” (Small Group Interview). Taylor observed, “I was in charge of one [group]. The teacher was in charge of another one. There were three centers where there were students [working independently]” (Small Group Interview). She found it difficult to maintain momentum in her group, keep an eye on other groups, and be responsive to students who came to her with questions from the independent centers concurrently.

Unlike the previous participants, Jamie was a bit more confident in her burgeoning use of classroom management skills. She expressed, “I keep going back to the basic classroom management skills I’ve learned. Those are wonderful things to always have with you” (Small Group Interview). Jamie watched how her cooperating teacher had implemented basic management skills such as maintaining an appropriate level of authority, establishing clear expectations/consequences, and time management. Jamie concentrated on how she modified them for specific situations. Jamie explained how this approach would help her as she makes the transition to her student teaching assignment,

We learn in each experience we have. It just kind of sticks with us, and then we can keep building our new experiences off of those, keeping those things in the back of our mind and always remembering...this worked well...I will try to do that in the future. (Small Group Interview)

While the other teacher candidates were limited to following the prescribed classroom management systems, Jessica's cooperating teacher wanted her to have some applied experience with classroom management during her clinical experience. Her cooperating teacher encouraged Jessica to try out her ideas for classroom management in that supportive environment, knowing there would be successes and failures. Jessica told me her cooperating teacher told her on her first day to, 'Do the best you can. You'll make mistakes and you'll do great things, too' (Small Group Interview). She encouraged Jessica to take the lead in handling cheating and bullying incidents that occurred during her clinical experience, since these were just the types of situations Jessica would face in her own future classroom. Jessica found that handling student behavior infractions was more challenging than she expected. Jessica commented, "I really had to think a few moves ahead, based on how the student responded emotionally. I wanted them to realize how the [classroom] structure and rules were important to their success" (Small Group Interview).

For these teacher candidates, gaining experience in classroom management is an important aspect of becoming a teacher. Their experiences allowed them to take stock of their development in this area. It also gave them the chance to compare/contrast their beliefs and expectations about classroom management with the reality of the classroom. Emily found that she needed to give more thought to specific methods to set expectations and consequences. Emily and Taylor were also faced with the dilemma of working in an environment in which their beliefs or experiences were at odds with the prevailing system in a classroom or school. Ashley and Taylor found that managing a classroom requires one to maintain an awareness of what is taking place in all parts of the classroom while attending to instructional duties. On the other hand, Jamie had a good conceptual knowledge of basic management skills. She tried to enhance

her understanding by observing how her cooperating teacher made situational modifications to those basic management skills. Jessica, too, learned that classroom management is complex. Actions need to be continually refined to respond to specific situations or responses.

Curricular Change

Three of the teacher candidates, when asked, directly related their critical incidents to InTASC's Content Knowledge standards. Taylor linked her incident, rectifying unclear teaching, to InTASC's Standard 4, which pertains to the teacher's understanding of the "central concepts, tools of inquiry, and structures of the discipline(s)" (Council of Chief State School Officers, 2011). Taylor's goal was to teach second graders how to identify plot in a fiction text. She described her work as...

Trying to get the students to figure out what the plot actually meant. I broke it up. The way it was taught was, "There are three sections of the plot: the beginning, the middle, and the end." The middle contains the problem. The beginning kind of sets up what's happening. The problem is introduced in the middle, and the end is kind of the resolution. The students were identifying each part of the chapter that we read that day. Really, after I had gotten done, I realized one of the questions I had asked was whether or not setting was a part of the plot. When I was instructing them, I told them I told them, "It sets up the story." It tells them where it's taking place, which is actually the setting. (Questionnaire)

Taylor stated, "In this case I was not presenting the content in a way that made sense to the students, and in a way that they could obtain the correct information" (Questionnaire). Taylor confused her students by not providing them with a definition of the term "plot" that allowed them to differentiate the events of the story from characters involved in the story or the setting of the story. She noted that her coursework had instructed her to expect that "the students are listening and paying attention to just about everything I share with them, and it is important to be thorough in my explanations" (Questionnaire). This incident directed Taylor to be cognizant of

“what my students’ prior knowledge consists of, and how my instruction should be planned in order to push them further” (Small Group Interview). Taylor needed a stronger command of her content knowledge, as well as a better understanding of the curriculum’s scope and sequence to provide her students with instruction that took into consideration what they comprehended about “plot.”

Jessica and Megan connected their critical incidents to Standard 5, which relates to the teacher’s understanding of, “how to connect concepts and use differing perspectives to engage learners in critical thinking, creativity, and collaborative problem solving” (Council of Chief State School Officers, 2011). The lesson featured in Jessica’s critical incident was to teach third grade students how to use context clues to identify the meaning of an unknown word. Her lesson progressed by first modeling a thinking process for the students, then guiding them through examples, next having a student lead the guided instruction, later having the students work collaboratively, and finally having the students practice independently. Jessica expressed, “As part of my classwork, before I began teaching this lesson, I completed a context for learning document. This lesson was set up as a game, which made the learning process more fun and interactive for students” (Questionnaire). Her observation of students, along with this learning template assisted in her awareness of the number of learning strategies and supports that were available to her to employ in her instruction. Jessica believes, “As a developing teacher, I need to continue trying new instructional strategies” (Questionnaire). The ability to match appropriate strategies to the needs of one’s students is an important skill for teachers, as is the capability to keep students engaged in learning.

Just as Jessica concentrated on matching learning strategies to student needs, Megan was also concerned throughout her unit planning to design lessons that would make the content

interesting to the students. Throughout Megan's *Frindle* unit, she strove to develop discourse scaffolds that would, "help the students learn how to have give and take conversations about the book" (Questionnaire). Megan focused on developing discussion questions and sentence frames that would support students to participate in learning tasks to deepen their understanding of that particular fiction text.

While Ashley did not identify a specific content-based dilemma connected to her critical incident, she did share a concern about the vast amount of information that is available for teachers to incorporate into their lessons. She communicated,

I think I feel overwhelmed in this age of technology where at your fingertips is just the world of information. I feel like this has created a culture where a lot of people minimize their own intelligence because they realize how much they don't know. I do need to build my knowledge base. I want to read more research-based articles. I need to keep up with the amount of knowledge as it relates to the field of education: teaching, and instruction. It's hard to have clarity. There's so much [instructional material] you can pull from. To find exactly what you need, can be difficult. I hope, over time, I will be able to have all aspects [of teaching] solidify and be able to put it [my knowledge] into practice. (Small Group Interview)

Dispositional Change

Teaching dispositions are characteristics that define what it is to be a teacher in attitude, perspective, mood, and action (Dewey, 1904; Shulman, 1998). They are habits of mind that determine a person's typical ways of thinking and acting. These dispositions influence a teacher's ability to be effective (Masunaga & Lewis, 2011). The teacher candidates provided evidence of dispositions they exemplify through their words and actions. The theme of caring emerged from the data.

Caring

Research indicates caring teachers create classroom environments that are inviting, encourage students to behave in pro-social ways, and emphasize learning over performance (Davis, 2003). These teacher candidates gained ideas, through observation and practice, of how they will be able to create these positive environments in their own future classrooms.

Five of the six teacher candidates identified aspects of caring they would adopt or strengthen in their growing practice. Emily experienced how important it is to have a strong connection between the classroom and the home. Her cooperating teacher invited family members of the Student of the Week to share an activity and snack with the class. Emily said, “It was really nice. It got the parents involved and allowed them to see the other kids in the class and how they [the other students] interacted with their child” (Small Group Interview). This is an activity Emily hopes to establish in her own future classroom. Emily’s ability to care was also displayed in her concern about how some students with learning needs were often deprived of recess, when participation in recess might have helped them pay attention in the classroom. Ashley’s beliefs about the importance of viewing all students as competent and capable were manifested in her cooperating teacher’s demeanor toward the students in her classroom. Ashley noted, “She was always so thoughtful and kind in her conversations with the children” (Small Group Interview). Jessica displayed caring by helping her students view themselves as competent and capable through use of the Gradual Release of Responsibility (Pearson & Gallagher, 1983) model of teaching during the context clues lesson. Use of this model mentors students toward the notion that they can take control of their own learning, therefore gaining confidence in their abilities as learners. Megan demonstrated her caring through the way she

showed interest in students as individuals. She asked students about activities they liked and did not like during her novel unit, revising her plans to incorporate activities that her students would respond to positively. She said, “I gauged all of my students reactions when planning my lessons and executing the teaching” (Questionnaire). This allowed her to show them that their opinions mattered to her, and that she made modifications based on their feedback that would encourage their participation. Jamie revealed her caring nature as she described her role as a teacher. She shared, “Teaching is a 24-7 job, not just a daily job. First, you are their teacher. Sometimes you have to be their friend. Sometimes you have to be their advocate...it varies from class to class, and student to student” (Small Group Interview). She is committed to students’ total development.

To summarize, reflection assists teacher candidates as they plan for change in their practice in a number of ways. The teacher candidates can effect pedagogical change by reflecting on how their lesson plans influence the success of their lessons. They have been considering how they will choose to manage their future classrooms based on their clinical experiences. Some of the teacher candidates, reflecting on curricular change, realized the importance of being knowledgeable about the content areas they teach, how to make cross-curricular connections, and how to choose the best resources for their students. The teacher candidates reflected on the disposition of caring they would amplify as they grow professionally.

Research Question 3

In what way do teacher candidates engage in the process of reflection to deal with dilemmas faced in professional practice?

An effective personal process of reflection is developed over time. Teacher candidates are exposed to reflective assignments and informal reflective discussions in their teacher education coursework, and to a greater degree through their clinical experiences. Clinical experiences afford the teacher candidate the opportunity to collaborate with a cooperating teacher and university supervisor to guide his/her work. Collaboration among teachers has been heralded as an important element of effective schools (Parkay, 2013). The ability to be collaborative is also linked to greater teacher satisfaction and retention rates (Kardos & Johnson, 2007). The teacher candidates appreciated the time they had to collaborate with their peers, cooperating teacher, past professors, and university supervisor/professor of assessment course during their clinical experience. Clinical experiences are designed to provide teacher candidates with support from both the cooperating teacher and university supervisor. While that support is available, it is still important for the teacher candidate to learn how to take the initiative to reach out to these resources for assistance, just as they will need to do as they obtain their first teaching positions. As the teacher candidates faced dilemmas of practice, they reached out to their support systems.

These teacher candidates consulted with supporters for advice about their critical incidents. Most of these conversations took place face to face. See Table 8.

Table 8

Consultation for Assistance with the Critical Incident

Consultants	Megan	Emily	Ashley	Jessica	Jamie	Taylor	TOTAL
Teacher Candidates (Same grade level)	5	2 3 phone	1				11
Cooperating Teacher	1	1	1	2	1	1	7
Professor/Adjunct	1		1 email		2	1	6
Teacher Candidate (Different grade level)	2						2
University Supervisor/ Professor of Assessment Course		2					2
Spouse/Significant Other	1	1					2
Roommate	1	1					2
Friend	1						1

Note: All communications were face-to-face unless otherwise indicated.

All six of the teacher candidates looked to their cooperating teacher for guidance about their critical incident. Everyone, except Jessica, spoke about their incident to professionals from the university. Emily communicated with her university supervisor/professor of assessment course about the incident, while the rest of the teacher candidates discussed the incident with one of two previous professors. Megan, Emily, and Ashley talked over their incidents with other teacher candidates, with Megan also consulting another teacher candidate. Both Megan and Emily elicited advice from their significant others and roommates. Megan also consulted a friend.

Additionally, each participant shared what reflection meant to her as a teacher candidate. This aids in understanding how these beliefs influenced how each teacher candidate approached

reflection Emily viewed reflection as a way to identify aspects of her teaching that need corrections. She observed that reflection, “Definitely helps me improve on what not to do, and what to do differently. If I reflect back on just one lesson, I could tell you fifty things that I’ll never do again” (Small Group Interview). Ashley shared that to her, reflection is,

Mainly just thinking back over experiences to think about what I might do better the next time. I tend to be pretty hard on myself, in general. I probably tend to think, or maybe even imagine the worst things that happened during a lesson. I really think about those things and try to (at this point I’m not necessarily able to put it back into practice in a better way) but I try to store it away or keep resources, keep notes of how I felt about that, and how I might do that differently in the future. (Small Group Interview)

Taylor simply stated, “Reflection is looking at what you have done, and seeing how it worked and how it didn’t work, then using that information to better the next experience” (Small Group Interview). Jamie focused on the lesson cycle, taking into account her planning. She said,

Reflection, to me, means being able to write my lessons, then going back after my lessons, being able to think about what I did well, what I didn’t do so well, what I could fix, and how I could make a lesson better the next time (Small Group Interview).

Megan reiterated much of what Jamie said, but added, “Just looking at my students and how they responded, not just looking at how I did, but looking at how the students did, and how they responded to the lesson” (Small Group Interview). Jessica added that it was important to keep long range planning in mind. She stated,

Reflecting on just the different strategies you used, and how you could have made it better, or what you would need to change in the future...reflecting on whether they learned the content that was stated in the objective, or do I need to reteach or what should my next steps be. (Small Group Interview)

Reflection is one way teacher candidates can evaluate how the choices they make and actions they take affect their students and the wider learning community. Regular reflection allows teacher candidates to grow professionally, which is a habit that will serve them well once they have classrooms of their own. In their coursework, teacher candidates have been given

assignments stimulating them to be reflective. These exercises assisted the teacher candidates in becoming increasingly autonomous in their decision-making. Some examples of these assignments were peer-generated feedback after mini-lessons, writing weekly self-reflection online journals, and pre- and post-observation conferences. The teacher candidates in this study provided insight into the personal ways they reflected. Several themes emerged from the data: Written Reflection, Reflecting on Others' Perspectives, Video as a Reflective Tool, and Informal Reflection.

Written Reflection

The teacher candidates were given many opportunities to use written reflection throughout their coursework. They shared examples they found to be beneficial with me, such as reflecting on lesson plans, journaling, and weekly LiveText, web-based interface used to submit assignments, reflections on the clinical experience. As the candidates learned how to write lesson plans early in their professional sequence, they were prompted to reflect on them. Taylor explained, "We create lessons, then we do reflections so we can get an idea of how they might work before we actually implement the lessons in the classroom. We get a lot of practice here" (Small Group Interview). When I asked Taylor to clarify what she meant by 'practice,' she elaborated by saying,

We've created units that would theoretically be used in a classroom. We have to reflect on the objectives, whether the activities are appropriate for the age level, how the assessment measures the objective...things like that. (Small Group Interview)

Emily and Ashley also found this exercise to be valuable. Emily felt that this activity "helped me realize that a lot of the activities I planned for younger kids were just too hard for them to be able to do" (Small Group Interview). Ashley told me, "I had a bit of a disconnect in

understanding how basal reading lessons could be organized to use in the classroom.

Reflecting on the importance of making an effort to organize groups and times helped me make sense of this” (Small Group Interview).

Another way reflection was stimulated for the candidates was through writing weekly reflections in LiveText. Ashley appreciated the design of the assignment, stating, “Right now, reflection is more structured, and I think for me, it helps to have a structure to it because of the weekly submissions of the self-reflection” (Small Group Interview). Jamie also specifically talked about this assignment saying,

We do reflect a lot, and we may complain about it sometimes, but in the end, it’s important for us and it helps us out a lot. It’s going to make us better educators in the end because the more of a habit it will be whenever we actually go out into the field and start teaching. It’s important because if you don’t reflect, then nothing ever changes. Everything stays the same. You don’t grow. (Small Group Interview)

Taylor found it valuable to journal.

I do a lot of writing. I do journals about everything. After each lesson, I have room at the bottom of the plan for a commentary based on how it worked. I see value in it [writing it down]. I retain more of it if I write it, so if I write it down, I’m actually thinking about it more than if I just [said] ‘It kind of worked.’ (Small Group Interview)

Ashley also expressed how she values written reflection. She stated, “I think it is probably most helpful to record it if you can, rather than just think about it because the thought could get lost” (Small Group Interview).

The participants valued written reflection, because they have the chance to think before, during, and after writing their thoughts down. This gives them the chance to develop higher-level thinking skills and problem-solve. Reflection was stimulated by “classroom assignments” that asked the teacher candidates to reflect in writing. Taylor, Emily, and Ashley all found a lesson plan exercise to be valuable. It allowed the participants to review their lesson plans as a

way to allow them to consider if they had put into practice what they had learned in their coursework. During the clinical experience, the candidates wrote weekly reflective online journals. Jamie, Taylor, and Ashley found this activity to be worthwhile as it gave them a chance to think deeply about their practice.

Reflecting on Others' Perspectives

A number of the teacher candidates mentioned the importance of not just self-reflecting, but also reflecting on the perspectives of other people, notably students, cooperating teacher, university supervisor, and peers. Emily shared a specific method her university supervisor employed.

My [cooperating] teacher filled out the little pieces of paper that my [university] instructor gave her so she [the cooperating teacher] could write feedback to me. She would write the feedback on one side, and I wrote a mini-reflection on her advice. This did make me delve further in depth with my thinking about how I could apply her feedback to my work. (Small Group Interview)

Another method of reflection mentioned was watching the cooperating teacher instruct the class or listening to classmates' experiences. This offered Jamie more occasions to reflect. She offered, "You can reflect off of other peoples' experiences, as well, so you can incorporate it later on...into your classroom and your lesson" (Small Group Interview). Jamie also was pragmatic about the importance of considering other people's feedback and perspective on her work.

Even if it takes other teachers or your students to give you feedback, you are going to have to reflect on what they say. The students are like your customers. They have to be served well. (Small Group Interview)

Reflecting on the feedback of the cooperating teacher was impactful for Megan, too.

She related a specific experience during her clinical experience, where reflection on her cooperating teacher's feedback inspired her to improve her performance.

I know every day, every lesson I taught, my teacher gave me feedback on certain things that she noticed that she wasn't sure I noticed, so I reflected on what she had said. I was reading a story to them, and my questions were very 'yes-no,' nothing the students had to really think about. So she told me about that. I reflected on that, and the next day I tried to work harder on asking better questions. She saw again that I used some of those yes-no questions, but more open-ended questions. Then by the end of the week, she didn't have to write anything about it. I appreciated her observations about how I taught. Every day, I would look and see how I could apply her critique to what I would be doing the next day and in the future. It made me proud to be able to take the initiative to listen to her and improve. I could see how the students responded differently to my instruction as I improved. (Small Group Interview)

In the same vein, Jessica understood that out in the field, it would be important to reflect on the feedback given by an administrator or mentor. She asserted,

As a beginning teacher, or any teacher in general, I feel like there's always something in each lesson that you can improve on. So I think it's important to always rely on reflection. If it's the first time you've taught something, you can always change something to make it better. You need to be aware of the way the students respond to what you are doing. It's important to value that other perspective. You need to stay open. You get to talk to a peer or a mentor, like a collaborating teacher. You need to listen to the things they tell you, things you might not have noticed. When they bring it to your attention, you can go about changing it. It's a great feeling when you've had that professional discussion with them, you reflect on what you've talked about, you work hard, overcome your difficulty, and accomplish what you were working towards. (Small Group Interview)

This understanding of how reflection on feedback can help one improve his/her performance is important for a teacher candidate to consider before the student teaching semester and later, on the job during the first evaluation cycle.

Giving credence to the professional viewpoints of peers, professors, cooperating teachers, and supervisors is significant for teacher candidates. As the participants move on to their student teaching and then careers, they should begin to realize that the ability to have professional

conversations centered on the work of teaching is important toward building collegial relationships and strengthening their craft. This also is an opportunity to learn how to be discerning about accepting critique gracefully, with personal growth in mind. Emily, Jamie, and Jessica all realized that reflecting on the feedback from their cooperating teachers could offer them a fresh perspective on their own work in the classroom.

Video as a Reflective Tool

Technological advancements have made the ability to record digital video accessible to most people. As part of this study (and for their class) the teacher candidates recorded a lesson to reflect on. During a small group interview, when asked, “What aspects of their teacher education program helped you reflect on the incident that happened in the classroom?” Jamie responded,

I think just the video in general, just being able to go back and look at myself on video, seeing the habits that I have and things I usually say. I noticed that I say, ‘So what’s another way we could say that?’ because a student will answer a question and it’ll be a great answer, but I’m thinking, that’s a great answer, but I’d love to hear another way of saying that. That’s something I do often, which isn’t a bad thing, because I want to hear multiple perspectives on things. It’s important to go back to the video to see how I say things. I said ‘you guys’ eight or nine times during my 41-minute video. The video gave me the chance to go back and see things that I didn’t do, to see what I should be paying attention to, what I should notice that I do often, and other things that I’m doing well.
(Small Group Interview)

Megan joined the conversation saying,

I think it was a lot of work [making the video], but I think it would be helpful to do multiple videos during student teaching. You could do one during the beginning of the semester, one during the middle, and one toward the end. You could see how you are growing. I don’t know that it should be mandated, but I’d know this is how I did on the first one. This is what I could improve on for the next time. It’s like writing a paper. You write the rough draft, and then you can edit it. Then you have your final one. You might be mandated to send in one [video], but for personal use, I would like to do multiple videos because then you can see how the reading lesson worked. This is how

the math lesson worked, because not every lesson is the same. You have different areas you are going to be teaching in. (Small Group Interview)

Jamie concurred,

I would agree with that. I feel like, from the beginning of your time in the classroom to the end, you grow and transform so much that it's almost like you are watching a different teacher. So like she [Megan] said, I think only one video should be required, but I do think that having two or three would be a great help to see how did I improve in this amount of time. Then you could see that progress and push forward with going to the next step. (Small Group Interview)

Yet, Megan expressed concern that the process of recording video in the classroom was cumbersome and distracting to the students as well as her. She conveyed,

Uh-hmm. I agree with that, but not even thinking about teacher reflection, thinking about the students. I know when my supervisor brought in the camera with the stand, they were like, 'Oh, what is that? I've never seen one of those.' When they have a lot of distraction it's unsettling for me. I know I walk around the classroom a lot, and I kept walking, and then I would be, like, 'Oh, I can't get through over there.' Then I have to turn awkwardly around. Then sometimes that made me stumble, or made me forget my train of thought because I was focused on what I was doing and not really looking as to where I was going. So that aspect, too, the students can be distracted. The teacher can be distracted, too, because it's not a normal thing in the classroom. (Small Group Interview)

Jamie countered, "The more videos they have, the more comfortable you are going to be teaching on video" (Small Group Interview).

Megan agreed, "That's true" (Small Group Interview).

Video as a tool for reflection has potential to be powerful. It could allow teacher candidates to distinguish between the emotion they might feel about teaching moments and a more objective view of what actually might have happened during those moments. It would give the teacher candidate an opportunity to sit down with their university supervisor and cooperating teacher to assess his/her teaching performance against standards. It would also give the teacher candidate the chance to watch their body language, facial expressions, and how they move about

the classroom. They would also be able to listen to their vocal tone, speech patterns, and wait time.

Informal Reflection

The fourth theme that emerged from the data was Informal Reflection. Emily Ashley, and Jessica spoke about reflection as a thinking process. Emily explained, “I’m not a writer-downer. I don’t write as much down as I should. The things that I notice, I’m pretty good at remembering them” (Small Group Interview). Ashley used her trip home from school as a time to reflect. She shared, “I replay events while in the car on the way home” (Small Group Interview). Ashley was able to articulate that while she replayed the events of the day on her way home, that this was just part of her personal reflective process.

In certain situations, you certainly would reflect on them, and maybe that very afternoon might change something that you do in terms of your instruction, how you’re going to help a child, or deal with a situation. You might do some immediate reflection. Then, with deeper reflection that you take time to do; it could be something that meaningfully changes the next day, or something you might even implement the next year. I think it’s just one point on the spectrum of reflection. (Small Group Interview)

Conversely, Jessica used conversation with her cooperative teacher to clarify her thinking in the process of reflection. She shared:

After I taught each lesson, there would be a little bit of transition time, we would take the kids to P.E., and on my walk down the hall, I would just kind of be thinking about what went well, what didn’t go well, and then just as soon as the students were dropped off, my teacher and I would just discuss it. Then later on in the semester, I’m writing about those reflections, but in the moment, it’s more than just a thought process. I like to think it all through, and then talk about it. Sometimes it takes a little while to process it all, and really kind of get everything straight in your head to then reflect on it. (Small Group Interview)

Informal reflection gave these teacher candidates a scaffold to frame and reframe ambiguous situations. Emily used her memory of classroom events as a catalyst to reflect.

Similar to Emily, Ashley exercised her drive home to ruminate on the happenings of the day to prompt her reflection. In contrast to Emily and Ashley, Jessica liked to talk things over with her cooperating teacher to serve as a springboard for her deeper reflection.

How Teacher Candidates Reflect

For this study I defined reflection as a process for improving one's practice by becoming professionally self-aware through combining research, knowledge of context, and balanced judgment about previous, present, and future actions, events, or decisions. The teacher candidates in this study did use reflection to gain a better understanding of their practice. Each of them had similarities and differences in how they utilized reflection to become more aware of how all of these elements interacted in their critical incidents. These similarities and differences are illustrated in Table 9. A profile of my analysis of each teacher candidate's types of reflection follows.

Table 9

Critical Incidents and Types of Reflection

Teacher Candidate	Critical Incidents	Types of Reflection
Ashley	Letting go of attention on her own teaching performance to focus on students' learning	Technical Reflection Reflection-on-action Reflection-for-action
Jamie	Using overly casual language	Technical Reflection Practical Reflection
Emily	Realizing the importance of detailed lesson planning Appearing to lack enthusiasm for teaching	Reflection-in-action Reflection-on-action Technical Reflection
Taylor	Rectifying unclear teaching	Reflection-on-action Reflection-for-action Technical Reflection
Megan	Sustaining student interest throughout a novel unit	Reflection-on-action Reflection-for-action Technical Reflection
Jessica	Incorporating a student in the delivery of instruction	Reflection-on-action Reflection-for-action Practical Reflection Reflection-in-action Reflection-on-action Reflection-for-action

Ashley

Ashley reflected technically about her critical incident (van Manen, 1977; Larrivee, 2008a; Jay & Johnson, 2002; Mezirow, 1990). She was concerned that she was too focused on her own performance rather than on her students. Based on Tripp's (1993) framework, Ashley

reflected in a Practical/Procedural way. She questioned how her procedures could be revised to bring more fun to her lessons. While she felt her attention to alignment of the standards and objectives in the lesson was on target, she found herself doing most of the work during the learning segment. She reflected-on-action (Schön, 1983) to look back at the lesson and realized that her actions did not bring about her expected outcome. She was aware that she should have been placing more emphasis on how the students were engaged in the lesson, but was not really sure about how she might do that. She felt that more practice would suffice, but did not consider how she might modify her pedagogy to enact the change. Ashley reflected-for-action (Killian & Todnem, 1991) by expressing that as she planned for student teaching she would consider what she had learned by observing her cooperating teacher engage students in learning. Ashley embodied two of Dewey's (1933) characteristics of reflective practitioners. She presented herself to be open-minded. Of all the participants, Ashley realized that her personal preferences were not always the best first direction to take. She understood that it is important to consider other points of view and other ways of doing things. It seemed that she was so concerned to find the perfect one, that she considered too many options. This left her confused and unsure. Ashley also understood the impact of responsibility a teacher has. She shared that she felt ready to take the next step.

Jamie

While Jamie reflected technically about her use of overly casual language, she noted that she felt responsible to behave in a professional way in her work with students, evoking one of Dewey's (1933) characteristics of reflection. When Jamie reflected on her lesson planning, she looked at it in a practical way (van Manen, 1977; Larrivee, 2008a; Jay & Johnson, 2002;

Mezirow, 1990). Jamie felt that by thinking about the needs of the students, she would prepare questions and background knowledge to share that would be appropriate and interesting. Jamie applied multiple measures of Tripp's (1993) framework. Initially, she reflected on her planning using a Practical/Procedural lens. She thought about how her focus on the details of her plan drove the instruction. When Jamie reflected on her lesson, she looked at it from a Reflective/Effectual point of view. She focused on how her questions helped the students learn the content. She also looked at the lesson in a Reflective/Evaluative way. She was concerned if this had been the most effective way to work with the students based on her aims. In both of her critical incidents, she reflected-on-action (Schön, 1983). Jamie also reflected-in-action (Schön, 1983) during her lesson, albeit in a structured way. Jamie had prepared questions so she could be responsive to those moments where the teacher might not expect a student to understand a concept or to have a deeper interest in the subject. As a novice, she understood that teaching is fluid, and that the teacher needs to be thinking and modifying as s/he goes to be responsive to the students. While Jamie did not reflect-for-action about planning, she showed maturity in her meticulous preparation, and stated that she would continue because it helps her feel prepared. She did reflect-for-action about her use of overly casual language with the students.

Emily

Emily reflected on her critical incident of appearing to lack enthusiasm for teaching in a technical fashion (van Manen, 1977; Day, 1993; Farrell, 2004; Hatton & Smith, 1995; Valli, 1997). She focused on her personal emotion and how she would be perceived by her university supervisor and cooperating teacher in describing the incident. Throughout her video, she read directly from her lesson plan, often not looking up at the students. According to Tripp's (1993)

framework, Emily reflected in a Practical/Procedural way. She was thinking about what she should do to appear more animated. She also reflected in a Reflective/Evaluative way when she was most concerned with how her university supervisor and cooperative teacher liked her work. Emily reflected-on-action (Schön, 1983), but struggled with her teacher identity. After observing the cooperating teacher, Emily felt that she needed to emulate her to gain her respect, but was not comfortable doing that. She also reflected-for-action (Killian & Todnem, 1991), realizing that she needs to not be afraid to assert herself to have a professional conversation with her cooperating teacher sharing her ideas, looking for, and receiving helpful feedback.

Taylor

Taylor reflected technically (van Manen, 1977; Day, 1993; Farrell, 2004; Hatton & Smith, 1995; Valli, 1997) about her second grade reading lesson on plot. Her critical incident was rectifying unclear teaching. She was emotional in her reflection, realizing that she had made a mistake. This made her feel less than capable, which is hard for a teacher candidate to bear because it undermines one's confidence. In Tripp's (1993) framework, Taylor reflected in a Reflective/Descriptive way. She went over her lesson point by point to discern where the lesson had gone wrong. She looked at her lesson in a Reflective/Causal way to identify what she did or said to give the students' the incorrect information. Additionally, Taylor asked Reflective/Affectual questions worried about what it felt like to be judged for what she had done, especially by her cooperating teacher as well as her students. Taylor reflected-on-action (Schön, 1983), and thought about how her teaching actions caused the students to have a misconception about plot. She reflected-for-action (Killian & Todnem, 1991) realized her error, and tried to regroup to get ready for the next day to rectify her error. This incident prompted Taylor to

further consider using formative assessments to get more information about her student's prior knowledge.

Megan

Megan reflected technically (van Manen, 1977; Day, 1993; Farrell, 2004; Hatton & Smith, 1995; Valli, 1997) about her culminating activity for her novel unit. She initially focused on her personal success, and the joyful emotion the students had about completing a difficult book. The fact that Megan chose a culminating activity to record might have limited her opportunities for reflection. This translates to Tripp's (1993) framework as Reflective Affectual thinking about how she felt, and how the students felt about their success. She also used Tripp's Reflective/Evaluative lens, considering how the students liked the lesson. Using Tripp's Reflective/Explanatory lens, Megan began to think about how she had used knowledge about her students' needs and interests to build a successful unit. She built in discourse support to enable the students to have meaningful conversations about the novel they read. Megan reflected-for-action (Killian & Todnem, 1991) by thinking about other ways she could get information about her students that would help her plan lessons that meet her students' needs.

Jessica

Jessica reflected in a practical (van Manen, 1977; Larrivee, 2008a; Jay & Johnson, 2002; Mezirow, 1990) way. She connected the critical incident to her implementation of a lesson using the Theory of Gradual Release of Responsibility (Pearson & Gallagher, 1983) and the Theory of Proximal Development (Vygotsky, 1978). Using Tripp's (1993) framework, she used the Reflective/Personal lens. Jessica was pleased with herself that she was able to successfully enact

the type of lesson she envisioned in her plan. She reflected using the Reflective/Explanatory lens by clearly explaining, in a step-by-step fashion, every aspect of the lesson. She analyzed how the lesson involved the students and guided their learning. She reflected-on-action (Schön, 1983) following the lesson. Jessica identified how impactful it was for her to bring a student to the front of the classroom to model the process she had introduced to use context clues to find the meaning of an unknown word. During the lesson, Jessica reflected-in-action (Schön). She made decisions throughout the lesson about how ready the students were to take on increased responsibility for their learning. She made strategic determinations on how to pair and re-pair students, and how many examples they would practice at each stage of support. Furthermore, Jessica reflected-for-action (Killian & Todnem, 1991). Implementing this lesson successfully encouraged her to continue to challenge herself to continue to explore a variety of instructional models. This was an excellent example of connecting theory to practice.

Summary

Chapter 4 included the research findings. The chapter was organized by the research questions, which guided this study. In this chapter, the teacher candidates' responses were presented to investigate the role reflection plays in assisting them to connect theory and practice through a self-identified critical incident. Participant responses were sorted by research questions, and then examined for emerging themes.

Research Question 1 explored how reflection upon critical incidents assisted teacher candidates in connecting theory and practice. Responses indicated that the teacher candidates focused on student-centered teaching and social-emotional development. The teacher candidates expressed their understanding that teaching needs to focus on the needs of the learner. They also

conveyed the importance of social-emotional development in the creation and sustenance of a productive learning environment.

Research Question 2 investigated how reflection assisted teacher candidates in planning for pedagogical, curricular, or dispositional change in their practice. For pedagogical change, the teacher candidates focused on instructional planning and classroom management. A well-taught lesson requires the teacher candidate to thoughtfully make decisions about the standards they will teach, how the objectives and activities support the standards, and how to adapt the lesson for all learners. Lesson planning was difficult for some of the candidates, while others used planning to their advantage. Some of the candidates found a dissonance between the beliefs they formed about classroom management while at the university, and the reality of the field. Others recognized the complexity of incorporating the varied aspects of teaching. The teacher candidates connected to the InTASC content knowledge standards to address curricular change. They indicated that it is important to better understand the central concepts in their curricular areas and learn how to connect concepts across disciplines. The themes of *Caring* and *Collaboration* emerged from the data to highlight their thoughts about dispositional change.

Research Question 3 examined how teacher candidates engaged in the process of reflection to deal with dilemmas of practice. The teacher candidates used written reflection to take the time to be thoughtful about how what they have learned through their coursework related to the experiences they were having in the field. They also expressed the importance of being able to reflect on other people's perspectives about their work. Furthermore, they discussed how video could serve them as a reflective tool. Additionally, the teacher candidates reflected informally to make adjustments to their teaching.

The themes from this chapter are explored in detail in Chapter Five. Specifically, the relationships among themes, connections for research literature, and recommendations for future research are discussed in Chapter 5.

CHAPTER 5

DISCUSSION

Introduction

Chapter Four included the findings of the study. The purpose of this chapter is to discuss the findings and their implications. This research was completed to gain an understanding of the reflective practices of elementary teacher candidates during their clinical experience. The participants were six teacher candidates in the seventh semester of an eight-semester teacher education program. Common Core aligned lesson plans, Critical Incident/Help Seeking Forms, digital videos, and small group interviews were used as qualitative guidelines for this study and were merged to reveal how teacher candidates reflected on their self-identified critical incidents.

This chapter is comprised of four sections. The first section contains an overview of discussion based on data, organized by the research questions that guided this study. The second section consists of implications for teacher education programs and teacher candidates. The third section identifies recommendations for future research. Additionally, this chapter will also address the limitations of this study, and conclusions shared by the researcher.

Research Question 1
How does reflection upon critical incidents assist teacher candidates
in connecting theory and practice?

Teachers act according to theories about teaching and learning. Teacher candidates are beginning to construct their own personal theories of education based on what they have learned in their teacher education coursework and from their clinical experiences. While the teacher candidates in this study did not make explicit connections to educational theories, they did make implicit connections to best practices in teaching. Best practice is considered as the current research-based standard of instruction steeped in theory. The themes that emerged from the data represent those best practices.

Student-Centered Teaching

Effective educators must have understanding and control of differing models of teaching/learning (Joyce, Weil, & Calhoun, 2000). Teacher candidates need to consider individual learning styles, developmental stages, and student interests when planning. “Putting students first,” as Taylor stated, is easier said than done. Shifting the focus while planning from the teacher’s point of view to planning with students’ needs in mind is difficult for teacher candidates. It is easier for them to plan when they are simply thinking about what they will say or do. This might have been why Taylor and Ashley struggled in planning student-centered lessons, even though they espoused beliefs about the importance of student-centered teaching. Student-centered teaching is a concept that they have been exposed to in their teacher education program. Pajares (1992) posits that when faced with new situations, teachers will fall back to their old beliefs and experiences. Nespor (1987) argued that people’s beliefs are far more

influential than their knowledge in determining how they define problems, and that beliefs are much better predictors of their behavior. The teacher-centered classroom is objective driven, while the student-centered classroom is standards driven. This requires teacher candidates to use formative assessment and knowledge of students to determine what and how students are encouraged to learn. Scaffolding students in how to learn and motivating them to want to learn also takes precedence in a student-centered classroom. Scaffolding is a very demanding form of instruction (Pressley, Hogan, Wharton-McDonald, Mistretta, & Ettenberger 1996). This can be challenging for teacher candidates to balance as they are just learning how to be the authority in the classroom (Dennon, 2004). At the same time, student-centered teaching requires the teacher to relinquish control, to some extent, to the students creating a dilemma for teacher candidates.

One reason Ashley, who valued student-centered teaching, struggled in her implementation was due to her perception of limited classroom time for small group work, discovery methods, and project-based learning. This idea is supported in Kennedy's (2005) study that emphasized the difficulty of time management faced by elementary teachers. Teachers tried to implement strategies that allowed for greater student intellectual engagement, but this strategy often delayed task completion. When task completion was threatened, teachers resumed control of class time. Similarly, early studies of technology implementation (Berg, Benz, Lasley, & Raisch, 1998; Ertmer, Gopalakrishnan & Ross, 2001) indicated that teacher's enacted beliefs, represented by use of classroom technology, often did not align with espoused beliefs. Teachers with constructivist beliefs exemplified this idea using technology to have students complete drill and practice games or fill-in-the-blank computer-generated worksheets (Ertmer, et al.) instead of using technology to create student-generated content.

In contrast, Megan believed that it was important to plan engaging activities for her students to sustain their interest in a novel unit. One way she accomplished this was by asking her students for feedback on activities as her unit progressed. This is supported by O'Mahony's 2003 study, which found talking with students representing different groups of learners provided teacher candidates with insights, not only into how children are thinking, but also how teachers' expectations might impact how students process the school experience. These insights help the teacher candidate focus on student learning rather than his/her own actions. Bell and Aldridge (2014) found when teachers reflect on student feedback, it is likely that teachers will make changes to the learning environment that students perceive as more favorable. Students in their study commented that since the teacher listened to their feedback, they believed the teacher was really trying to help them improve (Bell & Aldridge).

While Jamie, too, focused on student interests, she was also concerned with planning lessons that suited student-learning styles. Focus on learning styles has often attempted to make style matches between students and experiences or teachers and students (Banks, 1995). However, it is important to realize that a student's style is not a static trait independent of task or context (Gutierrez & Rogroff, 2003). So, it is consequential for teacher candidates to ensure that students have varied learning opportunities so that individuals or groups are not rigidly typified. Jessica strove to incorporate different styles of teaching and learning during her clinical experience to aid student learning. Linda Darling-Hammond (2006), speaking about teacher candidates, stated, "They must become, in a sense, researchers about their own students, skilled in ferreting out students' thinking and reasoning" (p. 200). In trying to implement various strategies, these teacher candidates began to understand that learning is active mental work, not

passive reception of teaching and that they had to use their knowledge of the students to plan effective lessons (Woolfolk 1993).

Social Emotional Development

The role of the teacher was a concern of Emily's. Through her clinical experience, she began to realize that teaching encompasses much more than planning and delivering instruction. Supervision by the cooperating teacher and university supervisor assists teacher candidates learn how to make sense of the many roles a teacher has to assume (Goldstein, 2005). Recent studies found prompting teacher candidates to express their concerns, including emotional needs, helps them process their learning experiences (Goh & Matthews, 2011; Stoughton, 2007) during the clinical experience. This assists them in the development of their teacher identity. Teacher candidates must learn how to manage role conflict and ambiguity so it does not lead to emotional distress that could cause them to be less effective in the classroom (Schwab & Iwanicki, 1982).

Additionally, all of the teacher candidates were concerned with the importance of developing student self-esteem. Development of self-esteem in the student community begins with the teacher. Teacher identity plays a role in developing self-esteem in students. When teachers have a strong sense of self, it has positive impact on student achievement (Jenlink, 2014). Research has demonstrated a correlation between a student's perceived self-efficacy and their performance in school (Pajares, 1996; Snowman, McCown & Biehler, 2012) Furthermore, Moote and Wodarski (1997) stated that building self-esteem in children is supported by research to be a preventative method in education that can decrease behavioral issues and academic struggles. There are a number of variables to consider when building self-esteem in students. Diversity in classrooms requires the teacher candidate to consider issues of racial/ethnic

identities, gender roles, socio-economic status, and disabilities relating to their students.

White teacher candidates must recognize non-white students' action and language in the

classroom as valuable cultural capital (Goldenberg, 2014). Teacher candidates must regard

gender-linked differences in specific attitudes, styles and content of student work (Arnot, 2006).

Teacher candidates' knowledge of students' social associations may be helpful to teachers as they

endeavor to capitalize on and improve the social dynamics of their classrooms. (Pearl, Man-Chi,

Van Acker, Farmer, & Rodkin, 2007). Teacher candidates should attend to appropriately

differentiating so as to avoid inappropriately slow pace, low challenge, or an unfairly low share

of teacher attention for any student (Litvack, Ritchie, & Shore, 2011).

In this study the teacher candidates were interested in how their cooperating teachers were able to create a positive classroom environment that enhanced students' ability to learn.

They observed that students had easy camaraderie, helped others, and were open in their

communication with each other. One of the indicators of a positive classroom environment is

equity. Equity usually implies fairness or a resulting equality of outcomes (Nieto, 2000).

Knowledge of students is a contributing factor. Teachers who have an awareness of student

skills, talents, and experiences are more likely to create an equitable environment, as elementary

students have an expectation for their teacher to model fairness in the classroom (Levin &

Matthews, 1997). Cohen and Lotan (1997) assert that teachers who are aware of classroom

status and use this understanding when designing learning experiences affect student learning

positively. These examples corroborate how critical it is for teacher candidates to be aware of

the role social-emotional development plays in effective teaching.

Research Question 2

How does reflection assist teacher candidates in planning for pedagogical, curricular, or dispositional change in their practice?

Pedagogical Change

The teacher candidates in this study all planned lessons they would teach during their clinical experience. This instructional planning as a task in and of itself allows teacher candidates the chance to actively construct their pedagogical content knowledge (Shulman, 1986) through the intersection of theory, pedagogy, and values. Taylor and Emily both needed a stronger command of content knowledge in the area of reading, while Ashley had command of the content, but not the pedagogy. Taylor needed to be able to define plot for her students and explain how it related to the structure of a story. Emily needed to have a better understanding of phonics, specifically r-controlled vowels, so she could explain the rules and exceptions to her students. When the teacher does not have command of the content, the students will not easily learn it. This struggle is supported in Livingston and Borko's 1989 study comparing/contrasting expert and novice teachers. Teacher candidates were not as successful in translating their plans into action. Just as the teacher candidates in this study, they had difficulty relating concepts in a cohesive way (Livingston & Borko). While Ashley had command of reading content in her lesson on signal words, she did not have the pedagogical skill to make the lesson more student-centered, as fit her teaching values. Conversely, not all of the teacher candidates had complications in their lessons. Jamie's work did not follow this pattern. Through her anticipation of student misconceptions and student questions in her lesson plan (similar to what expert teacher were able to do through a mental plan), she was able to more easily make these connections for students, thereby creating a more student-centered lesson. Megan's lesson was

successful because she took time to provide students with sentence starter posters to stimulate academic discourse in the classroom. Nippold (1999) posits that helping students plan what they are going to say before they say will help them be more confident in their participation. This strategy is also a best practice for English Language Learners (Nisbet & Tindall, 2015). Jessica planned a lesson that required her to be aware of the students' Zone of Proximal Development so she could provide appropriate scaffolding (Vygotsky, 1978). Jessica started her lesson with formative assessment, so she would have a good idea of how well the students in her classroom understood context clues. Formative classroom assessment is a powerful instructional process because the practice of sharing assessment information that supports learning is embedded into the instructional process by design (Clark, 2015). This knowledge allowed her to know how much support students needed from her as well as strategically pairing students (Black & Wiliam, 2004).

As the teacher candidates reflected on the classroom management systems in their clinical experience placements, they were considering how the theories presented in their teacher education coursework compared/contrasted with the reality of the classroom. Based on the comments of all of the participants, I inferred that the university promoted a positive, preventative classroom management schema, but many schools are closer to the reality of Emily's building with school-wide management programs that rely on using checklists and data to monitor student behavior. Many schools have implemented a Positive Behavioral Intervention & Support (PBIS) plan that resembles the management program Emily talked about. While the premise of a PBIS program is good, the program itself can only be successful if it is implemented with fidelity and related to improved social and academic outcomes for students. While PBIS has been supported in literature (Bradshaw, Waasdorp, & Leaf, 2012; Ross, Romer, & Horner,

2012), it has detractors who believe it can undermine the decision-making and discipline practices of individual teachers who are more likely to rely on relational rather than behavioral methods of classroom management (Irby & Clough, 2015).

Two of the teacher candidates, as they took on more responsibility for the whole classroom, found that they had to manage a number of tasks at one time. They were not just teaching: but attending to student learning, monitoring other students, paying attention to the schedule, and answering student questions. Due to the complexity of teaching, teachers have to make many decisions throughout the day. Doyle's 1986 research indicates that a teacher makes about 500 decisions every day. This can be challenging for a teacher candidate. Due to the public nature of teaching, any errors made are compounded by their visibility (Eggen & Kauchak, 2007). These rapid decisions require teacher candidates to simultaneously process any pertinent information, requiring teacher candidates to reflect-in-action (Schön, 1983).

Jessica also found managing student behavior needs to be as personalized as planning for academic learning. It is important to be sensitive to individual personalities and needs when disciplining students. Students in classrooms with sensitive teachers are more engaged and self-reliant in the classroom than those with less sensitive teachers (Rimm-Kaufman, Early, & Cox, 2002). This is an extension of attending to students' needs and interests when planning, which in itself is an approach that reduces misbehavior and encourages positive behaviors (Schechtman & Leichtentritt, 2004). For example, Jamie noticed that her cooperating teacher used basic management skills, and modified them to relate to specific situations (Evertson & Weinstein, 2013).

Curricular Change

Taylor learned how important it is to teacher candidates to have a command of the content they are teaching. Haverback and Parault (2011) found that teacher candidates gained content knowledge in reading by observing the cooperating teacher during a clinical experience. While it is difficult for teacher candidates to assimilate everything in a classroom for the short period of time they participate in a clinical experience, it is imperative to master the content they are responsible for delivering to students. This basic understanding is a prelude to Jessica and Megan's identification of the importance of connecting concepts and engaging learners. They realized there are a number of ways to present content knowledge, yet understood that to find the right combination of resources and strategies, it was crucial to look to the students in the classroom to assess their needs and interests to plan successful lessons. Findings from a study carried out by Postholm (2008) showed that when teachers question their own practice as they are planning for instruction, they are able to transcend their teaching, to think of and see new things. Unlike Jessica and Megan, Ashley was concerned that there are too many lesson resources to choose from. I believe that once she begins to focus on her students' needs and gains confidence in her decision-making, this will become easier for her. Additionally, schools often have preferred resources for teachers to use, so there would not be as much need to search through resources as she goes into the field.

Dispositional Change

Five of the teacher candidates noted expressions of caring they wanted to introduce or fortify in their practice. Emily hopes to invite families into her classroom because she saw how

much the children and parents benefitted from the visits. Nel Noddings (2005) encourages the blurring of lines between the school and the home. She urges that teachers make parents feel welcomed in the classroom. This extends the circle of caring beings to guide children intellectually and interpersonally (Noddings, 2005). Ashley felt that children should be made to feel competent and capable by treating children with respect. Quality interactions between students and teachers increase student engagement and lead to gains in learning and social development (Pianta, Hamre, & Allen, 2012). Positive relationships between students and teachers can contribute to students' immediate and long-term behavior change (Catalano, Berglund, Ryan, Lonczak & Hawkins, 2002; Schaps, Battistich, & Soloman, 2004). Jessica fostered competence and capability through her instruction. Use of the gradual release of responsibility model enables students to build their social and academic competence by holding students accountable and allows them to reflect on their own cognition (Fisher & Frey, 2013). Megan demonstrated her caring through incorporating student interests in her instruction. Osterman (2000) found that incorporating student interests into instruction influences their sense of community leading to increased motivation. Additionally, there is growing recognition that curriculum adaptations, which incorporate student interests, can significantly influence the behavior of students in classroom environments (Clarke, et al., 1995). Jamie considered the many roles a teacher plays in the lives of children as caring. Literature speaks of the metaphor of teacher as the invisible hand (Farmer, Lines, & Hamm, 2011). They argue that the teacher is the one professional in a child's life who has the opportunity to view the whole child within their context. The teacher is the primary architect of the classroom context, a context that surrounds and regulates interactions within it (Pianta & Walsh, 1996). Teacher practices also establish the social-emotional climate of the classroom, creating norms and shared expectations for how

students relate to each other (Battistich & Horn, 1997; Wentzel, 1999). Teachers have a responsibility to care about their students. Similar to this study, teacher candidates who express the disposition of caring are beginning to become aware of how their values affect what they accomplish with students (Schussler & Knarr, 2013).

Research Question 3

In what way do teacher candidates engage in the process of reflection to deal with dilemmas faced in professional practice?

Collaboration helps teacher candidates with the process of reflections. For teacher candidates preparing for student teaching, clinical experience can be exhilarating and emotionally draining at the same time. Teacher candidates require a support system to share the triumphs and trials with. This starts with the other members of the triad: the cooperating teacher and university supervisor, and additionally includes other teacher candidates, trusted professors, family, and friends.

As I compared the findings from my study to Hsu's (2005) study on the help seeking behaviors of high school student teachers, I found that the results were similar in all aspects except the number of requests for help. Help requests in Hsu's study ranged from 1-38, whereas in this study the requests ranged from 3-11. Peers were approached for assistance in 41% of the requests in Hsu's study with a comparable 39% of requests in this study. Hsu's student teachers asked cooperating teachers for advice 15% of the time, and in 21% of the requests by the teacher candidates in this study. The teacher candidates approached trusted professors in 18% of the requests. Hsu did not include this category. The university supervisor in both of the studies was called on for assistance the least, with 2% of the requests from Hsu's student teachers and 6% from the teacher candidates.

Teacher candidates look to those in this group when they need guidance to assist them with any number of difficulties that might keep them from being most effective in the classroom. The supporting members of the triad have an important role to serve as mentors and models of self-regulation to scaffold teacher candidates during challenging times when help is needed (DiBenedetto & White, 2013). Preservice teachers who prefer to seek help from peers tend to not seek help from their instructor (Bembenutty, 2006). This differed from my findings. Only one teacher candidate in this study reached out to the university supervisor, but she also contacted peers five times for assistance. Four of the teacher candidates asked university professors for advice, while one candidate relied solely on the advice of her cooperating teacher. Bembenutty found teacher candidates with a positive attitude toward help seeking are those who tend to delay gratification, have high self-esteem, and low tendency to engage in self-handicapping behavior. These are all positive traits for teachers to have. As high quality induction and mentoring programs are becoming scarcer due to lack of funding, novice teachers will increasingly need to rely on building their own networks of help in the field.

Collaboration with others is expected in the profession. Collaboration increases feeling of competency and job satisfaction (Zahorik, 1987). Teacher candidates are exposed to different school settings through their clinical experiences, introducing them to the differing styles of collaboration. Personal factors of successful collaboration include trust, relationships, and routine communication (Friend & Cook, 2007), all of which take time to establish, which can be limiting in a short clinical experience. Teacher candidates and novice teachers might be shy to collaborate with others because they fear that they have little to offer. With increased pressure to perform, teacher candidates need to be willing to reach out to others to build relationships that ultimately have the promise to make them better teachers. Teacher candidates are obliged to

evidence the disposition to collaborate with peers, supervisors, and parents in order to enhance student learning. Four themes emerged from the data.

Written Reflection

Teacher candidates were prompted to reflect on their lesson plans before they actually taught them. The university supervisor encouraged the teacher candidates to discuss aspects of the lesson plans during class then write a reflection on the lesson plan. Reflection on these lesson plans enabled the teacher candidates to examine with peers why they selected a particular lesson. They considered how the objectives supported the standards, whether it would be relevant to the students they plan to teach, what strategies and supports were planned, and what kind of assessment they would use. They were able to do this with people they have shared coursework with, so there was a common understanding; yet, classmates also have taken courses, have interests, or experiences that might provide unexamined insights into the lesson plan. Through this discourse, Emily and Ashley found ways to improve their lessons and deepen understanding about educational concepts they were having trouble with.

Four of the teacher candidates found the weekly journals they wrote, as part of their classwork, beneficial. The other two candidates did not mention these assignments. One of these candidates, Emily, stated that she did not find value in written reflection. Schweiker-Marra, Holmes and Pula's study (2003), found that preservice teachers who used reflective journals as part of their teacher education program improved their reflective thinking. Ashley, Taylor, and Jamie appreciated the structure of the activity. Reflecting on experiences in the classroom reinforced the concept that self-reflection with these teacher candidates as a way to construct meaning from that work. Similar to what Moon (2004) found, reflective engagement

helped these teacher candidates actively consider and reconsider beliefs and practices that allowed them to move toward metacognition in teaching and to improve their ability to monitor the decisions about what and how they teach. Other findings suggest that the reflective journal may be an effective tool in helping students become deliberative about their teaching (Bolin, 1998). Spalding and Wilson (2002) encourage students to identify pedagogical growth they make through studying their written reflections.

Reflecting on Others' Perspectives

Emily, Jamie, Megan, and Jessica all found that they were able to think about how to improve their practice by paying attention to the perspectives of the people they came into contact with during the clinical experience. For example, one way the university supervisor scaffolded the teacher candidates' reflection on the cooperating teachers' feedback was through the use of small sheets of paper that the cooperating teacher would offer comments on one side, and the teacher candidate would write a mini-reflection on the other side. The paper was small to keep the comments short, so the reflection was brief, but over time, there were many opportunities to think about what the cooperating teacher noticed. This task took into account key cognitive and emotional domains such as keeping the activity challenging but not impossible, monitoring efforts, developing self-regulation and self-confidence, and structuring to prevent failure (Lepper & Hodell, 1984).

In Megan's case, her cooperating teacher's supervision was more focused. She gave Megan feedback on her questioning. Over the course of a week, Megan kept working to make improvements based on her cooperating teacher's comments. Megan concentrated on applying the critique to her teaching. She was motivated to improve her performance by taking feedback

from someone she trusted and admired. The fact that Megan held her cooperating teacher in high esteem, prompted her to accept the critique in a positive way that inspired growth in her work. Davydov (1995) described this kind of social interaction as a true collaboration between persons, in which the cooperating teacher guides, directs, and encourages the teacher candidate's activity and reflection. This should not be interpreted as the cooperating teacher forcing or dictating her will on Megan, but as a way to help Megan improve her practice.

Jessica understood that it is important to pay close attention to feedback from others. She saw value in having professional discussions about teaching. According to the Vygotskian theory, "situated cognition of coursework occurs during the situated activity of fieldwork" (Samaras, 2000, p. 19). Based on this Vygotskian principle, both social interaction and social mediation aid in the development of knowledge (Samaras, 2000). Jessica realized that the context for learning document she completed in class helped her become aware of the particular needs of students in her class. This encouraged her to consider the supports and strategies that would best fit these students to plan and execute meaningful instruction. Jessica valued her cooperating teacher's feedback. Jessica consulted her cooperating teacher twice for advice about her critical incident. Jessica also spoke of the informal conversations with her cooperating teacher about events that transpired in the classroom. These conversations allowed Jessica to clarify her thinking for deeper reflection at a later time. She also realized that being open to considering feedback and discussing it with administrators or mentors was a valuable tool that she would carry forth as she grew professionally.

Video as a Reflective Tool

Use of digital video can inspire teacher candidates to analyze his/her instruction and view teaching in an objective light. In this study, teacher candidates recorded one lesson they planned, identified a critical incident, and reflected on it. Two of the teacher candidates felt that the use of video in this study was most significant in making them aware of their performance in the classroom. All of the teacher candidates in this study were able to discern aspects of their practice that they probably would not have considered without video evidence. For example, in a study focusing on self-reflection conducted by Welsch and Devlin (2007), pre-service teachers were asked to prepare written reflections derived from both memory and video of their class-based teaching practices. It was found that the teachers preferred video-based reflection to memory-based reflection. They also perceived that reflection on video recorded lessons is an effective way to identify the strengths and weaknesses of their teaching skills and helped them reflect on the extent of student learning, success of the methods, and how they would adapt future teaching. Lazarus and Olivero (2009) found that traditional forms of reflection had little impact on supporting a new teacher's understanding and view of classroom practice. They further argue that viewing video of one's own practice offered a different perspective on teaching and supported more productive forms of reflection. Similarly, Rosaen, Lundeberg, Cooper, Fritzen, and Terpstra (2008) found that video-supported reflection, compared to memory-based reflection, enabled teacher candidates to shift their focus of reflection from superficial features of classroom management to pedagogical issues. While the teacher candidates in this study reflected on their digital video in a solitary fashion, other researchers have found that uploading video to a website for a community of teacher candidates to comment on facilitates reflection.

Cheng and Chau (2009) examined the use of video reflection within a community of students shared through ePortfolios. They found that video could support richer, more focused reflections by teacher candidates. Additionally, they found the creation of video reflection to be a powerful motivator when coupled with peer comments. Furthermore, reflecting on digital video through video editing has proved to be successful in stimulating reflection from teacher candidates on their work, especially interpreting the meaning of their instruction (Sherin & van Es, 2005; van Es & Sherin, 2002). Calandra, Brantley-Dias, Lee, & Fox (2009) found that teacher candidates who edited their videos and used a video-enhanced reflective process wrote longer, more pedagogically connected reflective narratives than teacher candidates who did not use video to stimulate reflection. The use of video as a reflective tool holds considerable promise for teacher educators to use with teacher candidates during their clinical experiences.

Informal Reflection

Informal reflection offers an alternative to structured reflection often assigned in classes. Emily, Ashley, and Jessica practiced informal reflection to gain insights into their practice. They viewed this type of reflection as only part of their reflective process. Many studies have found that informal reflection is an important aspect of reflection. Klein (2008) suggested that informal reflection should be cultivated in teacher candidates to tap into their imagination to solve dilemmas of practice. Komur and Cepik (2015) found that diaries allow teacher candidates to reflect on their teaching along with its place within the rest of their life. The inclusion of the affective domain is also an aspect of informal reflection; personally meaningful topics and the resultant emotions attached to them are accepted as personal forms of expression for teacher candidates. Jessica's informal conversations with her cooperating teacher are supported by

Shoffner's (2008) research on reflection. She found informal reflection encourages collaborative communication during reflective practice, since "interaction with others offers alternative meanings, encourages new understandings and provides support to engage in reflection" (Shoffner, 2008, p. 129).

How Teacher Candidates Reflect

The teacher candidates reflected on their self-identified critical incidents. Table 10 encapsulates and explains how the teacher candidates, as individuals and as a group. A narrative summary follows. Table 10 gives an overview of how the teacher candidates reflected using van Manen's (1977) typology, Tripp's (1993) framework, and Schön's (1983) approach to reflection along with Killian & Todnem's (1991) extrapolation.

Summary

Five of the six teacher candidates reflected technically (van Manen, 1977; Day, 1993; Farrell, 2004; Hatton & Smith, 1995; Valli, 1997) as do most teacher candidates. This is supported in the literature on the development of teachers (Valli, 1997; Zeichner & Tabachnick, 2001). Technical reflection is consistent with the behaviors of these teacher candidates. They described their performance as well as looked at the technical aspects of their teaching. Additionally, and understandably, they were concerned with how they would be judged by their university supervisor and cooperating teachers. Jessica and Jamie were the only teacher

Table 10

Critical Incidents and Specific Types of Reflection

Teacher Candidate	Critical Incidents	van Manen (1977)	Tripp (1993)	Schön (1983) Killian & Todnem (1991)
Ashley	Letting go of attention on her own teaching performance to focus on students' learning	Technical Reflection	Technical/Procedural	Reflection-on-action Reflection-for-action
Jamie	Using overly casual language	Technical Reflection Practical Reflection	Technical/Procedural Practical/Effectual Practical/Evaluative	Reflection-in-action Reflection-for-action
Emily	Realizing the importance of detailed lesson planning Appearing to lack enthusiasm for teaching	Technical Reflection	Practical/Procedural Practical/Affectual	Reflection-on-action Reflection-for-action
Taylor	Rectifying unclear teaching	Technical Reflection	Practical/Causal Practical/Affectual	Reflection-on-action Reflection-for-action
Megan	Sustaining student interest throughout a novel unit	Technical Reflection	Practical/Affectual Practical/Explanatory Practical/Evaluative	Reflection-on-action Reflection-for-action
Jessica	Incorporating a student in the delivery of instruction	Practical Reflection	Practical/Personal Practical/Explanatory	Reflection-in-action Reflection-on-action Reflection-for-action

candidates to reflect in a practical way (van Manen, 1977; Larrivee, 2008a; Jay & Johnson, 2002; Mezirow, 1990). Jessica specifically connected her work to a pedagogical theory and used the classroom context as a consideration for how she would apply the theory. Jamie connected her incident to what she had learned about lesson planning using Madeline Hunter's method and thought about possible misconceptions the learners might have and how the students might answer her questions.

Tripp's (1993) framework examined how the teacher candidates used professional judgment when reflecting on their critical incidents. Three of the teacher candidates used practical judgment, focusing on the procedures they implemented during their critical incidents. One teacher candidate, Jamie, considered the effects of her lesson for students. Two of the teacher candidates were very concerned with how others would evaluate them based on their actions. Three candidates reflected affectually, thinking about how the incident made them or their students feel. Taylor reflected about the cause of her critical incident trying to understand what she could have done to better explain plot to her students. Jessica reflected in a personal way. She was pleased that her lesson transpired as she had envisioned it as she planned. Megan and Jessica both analyzed how they arrived at the outcomes of their lessons.

All of the teacher candidates reflected-on-action (Schön, 1983), looking back at their critical incidents to gain understanding of how events unfolded. Two of the candidates reflected-in-action (Schön). Reflecting-in-action entails thinking on one's feet, immersing oneself completely in the context of the classroom, making decisions based on the responses of the

students. All six of the teacher candidates reflected-for-action (Killian & Todnem, 1991), gaining insight on how to use this particular experience to inform future practice.

None of the teacher candidates reflected critically in this study. While candidates did express an awareness of the social issues that negatively impact students and schools, the critical incidents they specifically identified were more personal and less global in nature. This does not mean that they are incapable of reflecting critically if intentionally coached to do so.

Ashley noted that she often thinks about students who live in poverty or have social struggles. She felt that these students need to be exposed to a trusting, compassionate environment at school. Her disposition is on point, but she needs assistance to further consider how she would act to make this so. Once Ashley has achieved this, she needs to be encouraged to think about how she could join with like-minded others to widen her influence. Emily saw value in home-school connections. An intentional conversation focused on leading her to make deeper connections about how this practice could contribute to her increased understanding of how a warm relationship between the teacher and parents can contribute to increased student success. The dialogue could be taken to the next level to consider the potential of the school as community center. Megan attempted to get to know her students better as a way to design activities that would engage them. This is a good starting point, but her thinking could be stretched to begin to consider how these student interests can be thought of as assets to engage students in a deeper and more authentic way. This could lead to a further discussion of the importance of understanding that differences are not deficits. Jamie spoke about the breadth of the teacher's role. She wanted to be everything for her students. While this is a lofty goal, Jamie needed to be coached to consider how she needs to learn how to work with other professionals in the school to meet students' needs. Jessica, too mentioned her concern for keeping students'

social-emotional needs in mind while meeting their instructional needs. Going deeper, they could be prompted to think about how to get involved with groups like the Parent-School-Association or Boy/Girl Scouts to identify and provide opportunities for students. Taylor could be prompted to reflect deeper about her unclear teaching episode. She could be asked to consider why it occurred, and what she could have done to be more prepared. This could lead to a deeper conversation about the importance of understanding how the Common Core Standards have influenced teaching. Emily would need the most scaffolding to try to bring her closer to a critical type of reflection. Showing enthusiasm for teaching had been a motivational strategy studied during the assessment course. She could be asked to revisit those strategies and identify why they are important and how they could be implemented. Emily used a premade Reading A-Z lesson, so she had not been highly engaged with preparation of the lesson. The cooperating teacher might have a conversation with her to ask how she might have made revisions to the lesson that considered the needs and interests of the students as a way to make a stronger connection with them.

As teacher candidates, these young women are beginning to build their teacher identities. At this point in their education, developmentally, they are more focused on their own behaviors. Most of them were on the verge of moving to the point where they shift focus to student needs, rather than their own. They were still learning about making the metaphorical move from one side of the desk to the other. They might have felt restricted by limited experience, pre-existing beliefs, or lack of confidence. I am not convinced they felt they had sufficient academic authority to believe they could influence the larger community, even though they were socially concerned. They have not, thus far, been able to connect their personal stories to larger social and cultural contexts.

Implications

Important educational implications are derived from the results of this study. Teacher education programs are called to make significant adjustments in the way they prepare teacher candidates for certification. Additionally, there are higher expectations of and greater demands upon teacher candidates to effect student learning. The findings from this study indicate teacher candidates are cultivated to become reflective practitioners through their teacher education program. However, their reflections could be strengthened by strategically incorporating a variety of reflective assignments in teacher education programs.

Teacher Education Programs

Most teacher education programs emphasize reflection as a tool for teacher candidates to grow and personalize their understanding of the complexity of teaching. My research indicates the students in this program had many productive prompts for reflection. Through examination of the data from this study and research relating to reflection, the findings suggest that universities can leverage reflection in a number of ways that would benefit teacher candidates.

Universities need to encourage cooperating teachers and university supervisors to nurture teacher candidates to implement strategies they have been exposed to through their coursework. Observation of the cooperating teacher during the clinical experience should be devoted to teacher candidates analyzing and reflecting on how particular methods of teaching impact student learning to gain insight on how teacher decision-making effects classroom practice (Rajuan, Beijarrd, & Verloop, 2008). In this study, Jessica's cooperating teacher forthrightly encouraged Jessica to implement strategies that were in line with her beliefs within a supportive

environment. This attitude, on the part of the cooperating teacher, gave Jessica confidence to exert her own approach to teaching.

Teacher education programs must provide a variety of methods to assist teacher candidates learn how to reflect on their work. This must be done to facilitate the teacher candidate in identifying his/her own particular reflective needs (Grushka, McLeod, & Reynolds, 2005). Teacher educators need to take notice of students as individuals, differentiating to help teacher candidates understand how their personal beliefs and motivations shape their practice (Norsworthy, 2009; Ramsey, 2010). Ellis (1991) identified different styles of self-reflection: thinkers, writers, talkers, and conversations with oneself. Taking this into consideration, the structure of the reflection may play a more important role than previously thought (Pultorak & Barnes, 2009). Therefore, there needs to be a variety of possibilities for candidates to select from once they have had enough experience to identify their preferred method of reflection. Additionally, teacher educators must scaffold reflective writing for teacher candidates (Mair, 2012; Lai & Calandra, 2010.) Zeichner and Liston (1996b) suggest that a reflective task take into account the teacher candidate's awareness of values and biases, the institutional and cultural context of the classroom/school, and come to choose a course of action to solve any inherent dilemmas. Teacher candidates need to be prepared for the discomfort that reflection can sometimes cause, and that this discomfort leads to cognitive growth and behavioral change (Larivee, 2008b).

Since the candidates considered using digital video as a prompt to reflection valuable, teacher education programs should contemplate how to utilize video in the best way possible to support teacher candidates. Technology can be a viable option to increase access to quality classrooms, embodying types of pedagogical practices consistent with educational reform, and to

encourage teacher candidates to explore new ideas in a safe environment. For example, teacher candidates can be exposed to exemplary teaching through watching video examples of specific strategies being used in the classroom.

One resource is the National Board for Professional Teaching Standards, which has recently introduced Accomplished Teaching, Learning and Schools (ATLAS) for use by universities and school districts. ATLAS offers a searchable video library of exemplary teaching episodes that have been submitted by National Board Certified Teachers. The library of teaching cases can be sorted by grade level span, subject area, size of school, and school setting. They are presently aligned to Common Core Standards in English Language Arts and Math, and will soon be aligned to NEXT Generation Science Standards. They offer video along with the document that explains the thinking behind the teaching. Every Board Certified teacher featured has identified a critical incident or choice s/he made during the instruction that impacted the direction of the lesson in the reflection document for each teaching case. The National Board is presently developing resources to support the use of these cases in pre-service education programs. I believe this would be monumental for teacher candidates to be exposed to exemplary practice to strive for. When teacher candidates have the opportunity to learn to observe, identify evidence, and analyze exemplary teaching they will more readily be able to make connections between theory and practice (Heitzmann, 2008). This is a scaffolding technique to help them see how theory translates to practice in others' work before they can apply and observe this in their own work. Teacher candidates can write group reflections, and then individual reflections to further scaffold the activity (Risko, Vukelich, & Roskos, 2009). Once teacher candidates have been trained to study teaching to identify evidence, they will be better able to reflect on digital video of their own work in the classroom.

In order for teacher candidates to use video more in their own fieldwork, it will behoove teacher education programs to incorporate how to use smart phones and tablets to unobtrusively record teacher candidates' work. Once they have recorded a lesson, teacher candidates need to learn some very basic video editing techniques, so they will be prepared to submit a video clip to edTPA. These videos can also be used for a variety of reflective activities. Fadde, Aud, and Gilbert (2009) suggest using a variety of editing prompts such as teacher oriented, student oriented, or identifying a particular teaching behavior in the video.

Video segments can be useful for purposes of supervision. The teacher candidate can prepare a segment to be shared with the university supervisor and cooperating teacher. The members of the triad can sit down and objectively analyze the video to identify positive actions and set goals for growth. After analyzing the video, a coaching plan can be set up to assist the teacher candidate improve specific aspects of his/her teaching, with the development recorded on digital video. Learning how to accept feedback from others is critical to growth in the teaching profession. Through watching the digital video, the teacher candidate gets to see what the other members of the triad are talking about, rather than relying on his/her memory of the event.

The teacher candidates in this study framed their critical incidents simply. This might have influenced the level of their reflections. This implies that to expect candidates to reflect critically, the incident itself needs to be framed in a more complex manner. A teacher educator could prepare a case with a complexly framed critical incident (video or narrative) to model complex framing. Use of an incident that supports course content knowledge would make the assignment one that connects theory and practice. The teacher educator would scaffold the teacher candidates by providing notes suggesting how they would prepare for a class discussion of the case. These notes would include strategies for case analysis, prompting teacher candidates

to reflect on particular aspects of the case that support the course objectives. If cases were incorporated in all content areas, teacher candidates would have many opportunities to reflect deeply about practice, codifying reflection as a professional norm. Discussing cases with teacher candidates before and after clinical experiences can help them learn to pay attention to and refine their perspectives about teaching.

Clinical experiences can be planned (when possible) so teacher candidates have an opportunity to engage first-hand with communities different from their own. The need to be exposed to and interact with diverse socio-cultural groups in order to be exposed to critical issues in schools. These clinical experiences can help teacher candidates confront the reality of their own preconceived biases and beliefs about inequality and justice issues (Nieto, 2000).

Teacher candidates need to understand developmental levels of students as well as the spiral of curriculum to be able to support students in the Zone of Proximal Development (Vygotsky, 1978). By having these understandings, teacher candidates can more easily recognize how to support individuals and groups of students. Teacher candidates have to understand students' social, emotional, physical, and language growth patterns as they work with a variety of grade levels during their clinical experiences. A practical book like *Yardsticks: Children in the Classroom Ages 4-14* (Wood, 2015) would be an excellent text for teacher candidates to use in preparation for clinical experiences and later when they have classrooms of their own. This book could also be used alongside a more theoretical text on childhood development, making intentional connections between theory and practice. A clear understanding of developmental milestones assists teacher candidates in planning learning tasks that have appropriate rigor.

The knowledge base of classroom management should be shared in teacher education

programs. In a study conducted by Clement (2002) 50% of a group of 48 cooperating teachers were unable to name an author or theorist on classroom management. This infers that cooperating teachers might not be prepared to assist teacher candidates in generating a theory-based classroom management philosophy. Teacher candidates should be exposed to classroom management approaches that focus on external/internal control of behavior, classroom community, discourse, curriculum, and interpersonal relationships (Wubbels, 2011). Then they will be able to begin to develop a personalized classroom management framework that they will be able to articulate as they enter the profession.

Fostering collaboration is a difficult task. Collaborating with supervisors and peers must be modeled for teacher candidates. Preparing teacher candidates for collaboration requires the teacher education program to embed content that provides instruction in communication skills and collaboration strategies. Teacher candidates who are working together in the same school can be trained in clinical supervision skills and carry out peer observations and reflective conferences (Shin, et al., 2007). Cooperating teachers' and university supervisors' communication with teacher candidates can be improved. Since the university supervisor is the teacher candidate's connection to the university, s/he should work to create group support opportunities for teacher candidate growth. Various ways of contacting teacher candidates can be encouraged, but face-to-face communication must still be supported. Teacher education programs need to continually seek new ways to assess the effectiveness of teacher candidate support. I noted that teacher candidates were reaching out to past professors for advice instead of going to their university supervisor. University supervisors need be cognizant of teacher candidates who have not checked in with them for assistance. This might signify that the teacher

candidate is avoiding asking for help to mask perceived failure (Rogers, 2002; Weasmer & Woods, 2000).

Cooperating Teachers

The cooperating teacher spends the most time with the teacher candidate during a clinical experience. The cooperating teacher is viewed as a role model by the teacher candidate. S/he plays a central role in the development of the teacher candidate, and needs to take this role seriously. While it might be flattering for the teacher candidate to blindly adopt his/her practices, it is imperative for the cooperating teacher to engage the teacher candidate in continuing conversations about practice. Teacher candidates should be encouraged to ask questions, observe and discuss their observations of methods, strategies, and classroom organization. The cooperating teacher should be open to asking about strategies and methods the teacher candidate has been learning about. One way that this can be done is through the use of co-teaching models. Reflection following these co-teaching sessions can be very rich, because both the cooperating teacher and teacher candidate are engaged as a team to provide instruction for the class.

Building a good working relationship with the university supervisor can make the teacher candidate feel supported. There should be a clear understanding of each member of the triad's roles and expectations. An attempt must be made by the cooperating teacher to understand the conceptual framework for the program the teacher candidate represents. These shared beliefs provide an understanding of the tenets of the teacher education program. The cooperating teacher and university supervisor should provide consistent messages for the teacher candidate. Power plays have no place in the triad. The cooperating teacher should employ the reflective

strategy in use at the university to provide continuity for the teacher candidate. If there are a number of teacher candidates in one particular school, the cooperating teachers could form a Professional Learning Community to inquire into how they can best support their candidates.

Teacher Candidates

If teacher candidates do not act on the beliefs about teaching they have acquired in the university setting (Lasley, 1980), these ideas will be tamped down by current practices in schools, perpetuating the status quo. Ashley, who believed strongly in student-centered teaching, did not plan and teach a lesson congruent with those beliefs. Then, as she reflected, was disappointed when the lesson was not as engaging for the students as she had hoped.

Instructional decisions made in the classroom should be influenced by the beliefs of the teacher candidate.

Guskey (1986) suggests that it is change in behavior that precipitates authentic change in beliefs. So, as teacher candidates' beliefs evolve, they need to have the opportunity to teach lessons that support these emerging beliefs in order to solidify them. They need to be stimulated to reflect on how the teaching behavior supports the belief. Otherwise, all they have learned in their teacher education program might devolve into status quo teaching through assimilation into the dominant culture of school. To be successful, schools need to be responsive to a changing student population. Teacher candidates have learned research-based teaching models through their teacher education program that support these changes, but if they are not encouraged to implement them through supportive relationships with cooperating teachers and university supervisors, they might learn to implement lessons that are counterproductive to the teaching-learning process.

Limitations

Patton (2002) states that, “There are no perfect research designs. There are always trade-offs” (p. 223). There were several factors that limited this study. It was limited by the experiences of the teacher candidates in one Midwestern university. Six teacher candidates volunteered to participate in the study. First, the data from the Critical Incident/Help Seeking Form was based on the self-reporting of the teacher candidates. I relied on the honesty of the participants, thus potentially limiting the accuracy of the study. The teacher candidates’ ability to be introspective weighed on the results, along with the possibility that they wanted to manage their teaching images so they would be viewed in a positive light. Consequently, I interpreted the participants’ perceived experiences, which may have diverged from their actual experiences. Second, this study looked at six teacher candidates who completed a four-week clinical experience during the semester before student teaching. This was a short period for them to become comfortable in the classroom. Third, it is difficult to generalize the results of a case study (Creswell, 2009). Although there is confidence that the themes reflect the experience of the participating teacher candidates, it may not be viable to generalize these themes to teacher candidates outside of this study. I had planned to use focus groups, but did not have enough members at each interview to qualify as a focus group, so I carried out small group interviews using the focus group protocol. Additionally, all of the participating teacher candidates were white females. The initial pool of 21 possible candidates had only one male and one African-American woman, so future research should reflect greater diversity in gender and ethnicity. Finally, data were captured after a four-week clinical experience over a short timeframe at the end of the semester, with the teacher candidates feeling stress about final projects and exams.

They were all moving away from campus for the last time to various locations to student teach during the next semester. The limited scope of this study suggests the need for an in-depth longitudinal study.

Future Research

Despite the robust findings, there are several areas related to reflection that require more attention. A study to find how teacher candidates' propensity for reflection changes over the course of their teacher education program would help teacher education programs address how to scaffold reflection for candidates. This would entail following a cohort of teacher candidates throughout their pre-service education. Baseline data could be collected to learn about the teacher candidates' beliefs and proclivity for reflection before their professional coursework begins. Interviews could take place at the end of each semester to ascertain how their ways of thinking change as they advance through their teacher education program. Follow-up studies could take place to learn how the teacher candidates continue to use reflection to shape their teaching practice once they have graduated and found employment. The use of a larger pool of participants would allow for greater generalization to other teacher candidates. Recreating this study at other universities with teacher education programs would provide insight into the similarities or differences of the themes that might emerge from the data.

Would the reflections carried out by the teacher candidates in this study been deeper had they been exposed to reflective frameworks like those of Sparks-Langer et al. (1990) or Tripp (1993) before identifying their critical incidents? Exposure to Sparks-Langer et al.'s framework would make them conscious of how to explain their critical incidents to substantiate the kind of knowledge they bring to the analysis. Exposure to Tripp's framework would assist them in

determining what questions they need to ask themselves to clarify what they are attempting to understand. An educative component prior to the study might have uncovered richer reflective profiles from the candidates that might have provided a greater understanding of their knowledge base about teaching.

My findings indicated that the university supervisor was the least consulted member of the teacher candidates' support system. Research should take place to investigate the role of the university supervisor as a member of the triad. Studies need to be carried out to learn how to enhance the relationship between the university supervisor and teacher candidate. Are there barriers inherent in the university supervisor's position to prevent them from interacting more authentically with teacher candidates? Is this due to a perception that the university supervisor's role of assessing and managing the paperwork that provides evidence of the teacher candidate's progress supersedes that of educating and supporting the teacher candidate in gaining command of pedagogical and content knowledge?

With the advent of a new path to licensure, it would be compelling to study the influence performance assessments like edTPA might have on the emphasis placed on reflection in teacher education programs. Teacher candidates could be studied to find out if edTPA had any influence on their teaching practices. What kinds of reflective structures would be most helpful to teacher candidates completing the edTPA? Would a community of practice assist the teacher candidates in proactively reflecting on their work as they respond to the edTPA prompts? Teacher candidates could be asked to reflect on the most challenging components of edTPA to assist teacher educators make needed shifts to address the knowledge base necessary to succeed on edTPA?

Conclusions

This study examined how elementary teacher candidates reflect to make theory to practice connections. The conceptual framework proposed that there are three distinct types of reflection. Teacher candidates could think about their work technically, practically, or critically. As these candidates were taking part in a four week clinical experience prior to student teaching, they were taking a step in their preparation toward being in the field full time. This is a stage in the development of teacher candidates where they are beginning to transfer the content and pedagogical knowledge they gained in their university coursework to the practice of teaching in the classroom. A reflective stance towards their work can aid this process.

As an aspiring university-based teacher educator, it is apparent that reflection as a disposition needs to be a significant part of any teacher education program because thoughtful, systematic questioning of one's practice helps build skill and confidence. It became clear that all teacher candidates cannot be expected to infer the important role reflection plays in their development as educators. Exposure to reflective assignments is not enough. Reflection is a skill that needs to be taught to teacher candidates in an intentional way. We can look to the literature to identify a reflective framework that will expose candidates to types of reflection and their purposes. Then we must help them make deliberate connections between the questions they ask themselves and how the answers to these questions can influence the choices they make in the classroom, and how these choices determine the scope of their work.

If teacher candidates envision their role as a teacher simply as one who can deliver prepared lessons from a manual, they will face a career where they might not be very fulfilled because they will always be at the mercy of the lesson plan that someone else developed. Their

students will suffer because the lesson plan was not written to embrace their specific interests and needs. Teacher candidates who view their role as one who connects with their students and provides them with interesting units of study that align with standards and will meet their needs as learners will be successful. They will know they are making a difference for their students. Teacher candidates with a greater vision who can take the next step, to question how the work in their classroom can connect with others in their school and beyond the school walls, have the potential to become change agents. Reflection is potentially powerful for educators. Continued emphasis on developing the disposition of reflection in teacher candidates through carefully coordinated coursework and clinical experiences will help them make these shifts in thinking that will influence the path of their careers.

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APPENDIX A
CONSENT FORM

You are being invited to participate in the research project titled “Teacher Candidates Reflecting on Critical Incidents to Connect Theory and Practice” being conducted by Anna Quinzio-Zafran, a doctoral candidate at Northern Illinois University.

The purpose of this research is to

1. Learn how teacher candidates use reflection on critical incidents to connect theory and practice.
2. Learn how reflection can help teacher candidates plan for pedagogical, curricular, or dispositional change in their practice.
3. Learn how teacher candidates engage in the process of reflection when faced with dilemmas of practice that have been identified as critical incidents.

I will be given the opportunity to plan and teach a lesson that you will digitally record (10-15 minutes of video). From this lesson you will determine a Critical Incident (‘oops,’ ‘ouch,’ ‘aha...,’ or ‘oh...’ moments that you experience during a teaching episode) and complete a form (which will take from 45 minutes to one hour) about the lesson. You will engage in a focus group with the researcher. This study focuses on traditional-aged teacher candidates in the semester prior to student teaching.

I understand that if I agree to participate in this study, I will be asked to follow and participate according to the following timeline.

You will be asked to plan a Common Core aligned lesson that you will teach during your field experience. You will need to pass out and collect student consent forms for recording your lesson. You will digitally record the lesson, review it, and select a Critical Incident that occurred during that lesson. Then you will complete the Critical Incident Form and e-mail the lesson plan, video in a generic format, and form to me. Following this, you will participate in a 60-90 minute digitally recorded focus group at a convenient time and location.

There are no foreseeable risks or discomforts associated with your participation in this study, other than the time that you invest completing the materials and attending the focus group. Benefits of this study include providing you with an opportunity to engage in a plan, instruct, and reflect cycle, and to assist teacher educators in understanding the complex thought processes of teacher candidates.

I understand that all information gathered during this study and throughout the entire dissertation study will be kept confidential by having all participants choose their own pseudonyms. Names on all documents will be redacted to ensure privacy. All paper documents, audio, and video recordings will be kept in locked storage at my residence for a period of ten years, and then destroyed. Selected participants will be urged to keep knowledge of other selected participants confidential, however, confidentiality among other participants cannot be guaranteed.

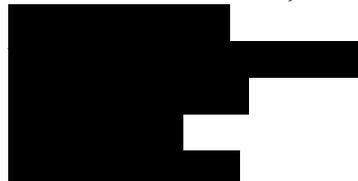
Participation in this study is voluntary. You are free to withdraw from the study at any time during the process, including after agreeing to participate. Refusing to participate in this study will result in no penalty or loss of benefits.

Any further questions about this study should be addressed to the researcher or the dissertation advisor for this study.

Anna M. Quinzio-Zafran, Researcher



Dr. Elizabeth Wilkins, Advisor



I understand that if I wish further information regarding my rights as a participant, I may contact the Office of Research Compliance at Northern Illinois University at .

I agree to participate in this research study and acknowledge that I have received a copy of this consent form. Please sign below.

Signature of Participant

Date

I agree to participate in the focus group and digital recording as part of this study. I understand that the lesson will be digitally recorded and that the focus group will be digitally audio recorded. I also understand that both the video and audio recordings will be kept private until the time that they are destroyed.

Signature of Participant

Date

APPENDIX B

LESSON PLAN

Department Lesson Plan

Elements of the Department Lesson Plan are meant to be adapted for the following strategies: Direct Instruction, Concept Teaching, Cooperative Learning, Problem-Based Instruction, Classroom Discussion, and Guided Inquiry.

TITLE OF THE PLAN: (optional)

GRADE LEVEL:

SUBJECT AREA:

CONCEPT/SKILL: What are you going to teach?

TARGET AUDIENCE: (Regular class, small group, individual)

TIME FRAME: (one class period, 40 minutes, etc.)

- I. PREPARING TO TEACH: Identifying goals, objectives, purpose, and gathering materials and resources.
 - A. GOALS: List district, state and national goals/standards that the lesson will support. (ISTE-Nets technology standards for the students, Illinois Learning Standards/Common Core Standards. ELL standards http://www.isbe.net/bilingual/html/elp_standards.htm, etc.)
 - B. OBJECTIVE(S): This is a statement of what the students will be able to do as a result of the lesson. Write cognitive, affective and/or psychomotor objectives that identify the pupil performance expected, the conditions under which the performance will occur, and the criteria for acceptable performance. The objective must be measurable.
 - C. PURPOSE: What is the purpose of this lesson? How does the purpose relate to the objectives? How does the purpose relate to the curriculum, students' previous experiences, community and society?
 - D. MATERIALS: Include materials that are necessary for teaching the lesson, especially those that are unique to the lesson. Examples are: books, teachers' guides, videos, computer program, models, artifacts, magazines, newspapers, poster, etc. Be specific. Include page numbers that students will be using during the lesson. Include the title and URL address of websites that will be used during the lesson.
 - E. RESOURCES: List resources used to research the content and skills needed to plan this lesson. What appropriate *technologies* can be used in the instructional process to support the learning experience for the students? Examples: websites, journal articles, books, teacher guides, peer/colleagues, etc. Be specific. Include page numbers from resources and/or the title and URL address of websites that will be used preparing the lesson.

- II. INSTRUCTIONAL PROCEDURES: This is the heart of the lesson. Include detailed step-by-step bulleted or numbered procedures. The procedures include: information (concepts/content/skills), activity directions, leading question(s), examples, questions and expected answers, etc.
- A. FOCUSING ACTIVITY: Activate students' prior knowledge and interest. Focus the students' thinking on the learning experience to come.
- B. PURPOSE: Tell students what they are going to be able to accomplish and why the objective/s are important to them. Connect the focus of the lesson to the objective/s. Use language student can understand. Enable students to explain the purpose of the lesson in their own words. The purpose can be introduced at the beginning of the lesson or at the end.
- C. INSTRUCTIONAL PROCESS: This is the *heart* of the lesson. Include detailed step-by-step bulleted or numbered procedures. The procedures include: information (concepts/content/skills), activity directions, leading question(s), examples, questions and expected answers, etc. Use a variety of methods, materials, and activities to differentiate instruction to meet the individual needs of all students. Consider Bloom's Revised Taxonomy to focus on higher order thinking skills and problem solving.
- MODELING: *Modeling throughout the Instructional Input* includes specific examples, illustrations, and demonstrations used to teach the concept/content/skill and the task students will undertake to demonstrate they have met the objective(s).
- CHECKING FOR UNDERSTANDING: Checking for Understanding *occurs throughout the instruction* as the teacher questions the students and uses cues to be sure the students comprehend. Include questions and expected answers that will be used in the lesson.
- D. TASK/GUIDED PRACTICE: The task is designed as a way for student to respond to the instruction that they have experienced. Includes rubrics, directions and specific guidance needed to be given to the students. Checking for Understanding also *occurs throughout the guided practice* as the teacher monitors student work and looks for evidence that the students are meeting the objective/s.
- E. INDEPENDENT PRACTICE (*include when appropriate*): When students can perform without major errors, discomfort, or confusion, they are ready to develop fluency by working without the assistance of the teacher. (Independent practice may occur after Closure.)

- III. CLOSURE: Bring the class back together for a review and summary of the lesson, reinforcement of key concepts, and possible sharing of student work. Encourage students to share their unique discoveries and creations. Relate this work to previous lessons. Anticipate the next lesson.
- IV. ASSESSMENT
- A. Student Assessment: Plan assessment *prior to lesson presentation matching the lesson objective/s* with the assessment procedure and with the task, which you will assign. A student's level of performance must be measureable and observable. Examples are: rubrics, checklists, finished products, portfolios, quizzes, oral presentation, constructions, and written work of all kinds. Student behaviors and student work produced during the guided practice and independent practice enable the teacher to evaluate the success of the lesson.
- B. Teacher Assessment & Reflection: The teacher will reflect upon the procedures and techniques, which she/he has used in this lesson. Go back through the *Instructional Input and Assessment* piece of the lesson plan and examine elements for improvement. The teacher will focus on specific skills or strategies he/she used to teach the objectives/concepts of the lesson and reflect upon student learning.

APPENDIX C

VIDEO PERMISSION FORM FOR STUDENTS

Student Video Consent Form

Dear Parent/Guardian,

As a clinical field experience student from [REDACTED] University, I am participating in a study that will help teacher educators understand how reflecting on my teaching will help me grow as an educator. The primary purpose of this study is to learn how I connect what was learned in my teacher preparation coursework to my actions in the classroom.

Part of the study requires me to submit a digital video recording of a lesson that I am teaching. In the course of video recording, with your permission, your child may appear on the video. If you choose not to give your permission, then your child will still participate in the classroom instruction as usual. S/He will just be seated out of camera range.

The video recording will be used solely for the purpose of reviewing my instruction and for improving teacher preparation programs. The only people who see it will be the doctoral candidate from Northern Illinois University conducting the study, her dissertation committee of four professors, and her peer reviewer (another doctoral candidate). The recording will be saved to a DVD, and will remain in a locked cabinet when it is not being viewed with other dissertation documents. The recording will not appear on the Internet or in any other public settings.

Sincerely,

Teacher Candidate's Signature

PERMISSION SLIP

Student Name: _____

School/Teacher: _____

Your Address: _____

I am the parent/legal guardian of the child named above. I have received and read the study description given and agree to the following:

Please check the appropriate line below.

_____ I DO give permission to you to include my child's image on video recordings as s/he participates in a class conducted at _____ by _____.

_____ I DO NOT give permission to you to include my child's image on video recordings as part of classroom activities.

Signature of Parent or Guardian:

Date: _____

APPENDIX D

CRITICAL INCIDENT/HELP SEEKING FORM

Critical Incident Questionnaire and Help-seeking Behavior Form

Critical Incident Reflection Guidelines

Critical Incidents are the ‘oops,’ ‘ouch,’ ‘aha...,’ or ‘oh...’ moments that you experience during a teaching episode or as you watch your videotaped lesson. The incident may be something that ‘amused’ or ‘annoyed’, was ‘typical’ or ‘atypical’, or a ‘felt difficulty’ or ‘felt success.’

One goal of using critical incidents is to help you look beyond the experience of the incident to the *meaning* of the incident. This is a form of *reflection-on-action*. Another goal is to help you develop your ability to reflect on these incidents as they happen, or *reflection-in-action*. Finally, using critical incidents can help you adjust your lesson and strategies for future teaching cycles, or *reflection-for-action*.

Remember, there is no “right” or “wrong” way to select an incident. It should be something useful and meaningful to you. After watching your digitally recorded lesson for critical incidents, use the statements and questions below to guide you as you reflect about the critical incident that you selected.

1. Describe the Critical Incident:

What: Provide an in-depth description of the event. Try to write this without judgment or interpretation.

Emotions: Describe the feelings you had as you ‘experienced’ the incident.

Why: Explain the incident from the perspective of each participant (student, teacher, etc.). Use ‘I’ for each participant’s explanation.

2. Analyze the Critical Incident:

Standards & Proficiencies

Which of the INTASC standards are related to this incident?

In what ways did you use what you know about the students to inform your teaching?

How did your coursework help you plan for and deliver your lesson?

You might begin with “*As a teacher, I was/was not able to...*” □ *Position:* What are some of your personal beliefs related to teaching and learning that you identified when reflecting on this incident and the standards that you addressed.

You might begin with “*As a teacher, this incident shows that I believe/value...*” □ *Actions:* What

Who have you gone to or consulted with for assistance with the critical incident described above? (Please place an x in the appropriate box, and fill in the number of contacts in the column marked #.)

		Face to Face	#	Phone	#	Email	#
University Personnel	University Supervisor						
	Professor/Adjunct						
Teachers in your Cooperating School	Your cooperating teacher						
	Other teachers in the school (same grade level)						
	Other teachers in the school (different grade level)						
	Staff in the school (please specify)						
Teacher Candidates (TC)	TC from the same university (same grade level)						
	TC from the same university (different grade level)						
Family and Friends	Parents						
	Siblings						
	Spouse or Significant Other						
	Roommate						
	Friend						
Other	Please specify:						

APPENDIX E

SMALL GROUP INTERVIEW GUIDELINES AND QUESTIONS

The design of this interview is based on the work of Richard A. Krueger (Krueger, 2002)

Participants: The participants are the carefully selected teacher candidates who have already submitted a lesson plan, digital video, and Critical Incident/Help Seeking Form. There will be between 5-8 participants present. The participants are all 7th semester elementary education students at a large, public, Midwestern university.

Environment: The focus group will take place in a comfortable meeting room, with the participants seated around a large conference table with name tents. (In the transcription of the focus group, the participants will be assigned pseudonyms.) Bottled water and light snacks will be provided for their comfort.

Moderator: The moderator will use pre-determined questions in a permissive environment.

Assistant Moderator: The assistant moderator will handle logistics, take notes, and monitor the digital recording equipment.

Outline of Small Group Interview

Welcome

Good evening, and welcome to our session on Reflecting on Critical Incidents. I appreciate your attendance. My name is Anna Quinzio-Zafran. I'm a doctoral candidate from Northern Illinois University. This is _____. She will be taking notes and monitoring the recording equipment. We're digitally recording the session because we don't want to miss any of your comments.

Our topic is how you reflected on critical incidents to connect theory and practice during your recent field experience.

Your results will be used to help me better understand how teacher candidates plan on how they will use what they have learned about content knowledge, pedagogy, and dispositions from reflecting on these critical incidents in future planning.

You were selected because you fit the criteria to participate in this study, and you have sent me your lesson plan, digital recording, and Critical Incident/Help Seeking Form.

Guidelines

There are no right or wrong answers, only differing perspectives.

We're digitally recording, so one person at a time speaking.

We're on a first name basis. (In writing, you will be given the pseudonym that you chose when you agreed to participate in the study.)

You don't need to agree with others, but you must listen respectfully as others share their views.

We ask that you turn off your cell phones. If you cannot, and if you must respond to an emergency call, please do so as quietly as possible, and rejoin us as quickly as you can.

My role as moderator will be to guide the discussion.

Talk to each other.

Let's begin. We've placed name cards on the table in front of you to help us remember each other's names. Let's find out some more about each other by going around the table. Tell us your name, a little about yourself, and a bit about your clinical experience assignment.

Opening Question

What does reflection mean to you as a teacher candidate?

Teachers' Beliefs Interview Questions:

How do your students learn best?

How do you describe your role as a teacher?

How do you know when your students understand?

How does reflection guide your practice as an educator?

In what ways do you reflect on your practice?

Digitally Recorded Lesson and Critical Incident Reflection

Review meaning of "critical incident" then ask respondent to talk about the portions of the taped lesson that you deemed "critical incidents" (helpful to your growth as a teacher) and explain what you learn from them.

Briefly describe the incident that you identified in your video and wrote about.

What were the consequences (outcomes or effects) of this incident?

Was this incident significant enough for you to give it more thought? Why or why not?

What further thinking resulted from this event?

Describe how having dealt with the critical incident helped you change the way you teach.

What was the relationship between the critical incident you dealt with and existing theory you know as a teacher?

What would you have done differently if you could revisit this incident?

What aspects of your teacher education program helped you react to this critical incident?

Regarding the critical incidents that you selected, what did you learn? If necessary, probe aspects of *teacher knowledge*, *pedagogy*, and *student learning*.

How does what you learned from this incident help you plan and deliver future lessons?

Ending Question: We've come together to discuss how reflection on critical incidents can help teacher candidates connect theory and practice. How have your teacher education courses impacted your ability to reflect on your practice?

Thank you so much for coming. I appreciate your help in this research.