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An Examination of Student Teacher Reflection

by

Eric Williams

A Dissertation

Submitted to the Graduate Faculty of

St. Cloud State University

in Partial Fulfillment of the Requirements

for the Degree

Doctor of Education

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An Examination of Student Teacher Reflection

Eric Williams

The purpose of this study was to examine the thoughts about reflection among a group of student teachers that recently completed their clinical teaching experience. This study sought to explore: the characteristics that student teachers believe represent a "reflective teacher"; the focus and frequency of student teachers' use of reflection during their clinical teaching experience; the purpose and frequency of student teachers' use of reflection and the extent to which they found the reflective activities to be helpful. The research also examined what student teachers found to be the most challenging aspect of maintaining a written record of their reflections, and potential strategies that may help them in overcoming the challenges they reported. Student teachers were also asked what additional or alternative modes of reflection they would be most likely to use when they begin their first year of teaching. Finally, a sample of written reflections that were submitted by secondary school student teachers from the same group were analyzed and interpreted based on the review of the literature.

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Chapter I

INTRODUCTION

BACKGROUND

"The teaching profession is a demanding profession, and the increased pressures of laws, bureaucracy, lack of respect, increased at-risk student populations and decreased parental involvement causes teachers to become frustrated, and in some cases, leave the profession" (Synar & Maiden, 2012, p. 141). According to Ingersoll (2011) teacher turnover (in the areas of math and science) appears to be more prevalent in schools that have more behavioral problems, less professional autonomy and fewer opportunities for teachers to participate in professional development activities. "The data show that beginning teachers, in particular, report that one of the main factors behind their decisions to depart is a lack of adequate support from the school administration" (Ingersoll & Strong, 2011, p. 202).

The support of a new teacher is important, however the "production, training, and recruitment all entail costs" (Ingersoll & Strong, 2011, p. 225). In some districts, cost estimates of a teacher leaving the district can cost as much as 20% of a departing teacher's salary. This cost includes the dollars necessary to recruit teachers and to hire substitutes in order to provide the necessary training and professional development for

new teachers (The Cost of Teacher Turnover, 2003). Some turnover costs are more difficult to measure than others. “One cost that is not easily quantified is the decline of organizational stability, coherence, and morale that often results” (Smith & Ingersoll, 2004, p. 686).

Smith and Ingersoll (2004) suggested that providing teachers with adequate preparation and support can help curb the excessive rates of attrition, increase a school’s organizational effectiveness, and positively impact student growth and learning. Darling-Hammond and Ducommun (2010) argue, in a policy brief on Recognizing and Developing Effective Teaching, that “Federal and state policies should create expectations for states to evaluate and expand effective preparation models while eliminating those that are poor performing” (p. 6).

Within teacher education programs, student teaching appears to be highly valued. Survey data of student teachers and newly qualified teachers “indicate that the clinical experience is often considered the most important part of their preparation” (American Federation of Teachers [AFT], 2000, p. 25). Student teachers need “exposure to real life classroom situations through quality student teaching experiences” (Bolich, 2001, p. 12).

A way to enhance the quality of the clinical teaching experience is with preparation in reflection, reflective thinking and reflective practice. “The promotion of reflective practice is an important component of teacher education programs” (Ostorga, 2006, p. 5). A number of university teacher education programs supports having student teachers plan “for reflective activities and self-evaluation” (Strangis,

Pringle, & Knopf, 2006, as cited in Etscheidt, Curran, & Sawyer, 2012, p. 12). Ward and McCotter (2004) reinforce this position of preparing student teachers to reflect. "As teacher educators, we place a high value on reflective thinking and practice that supports pre-service teachers in broadening perspectives and developing concern for others" (p. 244).

The practice of reflection infers "an active behavior in contemplating past, present, and future decisions" (Danielson, 2008, p. 130). "Masterful teachers develop specialized ways to listen to their students, colleagues and administrators, and reflect on their teaching in order that they might improve their practice" (National Board for Professional Teaching Standards [NBPTS], 2002, p. 17).

Statement of the Problem

Reflection and reflective thinking, depending on a person's point of view, are often defined in a variety of ways; "The terms are often ill defined, and have been used rather loosely to embrace a wide range of concepts and strategies" (Hatton & Smith, 1995, p. 33). The wide disparity of definitions and approaches to researching reflection "demonstrates a problematic nature of defining and researching reflective concepts and techniques" (p. 33). "Because of unclear understandings of what reflective practice actually is, there is a corresponding lack of understanding about how to teach it" (Beauchamp, 2006, p. 12, as cited in Collin, Karsenti, & Komis, 2013, p. 112). "The scientific literature should provide clear definitions and make consistent use of these terms, which is also a precondition for carrying out empirical research" (Rattleff, 2006, p. 171 as cited in Collin et al., 2013, p. 113).

Despite these criticisms, there is "agreement on the importance of actively and carefully examining one's thoughts in order to improve one's teaching" (Freese, 1999, p. 896). There is also agreement that teachers who are unreflective about their teaching tend to accept the everyday reality in their schools and "concentrate their efforts on finding the most effective and efficient means to solve problems that have largely been defined for them" (Zeichner & Liston, 1996, p. 9). This type of non-reflective teaching was described by Dewey as routine action that "is guided primarily by impulse, tradition and authority" (p. 9).

In examining the literature related to reflection, reflective thinking and reflective practice, few studies were found that examined:

- The characteristics that student teachers report represent a 'reflective teacher'.
- The focus and frequency of student teachers' use of reflection during their clinical teaching experience, the purpose and frequency of student teachers' use of reflection, and the extent they find reflective activities to be helpful.
- The modes of reflection student teachers are likely to use as they begin their first year of teaching.
- Challenging aspects student teachers report when keeping a written record of their teaching experiences, and strategies to overcome these challenging aspects.
- The themes and levels of written reflections from student teachers throughout their clinical teaching experience.

Because there is no generally accepted definition for reflection (Hatton & Smith, 1995), the use of the terms 'themes' and 'levels' will be used throughout the paper as a general descriptor of the aspects and depth of reflective thought. The term 'level' is consistently used by authors van Manen (1977), Zeichner and Liston (1987), Kubler-La Boskey (1994), Hatton and Smith (1995), Pultorak (1996), and Ward and McCotter, (2004), throughout their work on teacher reflection.

Purpose of the Study

This study examined reflection and thoughts about reflection from a group of student teachers that recently completed their clinical teaching experience. The purpose of the study was to examine:

- The characteristics that student teachers believe represent a 'reflective teacher'.
- The focus and frequency of student teachers' use of reflection during their clinical teaching experience, the purpose and frequency of student teachers' use of reflection, and the extent they find the reflective activities to be helpful.
- The modes of reflection student teachers report they will most likely use when they begin their first year of teaching.
- The most challenging aspects reported by student teachers of maintaining a written record of their reflections and, what strategies they report as helpful in overcoming these challenging aspects.

- Additionally, the study examined the themes and levels of written reflections from fourteen student teachers, early, mid-way and toward the completion of the clinical teaching experience.

Research Questions

The following research questions for this study were addressed:

Research Question One: Based on their experiences with reflection, what characteristics do student teachers believe represent a 'reflective teacher'?

Research Question Two (a): What is the focus and frequency of student teachers' use of reflection during their clinical teaching experience?

Research Question Two (b): What is the purpose and frequency of student teachers' use of reflection during their clinical teaching experience?

Research Question Two (c): To what extent do student teachers find reflective activities helpful?

Research Question Three: What modes of reflection do student teachers report they are likely to use when they begin their first year of teaching?

Research Question Four (a): What do student teachers report to be the most challenging aspect of maintaining a written record of their reflections?

Research Question Four (b): What strategies do student teachers report help, or could help them in overcoming the challenges they experience?

Research Question Five: In examining written reflections from the sample group of student teachers, what themes and levels of reflection are evident at the beginning, the middle, and at the end of their clinical teaching experience?

Significance of the Study

The study of reflection, reflective thinking and reflective practice is significant because it is these types of activities that will help teachers "identify and replicate best practice, refine serendipitous practice, and avoid inferior practice" (Danielson, 2009). With an emphasis on student growth, learning and personal improvement, teacher reflection can be "effective when it leads the teacher to make meaning from the situation in ways that enhance understanding so that she or he comes to see and understand the practice setting from a variety of viewpoints" (Loughran, 2002, p. 36).

With a better understanding of teacher reflection, principals and school leaders may be more likely to allocate time for teachers to reflect within their workday. This information can also assist school leaders to design and implement reflective professional development programs to help teachers "have a positive impact on their students' learning" (Ward & McCotter, 2004, p. 244).

The information can also assist university teacher educators as they help prepare student teachers to understand and anticipate the benefits, challenges and changing levels of reflective thinking as they progress through their clinical teaching experience.

Finally, the information can help student teachers overcome possible challenging aspects to reflecting during their clinical teaching experience.

Delimitations

Delimitations are what the researcher decides to include or not include in the study (Roberts, 2004). The term delimitation refers to the limitations that the researcher has within his or her control. Delimitations are the conditions, populations and characteristics that limit the size and scope of a study. The following are delimitations of this study:

Only student teachers who completed their clinical teaching experience were part of the study. Student teachers that have not participated in a clinical teaching experience are not likely to have an adequate understanding of an employment setting.

The study was limited to student teachers who were attending two religiously affiliated liberal arts universities in the Midwest. A teacher education program with a conceptual model that recognizes the important role that reflection plays in preparing teachers was a factor in the sample selection.

In an effort to control costs associated with the study, written reflections, survey and interview data were collected from a university that is near the researcher's residence. To minimize any potential conflicts of interest, data were collected from a university with which the researcher has had no professional affiliation (Bogdan & Biklen, 1982).

Definition of Terms

Adequate Yearly Progress (AYP): A measurement defined by the United States federal No Child Left Behind Act that allows the U.S. Department of Education to determine how every public school and school district in the country is performing

academically according to results on standardized tests (United States Department of Education, 2004).

Clinical teaching experience: The time a student teacher spends in an educational setting. The time spent involves observations, assisting students, planning and practice teaching. The length of the clinical teaching experience in this study was approximately one semester, however some clinical experiences are shorter in duration depending on the school or district (College of St. Benedict and St. Johns University Education Department).

Cooperating teacher: A classroom teacher who hosts the student teacher for a semester. Mentorship and guidance is provided to the teacher candidate from the cooperating teacher (College of St. Benedict and St. Johns University Education Department).

Hermeneutic-Phenomenological: The interpretation of an event or circumstance based on the idea that reality consists of interpretations of experiences (van Manen, 1977).

Induction: "…to improve the performance and retention of new hires and to enhance the skills and prevent the loss of new teachers with the ultimate goal of improving student growth and learning" (Ingersoll, 2012, p. 47).

Journal: "A personal record of occurrences, experiences, and reflections kept on a regular basis; a diary" (Journal, 1994, p. 733).

Mixed Methods Approach: Combining both qualitative and quantitative analysis in an effort to gain a deeper understanding of the research questions being

addressed. **"**The rationale for mixing both kinds of data within one study is grounded in the fact that neither quantitative nor qualitative methods are sufficient, by themselves, to capture the trends and details of a situation" (Ivankova, Creswell, & Stick, 2006)**.**

No Child Left Behind (NCLB): The reauthorization of the Elementary and Secondary Education Act, designed "to ensure that all children have a fair, equal, and significant opportunity to obtain a high-quality education and reach, at a minimum, proficiency on challenging State academic achievement standards and state academic assessments" (United States Department of Education, 2004).

Qualitative: Describing a phenomenon, event or characteristic with words rather than with a mathematical or measured value (Bogdan & Bilken, 1982).

Quantitative: "The process involves controlling other variables and measuring results in a deductive, statistical method" (Bogdan & Bilken, 1982, p. 46).

Reflection: "Deliberate thinking about action with view to its improvement" (Hatton & Smith, 1995, p. 40). "[It is] an active behavior in contemplating past, present, and future decisions" (Danielson, 2008, p. 130).

Reflection-In-Action: Schön (1983) described Reflection-In-Action as evaluating and changing the work or the process as it is happening.

Reflection-On-Action: Schön (1987) refers to Reflection-On-Action as the thought and consideration of the work after it has been completed. Reflection-On-Action is viewed as being the lessons that were learned from an experience as a result of looking back.

Reflective Practice: refers to the professional who examines his or her actions and "takes [on] the form of a conversation with a situation" (Schön, 1983, p. 295) or with one's self in an effort to improve in the future.

Reflective Thinking: "[An] active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it, and the further conclusions to which it tends" (Dewey, 1909, p. 6).

Sequential Explanatory Design: A research design that "first collects and analyzes quantitative data and then collects and analyzes qualitative data" (Ivankova et al., 2006, p. 5) as a follow-up to the quantitative results.

Subjects: Student teachers in this study.

'Themes' and 'Levels' of Reflection: Because there is no generally accepted definition for reflection (Hatton & Smith, 1995), the use of the terms; 'themes' and 'levels' will be used throughout the paper as a general descriptor of the aspects and depth of reflective thought. The term 'level' is consistently used by authors' van Manen (1977), Zeichner and Liston (1987), Kubler-La Boskey (1994), Hatton and Smith (1995), Pultorak (1996), and Ward and McCotter (2004) throughout their work with teacher reflection.

SUMMARY

Teaching "is a demanding profession, and the increased pressures of laws, bureaucracy, lack of respect, increased at-risk student populations and decreased

parental involvement causes teachers to become frustrated, and in some cases, leave the profession" (Synar & Maiden, 2012, p. 140).

According to Ingersoll (2011) teacher turnover [in the areas of math and science] appears to be more prevalent in schools that have more behavioral problems, less professional autonomy and fewer opportunities for teachers to participate in professional development activities. The support of a new teacher is important, however the "production, training, and recruitment all entail costs" (p. 225). In some districts, estimates of teacher turnover can cost 20% of a departing teacher's salary. This includes the dollars necessary to recruit teachers and to hire substitutes in order to provide the necessary training and professional development for new teachers (ASCD, 2003). Some turnover costs are subtle and more difficult to measure than others. "One cost that is not easily quantified is the decline of organizational stability, coherence, and morale that often results" (Smith & Ingersoll, 2004, p. 686).

Providing teachers with adequate preparation and support are important to help curb the excessive rates of attrition, increasing a school's organizational effectiveness and positively impacting student growth and learning. Student teaching appears to be a valuable part of a teacher education program. Within these clinical teaching experiences, supporting reflective practice is a significant factor for growth and improvement for preparation and induction (National Council for the Accreditation of Teacher Education [NCATE], 2008).

This study examined reflection and student teachers' thoughts about reflection from a group of student teachers that recently completed their clinical teaching experience. The purpose of the study was to examine:

- The characteristics that student teachers believe represent a 'reflective teacher'; the focus and frequency of student teachers' use of reflection during their clinical teaching experience, the purpose and frequency of student teachers' use of reflection, and the extent they find the reflective activities to be helpful.
- The modes of reflection student teachers report they will most likely use when they begin their first year of teaching.
- What student teachers report to be the most challenging aspect of maintaining a written record of their reflections and what strategies they report help, or may help them in overcoming the challenges they report?
- Additionally, the study examined the themes and levels of written reflections from fourteen (n = 14) student teachers, early, mid-way and toward the end of the clinical teaching experience.

The following chapter provides a review of the literature related to reflection, reflective thinking and reflective practice. Historical contributions to reflection, reflective thinking and reflective practice by notable authors were examined. The review begins with the challenge to define reflection.

Chapter II

REVIEW OF RELATED LITERATURE

INTRODUCTION

The purpose of this review is to investigate the topic of teacher reflection and the associated research on reflection, reflective thinking and reflective practice. Historical contributions by notable authors were examined. The review begins with the challenge of defining reflection.

The Challenge of Defining Reflection

Reflective thinking can be viewed as "[A] deliberate thinking about action with a view to its improvement" (Hatton & Smith, 1995, p. 40). "Reflective thinking looks back on assumptions and beliefs to be sure they are grounded in logic, evidence, or both, and it looks forward to the implications or consequences of a particular course of action" (Valli, 1997, p. 68). According to the National Commission on Teaching and America's Future Teachers (1996), "[Teachers] should develop the ability to reflect on, evaluate, and improve teaching and learning." By doing so they need to continually "reflect on and revise [their] instruction" (p. 74). However, the idea of reflection is not always clear. According to Kember et al. (1999), "Many write about reflection with the apparent assumption that everyone knows what it is" (p. 22). In the

literature reviewed for this study, the terms reflection, reflective thinking and reflective practice are often defined in a variety of ways. “The term reflective practice has been so overused that it has almost become a cliché” (Bartell, 2004, p. 116). “It is clear, that the terms are often ill-defined, and have been used rather loosely to embrace a wide range of concepts and strategies” (Hatton & Smith, 1995, p. 33). “Because of unclear understandings of what reflective practice actually is, there is a corresponding lack of understanding about how to teach it” (Beauchamp, 2006, p. 12, as cited in Collin et al., 2013, p. 112).

Teacher Education professors, Daniel Liston, University of Colorado, and Kenneth Zeichner, University of Wisconsin-Madison, argued that teachers do not benefit professionally due to the fact that “there are numerous institutional constraints that increase the complexity of teachers’ work such as the lack of time, high teacher-pupil ratios, and pressure to cover a required and broadly defined curriculum” (Zeichner & Liston, 1996, p. 12).

They recommend that a balance needs to occur between a teacher’s skills and abilities and the volume of research, theories, curriculum and practices that are commercially available (Zeichner & Liston, 1996).

Zeichner and Liston (1996) observed that an emphasis on standardized test results limits the essence of a teacher’s reflection because of the added pressure of covering the content on an exam. They asserted that teachers should be given space to reflect on their goals and values, not exclusively on test scores.

"In classrooms today, it is difficult to find the time to reflect, let alone meet with other teachers to talk about our teaching" (Serafini, 2002, p. 2). Teachers benefit when they have the time and the opportunity to connect with their peers about their teaching and student learning (Zeichner & Liston, 1996).

Fendler (2003) said that another criticism of reflection is the potential for some to validate their own preconceived notions. These 'reflections' may not be in the best interest of the students. She adds that, instead of changing how a teacher might change his or her behavior, the 'reflections' may reconfirm, justify, or rationalize preconceived notions or beliefs.

Despite the challenges to define reflection, there is an "agreement on the importance of actively and carefully examining one's thoughts in order to improve one's teaching" (Freese, 1999, p. 896).

If reflection is to be a tool that teachers find useful, it should be acceptable for teachers to remove themselves from their routines and view situations and problems from broader perspective (Loughran, 2002).

Historical Contributions to Reflection, Reflective Thinking and Reflective Practice

This historical examination of reflection, reflective thinking, and reflective practice provides a review of several noted authors' research, discoveries, insights and reflection's influence on teachers. Several authors who are not in the field of education but who also discuss reflection's influence among professionals are also included in this examination. Most of the literature reviewed is from the research that emerged in

the latter part of the twentieth century and the early part of this century. One exception is John Dewey.

John Dewey (1909, 1933). In the early 1900s Dewey was recognized for his contributions to education (Fendler, 2003). John Dewey wrote about reflection in *How We Think* (1909, 1933) in the early part of the twentieth century. Authors who research reflection, reflective thinking or reflective practices in education commonly cite Dewey's work. "Most educators who write and do research about reflective teaching and teacher education acknowledge their debt to John Dewey" (Valli, 1997, p. 68).

Dewey, "who himself drew on the ideas of many earlier 'teachers' such as Plato, Aristotle, Confucius, Lao Tzu, Solomon, and Buddha" (Houston, 1988, as cited in Hatton & Smith, 1995, p. 33), "is acknowledged as a key originator in the twentieth century of the concept of reflection" (Hatton & Smith, 1995, p. 33).

Dewey's book, *How We Think* (1909, 1933), was written for teachers and the students with whom they work. Dewey defined reflective thinking as an "…active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it, and the further conclusions to which it tends" (Dewey, 1909, p. 6).

According to Dewey, the reflective teacher has the discipline to concentrate on a subject in an orderly way and has the ability to suspend judgment and be comfortable with uncertainty (Dewey, 1933). Dewey expands on this thought by saying that reflective action is the "willingness to sustain and protract that state of

doubt which is the stimulus to thorough inquiry, so as not to accept an idea or make a positive assertion of a belief until justifying reasons have been found" (p. 16). According to Serafini (2002), Dewey said, "the purpose of reflective practice was to change teachers' actions and their process of arriving at decisions" (p. 4).

Carol Rodgers (2002) points out that Dewey called reflection a 'meaning-making' process that was a "systematic, rigorous, disciplined way of thinking" (p. 845). Rodgers asserts that from Dewey's perspective, reflection is grounded in scientific questioning and interpersonal exchanges with others in a community. Additionally, Rodgers states that Dewey said, "reflection requires attitudes that value the personal and intellectual growth of oneself and others" (p. 845).

For reflection to become established, Dewey believed it was important to help new teachers develop a frame of mind that promotes self-reflection through an attitude of open-mindedness, responsibility, and wholeheartedness, and who reacts and can interpret the decisions that are made about a situation or a problem (Dewey, 1933).

Contrary to reflective thinking processes and activities, Dewey said that Routine Action is a behavior that is more impulsive and dependent on traditions and bureaucratic structures (Dewey, 1933). Author Paula Zwozdiak-Myers (2012) commented that, from Dewey's perspective, "Routine Action represents a commonly held view of resolving a problem in a given situation in an almost thought-less way" (p. 22).

Max van Manen (1977). Max van Manen, Professor Emeritus at the University of Alberta said that there are three levels of reflection that represent how teachers think and process their experiences. In his paper, *Linking Ways of Knowing with Being Practical*, van Manen (1977) identifies these as Empirical-Analytic, Hermeneutic-Phenomenological and Critical levels of deliberative rationality. At the Empirical-Analytic level van Manen believed that teachers "learn to apply a variety of techniques to the curriculum and to the teaching-learning process so that a predetermined set of objectives can be realized most efficiently and most effectively" (p. 210). He said, "from an empirical-analytic perspective, the curriculum can deal with technical skills in a means-end manner" (p. 211). This technical level prompts the teacher to ask himself: "How can the knowledge make curriculum more effective, more efficient, and more productive?" (p. 210). van Manen believed this level of reflection to be limiting however, and felt that there were more questions that needed to be considered. "When there exists alternative, conflicting, or competing principles, and, therefore, when there are a multitude of technical recommendations available, a more pragmatic level of deliberative rationality is necessary" (p. 226).

This leads to the next level that van Manen described as the Hermeneutic-Phenomenological level of solving problems. At this level of reflection, van Manen says that effort and attention are focused more on the process of examining, deliberating and interpreting curriculum approaches and principles than at the empirical-analytic level. It is the "science of interpretation, or as the phenomenology of social understanding" (p. 213). The Hermeneutic-Phenomenological level is "the

process of analyzing and clarifying individual and cultural experiences, meanings, perceptions, assumptions, prejudgments, and presuppositions, for the purpose of orienting practical actions" (p. 226). van Manen says that the Hermeneutic-Phenomenological reflective approach is associated with how educational knowledge is transferred in the classroom and the possible instructional methods or future actions a teacher might employ. "There are no such things as stimuli, responses, or measurable behaviors; instead, there are encounters, lifeworlds, and meanings, which invite investigation" (p. 214).

van Manen's Critical level of deliberative rationality is considered to be the highest, most sophisticated form of reflection. Critical reflection occurs when the teacher becomes more concerned with how personal values affect the interpretation of actions and events in his or her practice. This type of thinking is described as being "rooted in an emancipatory concern for man and society" (p. 222). It is a method of reflectivity that is "undistorted by repressive forms of authority, privilege, and the vested interests of exploitation" (p. 222). He said the Critical level "involves a constant critique of [the] domination, of institutions, and of repressive forms of authority" (p. 227). The belief is that "for a community to arrive at universal consensus, free from delusions or distortions, it must anticipate the social structure of a living together in unforced communication" (p. 223).

Donald Schön (1983, 1987). Schön, whose doctoral dissertation at Harvard was focused on John Dewey's theory of inquiry, expanded on Dewey's theories of reflection by identifying two key types: Reflection-In-Action (1983) and Reflection-

On-Action (1987). “Schön prompted new forms of investigation into teacher thinking, which will help us identify ways in which excellent teachers reflect on their teaching actions” (Valli, 1997, p. 71). In his first book, *The Reflective Practitioner,* 1983, Schön identified Reflection-In-Action as actively thinking about what is going on ‘in the moment’ and considering changes during that time. According to Schön, Reflection-In-Action is often triggered by an unanticipated, or unusual event. Schön (1983) says that Reflection-In-Action happens at a time when changes and adjustments can still occur.

> Stimulated by surprise they turn thought back on action and on the knowing that is implicit in action. They may ask themselves for example, What features do I notice when I recognize this thing? What are the criteria by which I make this judgment? How am I framing the problem that I am trying to solve? (p. 50)

In his 1987 book *Educating the Reflective Practitioner*, Schön (1987) discussed how adults use reflection in a variety of professions to adjust their practice. Schön called this their “knowing-in-action.” Like a physician, a lawyer, an engineer, or a teacher, Schön said that professionals who possess this “knowing” of “complex performances” (p. 24) can perform tasks at a masterful level. However, they typically cannot describe the task with words. Schön reinforced this assertion with subtle examples such as riding a bike, hitting a tennis ball, or walking as “complex performances” that one can perform artistically but is not “able to give a verbal description even roughly adequate to [his or her] actual performance” (p. 24). Schön said that when a professional is surprised by an event that contradicts or disrupts the routines that are “known,” Reflection-On-Action might be appropriate. “We may

reflect on action, thinking back on what we have done in order to discover how our knowing-in-action may have contributed to an unexpected outcome. We may do so after the fact, in tranquility, or we may pause in the midst of action" (p. 26).

Kenneth Zeichner and Daniel Liston (1987). While working with elementary school student teachers at the University of Wisconsin-Madison, Zeichner and Liston (1987) designed a program to prepare student teachers to reflect at levels that would enable them to think for themselves and eventually influence educational policies throughout their career. Their curriculum aligned with van Manen's (1977) three levels of reflection. The reflections would range from a teacher who is technical, and examines curriculum alternatives in the most efficient way, to a teacher who thinks critically about the moral and ethical implications of his or her decisions (van Manen, 1977). "The curricular plan for the student-teaching program at the University of Wisconsin-Madison, was designed to stimulate reflection about teaching and its contexts at all three levels" (Zeichner & Liston, 1987, p. 25).

Zeichner and Liston (1987) believed it was necessary to "prepare teachers who are willing to assume more central roles in shaping the direction of their own work and school environments, the kinds of changes which may be on the horizon with regard to the occupation of teaching" (p. 45).

Although Zeichner and Liston (1987) had achieved some of their program goals to varying degrees at the time of publication, they admit there were still "gaps, conceptual weaknesses, and internal and external contradictions [that] exist[ed]" (p. 45) and needed additional work. However, it was important for the program to

continue to prepare teachers who were "willing and able to reflect on the origins, purposes, and consequences of their actions" (p. 23).

John Smyth (1989). John Smyth said that educators were "being increasingly courted and urged by technologically minded policymakers and educational reformers into believing that all our social and economic ills will somehow magically dissolve if we place our faith in their capacity to get the mix of techniques right" (Smyth, 1989, p. 2). Smyth (1989) was highly critical of the dominant view that social problems could be solved with a more technical strategy with which to educate children.

> Because of the way in which capitalist systems in general have been able to ascribe the causes of our economic ills to the personal inadequacies and failings of individuals (illiteracy, lack of incentive, and poor work habits among students) rather than deficiencies of the system itself, it has not been difficult to link this with the systematic failure of schools to meet the needs of industry. (p. 4)

During a period of time when schools and governments exercised more "neoconservative ways of thinking and acting educationally" (p. 2) a reflective approach to teacher education became more interesting (Smyth, 1989). Smyth was also critical of the policies that diminished the teacher's autonomy. He said the following:

> If teachers (or those in training) are denied the opportunity to articulate, critique, and culturally locate principles about their own (or one another's) teaching, then, politically speaking, such teachers are being treated no differently than disempowered workers who have historically been oppressed and denied access to power over their work. (p. 5)

Smyth said that in order to for educators to have autonomy over what is taught in the classroom, teachers must to engage in a reflective practice with what he describes as four forms of sequential and cyclical stages of action. The stages Smyth

(1989) describes were influenced by the work of educator and philosopher Paulo Friere in *Pedagogy of the Oppressed* (1970).

These forms include: Describing, Informing, Confronting, and Reconstructing (Smyth, 1989). With each form, Smyth (1989) poses questions to help illustrate each of the areas of reflection. “What do I do?” “What does this mean?” “How did I come to be this way?” “How might I do things differently?” (p. 2). Wellington (1991) said that when used “together, they create a spiral of empowerment” (p. 5) for the teacher.

Joellen Killion and Guy Todnem (1991). Staff development specialists Killion and Todnem (1991) said reflection is “a gift we give ourselves, not a passive thought that lolls aimlessly in our minds” (p. 14). They refer to reflection as an active process to be approached “with rigor, with some purpose in mind, and in some formal way, so as to reveal the wisdom embedded in our experience” (p. 14).

Killion and Todnem describe a type of reflection that expands on Schön’s 1983 theory of Reflection-In-Action, and Reflection-On-Action (1987) to include Reflection-For-Action, the “desired outcome to guide future action” (Killion & Todnem, 1991, p. 15). Killion and Todnem (1991) said that the reflective process “encompasses all time designations; past, present and future simultaneously” (p. 15). Killion and Todnem (1991) use the following metaphor to illustrate how reflection for action works:

> Imagine a tank tread that slowly rolls along. To move the tank forward, the tread that carries it, continually reverses itself, while at the same time the tank makes slow, steady forward progress. This is how reflection works. In order to tap the rich potential of our past to inform our judgment, we move backward, reflect on our experiences, then face each new encounter with a broader repertoire of context-specific information, skills, and techniques. (p. 15)

Max van Manen (1991). In 1991, van Manen added to his levels of reflection from 1977 to identify three forms of reflection that he said teachers (and adults) experience when they are working with children. He identifies them as the Anticipatory, Active or Interactive, and Recollective forms of reflection.

In the Anticipatory form, van Manen (1991) observed that teachers, focus on expected or upcoming lessons and think about their future actions in a structured manner. "Anticipatory reflection helps us approach situations and other people in an organized, decision-making, prepared way" (p. 512). This form is similar to Killion and Todnem's 1991 reflection for action.

In the Active or Interactive form, van Manen (1991) said that teachers use reflection to make on-the-spot decisions. This description is similar to Schön's "Reflection-In-Action" (p. 512). He asserted that this more immediate Reflection-In-Action still involves a degree of removing oneself from the events that are happening in the present moment. van Manen called these Active or Interactive reflections important pedagogical moments that occur between the adult and the child. van Manen said that pedagogical moments are intuitive and reactionary. He devoted considerable time and attention to stressing the need for adults who work with children to be "tactful" (1990) in these pedagogical moments (1991). "Children need to experience the world as secure, they need to be able to depend on certain adults as being reliable, and they need to experience a sense of continuity in their social relations with those who care for them" (p. 509).

Finally, in the Recollective form, van Manen (1991) said that teachers reflect about past lessons and interactions with children to better understand and process, the meaning and significance of those experiences. This is similar Schön's 1987 Reflection-On-Action. "As a result of a Recollective reflection we may become more experienced practitioners as teachers or parents because our lives have been enriched by the reflective experiences that offered us new or deeper understanding" (van Manen, 1991, p. 513).

Jennifer Gore and Kenneth Zeichner (1991). Through their collaborative work, Jennifer Gore, Education Professor at the University of Newcastle, Australia, and Kenneth Zeichner, Education Professor at the University of Wisconsin-Madison, examined Critical reflection among elementary school student teachers through action research. They maintained that all teachers should have the ability to reflect critically, but acknowledged that it would be a challenge for student teachers to do that (Gore & Zeichner, 1991). They realized that this is due to the conditions that constrain student teachers. Despite this, Gore and Zeichner (1991) said that student teachers should still attempt to include the Critical element of reflection in their repertoire of thoughts.

> This would mean, for example, that instead of merely being concerned with whether the classroom is orderly, *technical rationality*, and whether the particular activities are encouraging student understanding, *practical rationality*, student teachers would also be assessing things like which students are gaining the increased understanding, and whose perspectives are represented in that which is being understood, *critical rationality.* (p. 124)

Although Gore and Zeichner (1991) concede that student teachers do not possess the political capital or the willingness to change schools, they did say that it was important for teacher education programs to provide time to allow student

teachers to recognize and reflect on "certain fundamental values" (p. 124) in classrooms and schools.

> Critical (reflection) is embedded in the very essence of the student teachers classroom reality. The problem is one of helping student teachers develop dispositions and capabilities to see the connections between the classroom and the social and political context in which it is embedded. (p. 125)

Jack Mezirow (1991). While at Columbia University's Teacher's College, Jack Mezirow (1991) examined reflection in adult professions [not exclusive to teaching]. According to Mezirow, reflective thinking is a transformative learning model for adults. He stated,

> …reflection involves the critique of assumptions about the content or process of problem solving…The critique of premises or presuppositions pertains to problem posing as distinct from problem solving. Problem posing involves making a taken-for-granted situation problematic, [and] raising questions regarding its validity. (p. 105)

Mezirow (1991) said that reflective thinking is separated into three categories: Content, Process, and Premise reflection. Content reflection is focused on "what" action is thought about; Process reflection concentrates on "how" an action is thought about and focuses on the way people think about action or think about how to handle experiences. Mezirow's (1991) third category, Premise reflection, focuses on being aware of the reasons why people think and behave the way they do. Merriam (2004) said that Mezirow's "Premise reflection involves examining long-held, socially constructed assumptions, beliefs, and values about the experience or problem" (p. 62).

Mezirow helps to explain his categories of reflection by incorporating them within Donald Schön's 1983 quote about reflecting and knowing-in-action. Mezirow's (1991) additions to Schön's quote are in bold and italics.

> They may ask themselves, for example; What features do I notice when I recognize this thing? ***Process reflectio*n.** What are the criteria by which I make this judgment? ***Premise reflectio*n.** What procedures am I enacting when I perform the skill? ***Process reflectio*n.** How am I framing the problem that I am trying to solve? ***Premise reflectio*n.** Usually reflection on knowing-in-action goes together with reflection on the stuff at hand ***Co*n*te*n*t reflectio*n. (Schön, 1983, p. 50, as cited in Mezirow, 1991, p. 112)

Georgea Sparks-Langer and Amy Colton (1991). Sparks-Langer and Colton (1991), teacher education professors at Eastern Michigan University, worked together to identify three elements of reflective thinking among teachers: Cognitive, Narrative, and Critical elements.

They said that the Cognitive element stresses the way, or the rationale, teachers use to make decisions and further describes how they construct their repertoire of "knowledge to make effective decisions about classroom situations" (p. 39). The example that Sparks-Langer and Colton (1991) use to illustrate this framework of cognitive reflection was derived from the activities observed during the undergraduate teacher education program at Eastern Michigan University, in the late 1980s, called the "Collaboration for the Improvement of Teacher Education" [CITE] (Sparks-Langer et al., 1990, as cited in Sparks-Langer & Colton, 1991, p. 38). The program promoted reflective thinking among student teachers and was comprised of "…structured field experiences, micro-teaching, one week of classroom teaching, journals, and writing assignments to help pre-student-teachers analyze, question, and reflect on the issues presented and reflect on the issues presented in courses" (p. 38).

From their research of the cognitive element, Sparks-Langer and Colton (1991) identified a "framework for assessing this type of reflective thinking" (p. 38). They include descriptions and explanations of teaching, learning and lessons using:

Level 1: No description of teaching and learning or any comments about the lesson.

Level 2: A simple description that most people outside of the education field can understand.

Level 3: Pedagogical ideas.

Level 4: Personal references.

Level 5: Documented pedagogical principles.

Level 6: Pedagogical principles and context.

Level 7: Ethical/moral considerations.

In the Narrative element, Sparks-Langer and Colton (1991) said that "the emphasis is on the teacher's own interpretations of the context in which professional decisions are made" (p. 41). Sparks-Langer and Colton (1991) describe the Narrative reflection as being similar to teachers who describe their classrooms and experiences with "settings, plots and characters" (p. 42). They suggested that one of the more common ways teachers use narrative reflections is with action research. Their contention is that this activity provided a venue to explore the notion of teacher reflection as well as the ability to conduct inquiry into a teacher's own practice.

Sparks-Langer and Colton (1991) said that within the Critical element of reflection, teachers assess their personal "experiences, beliefs, sociopolitical values,

and goals" (p. 39) as they think about the reasons or causes for successful or unsuccessful outcomes in an educational setting.

> In critical reflection, the moral and ethical aspects of social compassion and justice are considered along with the means as well as the ends. For instance, the teacher may choose a seating arrangement that facilitates cooperative learning in the hope of fostering a more equitable accepting society. (p. 39)

Karen Osterman and Robert Kottkamp (1993). While working at Hofstra University in 1990, Karen Osterman wrote about how reflective practice could have a positive impact on schools. She recognized and addressed the need for communication and collaboration in order for reflective practice to be effective. In 1993, Karen Osterman collaborated with colleague Robert Kottkamp, to examine the importance of reflective practice within the whole school organization. "Schools will become better places when teachers in classrooms and principals in schools and superintendents in districts begin to talk more about the vision and reality [of reflective practice] and when they begin to work together to devise better and more appropriate ways to meet the needs of the children they serve (Osterman & Kottkamp, 1993, p. 186).

Osterman and Kottkamp (1993) said that reflective practice was a learning process where the teacher identifies the problem, analyzes it, reframes it, and conducts research as a result of the knowledge gained. They stated that the awareness and problem identification are important first steps in the reflective process**.**

> Prompted by a sense of uncertainty or unease, the [teacher] steps back to examine this experience: What was the nature of the problem? What were my intentions? What did I do? What Happened? …Now motivated by an awareness of a problem [the teacher] uses new information to develop alternate theories that are more useful in explaining the relationship between actions and outcomes... (p. 21)

Osterman and Kottkamp (1993) saw problems for the teacher as "…a discrepancy between the real and the ideal, between intention and action, or between action and effects [that] further stimulates the inquiry and motivates the [teacher] to absorb new information as a part of an active search for better answers and more effective strategies" (p. 21).

They said that being aware of a problem motivates the teacher to want to gain new knowledge as a part of his or her professional development and develop ideas as to why a particular action or strategy in the classroom led to a specific result. From this discovery, Osterman and Kottkamp (1993) concluded that the teacher could begin exploring other strategies that might lead to better or more desired outcomes, and possibly lead to higher student achievement.

Vicki Kubler-La Boskey (1994). While working as an assistant professor in the Department of Education at Mills College in Oakland, California, Kubler-La Boskey contributed to Calderhead and Gates' compilation of essays on teacher reflection entitled, *Conceptualizing Reflection in Teacher Development* (1993). In it, she discusses her case study work with pre-service teachers and her "conceptual framework" (Calderhead & Gates, 1993, p. 23) that she designed to help serve as a guide for pre-service teacher education programs. The framework identifies two ability levels of reflection: Common Sense Thinkers and Alert Novices (Kubler-La Boskey, 1994). According to Kubler-La Boskey (1994), the Common Sense Thinker is the least complex or mature, and typifies reflective thinking that is short term and focused on immediate experiences. Additionally, she believes that the thinking tends

to be self-centered with a more immediate view of circumstances and potential problems. The Common Sense Thinker considers "learning-by-doing and trial-and-error" (p. 29) as effective pedagogical strategies and they do not recognize that there is still much to learn. She states that in some instances the Common Sense Thinkers assume that they already know enough from the experience of being students themselves at one time. Common Sense Thinkers tend to make "overly certain conclusions, broad generalizations" (p. 29) that are more black and white and show very little dependence on empirical research.

Kubler-La Boskey's description of the Alert Novices is that they are more advanced reflective practitioners than the Common Sense Thinkers. She says that Alert Novices are inclined to question accepted practices and "tended to ask 'why' questions" (Calderhead & Gates, 1993, p. 30). She considers this to be the most sophisticated ability level that a pre-service or beginning teacher will achieve. Another characteristic of the Alert Novice, says Kubler-La Boskey (1994), is that some of the Alert Novice teachers feel strongly about their subject matter, going beyond the technical aspects of teaching (i.e., literacy, social justice). She calls this a "Passionate Creed" (p. 90). She argues that, when reflecting about an event or a phenomenon, the Alert Novice's theme or "Passionate Creed" tends to manifest itself in the context of the reflection.

Kubler-La Boskey (1994) wrote that with time, Common Sense Thinkers could eventually evolve into more pedagogically thoughtful Alert Novices. In order for this

to happen, Kubler-La Boskey says that "teachers need to possess an attitude of suspended conclusion" (p. 10).

> When provided with a very powerful reflective experience that directly challenge misconceptions, Common Sense Thinkers may develop the capacity for pedagogical thinking. Though their initial thought processes may differ from Alert Novices or Pedagogical-thinkers, Common Sense Thinkers can become more like the others over time. (Calderhead & Gates, 1993, p. 25)

Neville Hatton and David Smith (1995). Hatton and Smith (1995) conducted a study at the University of Sydney to investigate what issues and strategies may encourage reflection in student teachers. They examined strategies that demonstrated evidence of reflective practice, factors that encouraged reflection, the characteristics of these factors, and what could potentially improve the conditions to promote this practice in the classroom. From this study they found four levels of reflection that emerged from the student teachers writings. These included: "Descriptive Writing, Descriptive Reflection, Dialogic Reflection and Critical Reflection" (p. 40).

"The first [Descriptive Writing level] is not reflective at all but merely reported events or literature" (p. 40). However, it was this Descriptive Writing that they said provided the impetus for student teachers to reflect.

"The second, Descriptive, [reflection] attempted to provide reasons based often on personal judgment or on students' reading of literature" (p. 40). It was the Descriptive Reflection levels, both in writing and in interviews that Hatton and Smith (1995) said provided the catalyst for Dialogic Reflection.

"The third, Dialogic level, is a form of discourse with one's self, an exploration of possible reasons" (p. 41). According to Hatton and Smith (1995),

having the ability to talk with a trusted peer appeared to foster the most frequent reflections.

The fourth, Critical Reflection level, involves "reason giving for decisions or events which takes account of the broader historical, social, and/or political contexts" (p. 41). Hatton and Smith concluded that all of the levels of reflection were valuable and all have an appropriate place for beginning teachers. They believed that all serve an important purpose as a teacher begins to link theory and practice.

Barry Bright (1996). Bright's focus was on non-teaching professionals. Bright (1996) identifies the use of reflective practice as part of training and ongoing professional development in a number of different professions. "To date it [reflective practice] has been adopted by the teaching, nursing, police, counseling, social service and clinical pharmacy professions, and appears in virtually every professional training mission statement or policy document as an espoused objective of professional training" (p. 163).

Bright (1996) discussed "three linked stages" (p. 162) associated with reflection and practice. He stated that the first stage was about understanding what reflection is. More specifically, knowing the aptitudes and abilities professionals hold is important in order to improve their practice. According to Bright (1996), the second stage involves transferring the knowledge and processes learned from understandings gained in the first stage and applying the knowledge into practice. In the third stage, he said the professional recognizes and utilizes learned reflective skills and techniques, assesses the results, and adjusts his or her practice accordingly.

Edward Pultorak (1996). Over a period of three years while at the University of Southern Illinois at Carbondale, Pultorak (1996) studied how novice teachers developed their process of reflection throughout their semester of student teaching. Drawing upon van Manen's (1977) work, Pultorak identified the Technical, Practical, and Critical levels of reflection as categories for analyzing reflections in student teachers over a 15-week semester. In the study, Pultorak divided his research into three 5-week stages.

Throughout each stage, Pultorak analyzed written reflections and interviews from student teachers. From this analysis Pultorak concluded that student teacher reflection evolved over the semester-long period. From his research, Pultorak concluded that there are certain activities that encourage deeper reflective thinking than others. He found that structured interviews appeared to yield the most growth in the student teacher. Pultorak surmised that more structured questioning helped the student teacher to reflect on the activity. Pultorak (1996) said that another explanation for this finding was that "some individuals found difficulty expressing themselves in written form" (p. 290).

Bud Wellington and Patricia Austin (1996). In their work at the University of New Orleans, Wellington and Austin (1996) proposed five reflective orientations that student teachers may possess at once or simultaneously. These include: The Immediate, Technical, Deliberative, Dialectic and Transpersonal orientations.

According to Wellington and Austin (1996), the Immediate orientation is characterized by a simple description that addresses what is required for the teaching

and learning activity. Wellington and Austin described the Immediate orientation with words such as superficial, shallow, and survival. They said that this level is typically non-reflective. When teachers do ask questions, they might be inquiries such as: “How can I make the day pleasant for myself and my students? [or] How can I avoid getting myself into trouble with students, colleagues and administrators?” (p. 309).

Wellington and Austin (1996) said that in the Technical orientation, a teacher would review his or her practice with the intention to create and perfect instructional strategies. The teachers who reflect from the Technical orientation, as described by Wellington and Austin, are grounded in an empirical-analytic (van Manen, 1977) approach to analyzing literature. According to Wellington and Austin (1996), teachers from this orientation may ask questions such as: “How can I achieve my goals for students most efficiently? [or] What are the most efficient and effective teaching techniques I can use to transmit information to my students?” (p. 309).

In the Deliberative orientation, Wellington and Austin (1996) said that the teacher attempts to personalize his or her professional learning and teaching strategies. “Their concern often extends beyond the classroom, helping individuals to discover personal relevance within the institutional structure” (p. 310). According to Wellington and Austin, Deliberative teachers are interested in making the content applicable and worthwhile for students. They tend to examine the cause of student behaviors with a consideration to modify instruction to help them.

The Dialectic orientation takes more of an activist approach by questioning, revising, and validating educational practices and beliefs. Unlike the more conforming

Immediate orientation, Wellington and Austin (1996) said that teachers in the Dialectic orientation tend to "reject the limitations of organized structures and parameters and are uncomfortable working within them" (p. 310). They said that teachers in the Dialectic orientation tend to be more politically aware, have an activist approach to social justice, and stress personal responsibility and empowerment. Teachers from this orientation might ask questions like: "How can we re-design institutions on more democratic principles? [or] How can I help students to liberate themselves from cultural oppression?" (p. 311).

Finally, Wellington and Austin (1996) stated that the Transpersonal orientation focuses on reflection being used for self-improvement, personal responsibility and internal decision-making responsibilities. They said that this orientation is more spiritually based and involves personal development. Questions from this orientation may include: "How can I integrate my personal/spiritual growth with my vocation? [or] What is my personal responsibility to myself and to others?" (p. 311). Although there may be an internal rejection of an institution's rules and organizational principles, they suggested that these teachers may still "accept working within these [authorized organizational structures and parameters]" (p. 311).

Linda Valli (1997). During her work as Director of Teacher Education at the Catholic University of America in Washington, DC, Linda Valli (1977) believed there were limitations in the way teachers in the United States were being prepared. Valli said "preparation for teaching has emphasized teachers' behaviors and skill development apart from thinking about those behaviors" (p. 69). She believed there

was a discrepancy when viewing the way teachers are prepared and the way in which teachers ought to think. It is this discrepancy that Valli (1977) said, “helps explain why teachers experience a gap between theory and practice…” (p. 79). Valli identified at least five different types of reflection that she recommended to be a part of teacher education programs (Valli, 1992, as cited in Valli, 1997). These include: Technical reflection, Reflection-In-Action (Schön, 1983) and Reflection-on action (Schön, 1987), Deliberative reflection, Personalistic reflection, and Critical reflection.

Valli (1997) said that the Technical reflection was based on pre-established research and rules that dictate how, and in most instances, what to teach. Her contention was that a teacher engaged in Technical reflection would typically reflect on things like; time-on-task, wait-time, active learning, student engagement, homework review, or activating prior knowledge. She said that if teachers received appropriate professional development, they would be able to utilize best practice techniques and strategies. Valli (1977) said that one of the limitations of Technical reflection is that teachers are usually reflecting on meeting the expectations established by someone else. She said that it is usually based on the rules that are set by the school or district, a purchased curriculum, or other institutionally accepted educational research.

Deliberative reflection involves considering different, and often times, competing points of view (Valli, 1997). She says that teachers who do this effectively can usually offer a good rationale for the decisions made. In making her argument that

Deliberative reflection ought to be included in teacher education programs, Valli (1997) stated that:

> Teacher educators would help prospective teachers deliberate on such conflicting viewpoints, determine the credibility of the sources, and consider the best alternatives for their particular students. Teacher educators would help students develop their capacities to become good decision makers. (p. 77)

Valli (1977) said that "Personalistic reflection focuses almost exclusively on relational and personal fulfillment issues" (p. 80) and that "teachers are encouraged to follow their intuition and their inner voice" (p. 81). She stated that the quality of this type of reflection is dependent on the teacher's ability to recognize his or her students' emotions, thoughts and feelings. Teachers not only consider their own professional growth but also their student's personal desires, concerns and hopes for the future.

Valli (1997) said "Habermas regarded the Critical [level] as the highest form of reflection because of its potential to eliminate misery and create social conditions necessary for human freedom and happiness" (p. 78). She believed that Critical reflection transcended the classroom and promoted consideration of the "social, moral, and political dimensions of schooling" (p. 75). Valli (1997) argues, "the aim of Critical reflection is not just understanding, but improving the quality of life of disadvantaged groups" (p. 78).

Claire Stanley (1998). While serving as an Associate Professor at the School for International Training, Stanley (1998) worked with six experienced teachers who were "attempting to implement reflection and reflective action into their teaching practice" (p. 585). She found there were five phases that represented the process of developing a reflective teaching practice.

These phases, engaging in reflection, thinking reflectively, using reflection, sustaining reflection, and practicing reflection, did not need to be represented in a particular sequence but instead is dependent on specific situations or experiences. “At certain points in time, given personal and contextual circumstances, teachers may find themselves in any of the phases” (p. 585).

Stanley (1998) said that when teachers are curious about learning and are actively thinking about their teaching, they are more likely to be engaged in reflection. She argued that there are many reasons for teachers not to be engaged, some of which are rooted in personal as well as professional circumstances. Some of these may include personal insecurities and fear to look within oneself, working in a non-reflective community, and not having time to reflect. She suggested that, in order for a teacher to want to participate in the reflective process, personal and professional circumstances should be somewhat stable in a teacher’s life. She also stressed that one needs “a healthy degree of ego development to put oneself and one’s work under the microscope” (p. 586).

Stanley (1998) believed that some teachers have attained the ability to think reflectively but that many teachers have not learned this skill. These teachers’ reflections may simply consist of recalling or describing the events that happened in class and nothing more. Stanly said that a teacher will become a more-reflective thinker when she/he begins to ask, and ideally, writes out specific questions after a lesson, and makes it a regular practice.

When teachers understand how to think reflectively, there will be an increased chance that they will begin to discover what works best for them and use it in their practice (Stanley, 1998). For example, Stanley suggested that by using journals, engaging in conversation, or using audio or video recordings, a teachers' practice will benefit. Stanley (1998) also states, "In the phase of 'using reflection', teachers begin to sort out the forms and feelings of the process that are most beneficial to their practice" (p. 587).

Sustaining reflection can be difficult. "One of the greatest difficulties is usually emotional reaction to what is uncovered through the investigation of classroom teaching" (p. 587). Teachers are not always pleased with what they discover such as "prejudice or favoritism toward certain students, learning styles, or theories of teaching and learning" (p. 587). She said that it is tempting for a teacher to avoid confronting what he or she may not want to discover. Despite this, Stanley (1998) believed that teachers could still sustain reflection "through readings, workshops, or dialogues with other teachers or professionals" (p. 588).

She said that it is important for a teacher to commit to the progress that is already established and continue to make discoveries in his/her practice no matter how uncomfortable the discoveries make him or her feel. Stanley believed it is easier to evaluate the discoveries made through sustaining a reflective thinking process. This can provide an opportunity to know one's self and one's students.

Stanley (1998) found that "after experimenting with the use of reflection for some time, teachers often develop frameworks and procedures for continuing

reflective thinking that leads to reflective action in their classrooms" (p. 588). She suggested that these frameworks are examined from the perspective of: "the teacher; the students, and their relationships; the materials or activities of [a] lesson; the processes that the students are asked to use; and the context of the school or program or the wider cultural society" (p. 588). She suggested that this examination will help promote reflective action in the classroom as well. Stanley argued that reflection can be an important part of teacher's practice if the teacher commits to reflective writing or reflective conversations on a regular basis.

Joelle Jay and Kerri Johnson (2002). While working within the University of Washington's Teacher Education Program [TEP], Jay and Johnson (2002) wrote about helping student teachers understand how to use reflection to their professional advantage. They asked "how [can we] capture the complexity of reflection in a way that reflects what teachers do in their practice?" [and] "how [can we] give students tools for learning reflection without reducing it to a technique" (p. 74). They suggested that teachers ought to think past the questions such as whether their strategies are working, and instead try to understand how the strategies are working.

Jay and Johnson (2002) described three dimensions of reflection that student teachers should use. These include: Descriptive, Comparative and Critical reflection.

Jay and Johnson said that the Descriptive Reflective dimension involved a teacher determining the problem, the object of reflection and what the personal classroom action was. They gave examples of questions that a student teacher that reflects from a Descriptive dimension might ask, "What is happening? Is this working,

and for whom? For whom is it not working? How do I know? What am I pleased and/or concerned about? What do I not understand? Does this relate to any of my stated goals, and to what extent are they being that?" (p. 77).

Jay and Johnson (2002) said that the Comparative Reflective dimension involves making decisions about problems by reflecting on it from a variety of points of view and requires the teacher to be open-minded to different and sometimes competing ideas. Questions of a teacher who reflects comparatively would include:

> What are alternative views of what is happening? How do other people who, directly or indirectly involved, explain what's happening? How does the research contribute to an understanding of this matter? How can I improve what's not working? What are some other ways of accomplishing it? How do other people accomplish this goal? For each perspective and alternative, who is served and who is not? (p. 77)

Jay and Johnson's third, Critical reflective dimension, involved making decisions through a thoughtful process of considering a variety of circumstances and consequences regarding a particular problem. They suggested that with the Critical reflective dimension, there is a continuous reflective process that the teacher participates in. "By no means a 'last step,' the Critical Reflective dimension is rather the constant returning to one's own understanding of the problem at hand" (p. 79). According to Jay and Johnson, questions from the Critical Reflective dimension might include:

> What are the implications of the matter when viewed from these alternative perspectives? Given these various alternatives, their implications, and my own morals and ethics, which is best for this particular matter? Which is the deeper meaning of what is happening, in terms of public democratic purposes of schooling? What does this matter reveal about the moral and political dimension of schooling? How does this reflective processing form and renew my perspective? (p. 77)

Jay and Johnson (2002) said it was worth noting that these dimensions of reflection are "not mutually exclusive" (p. 80) but instead, one ought to approach reflection with "a holistic view" (p. 79). They suggested that questions in each dimension help teachers learn about how reflection can "evolve in its own loops and leaps over time" (p. 80).

John Ward and Suzanne McCotter (2004). While working at Millersville University in Pennsylvania, Ward and McCotter (2004) questioned whether teaching reflection in teacher education programs would become devalued under President Bush's *No Child Left Behind* legislation. They said that because of the difficulty to evaluate, summarize, and report reflection in a quantifiable manner, teaching reflection might become marginalized. Ward and McCotter (2004) conceded that there might be some benefit to the high-stakes era of testing and that "a rigorous emphasis on student learning offers an opportunity for broadening the reflective focus of pre-service teachers" (p. 245). The emphasis, they believed, needed to remain on student growth and learning.

In their study, Ward and McCotter (2004) used data collected from student teacher work samples. One data source was a set of student test scores from the Renaissance Teacher Work Sample (TWS). The other was from data collected from The Collaborative Inquiry: Reflection, Questions about Student Learning (CIRQL). The levels identified for this study included: Routine, Technical, Dialogic and Transformative.

Originally, Ward and McCotter (2004) used the word Critical to identify the highest level of reflection; however, in the final analysis they chose to use the term Transformative instead of Critical as a descriptor for the most advanced level of reflection. They argued that the word "critical" may be interpreted to represent something that was "closely related to low-level reflection and led us to distinguish between moral questions about one's own practice and merely being Critical about the moral practices of others" (p. 251).

According to Ward and McCotter (2004), Routine reflections were actually poor examples of actual reflective practices. The reflective statements were usually brief, superficial and revealed a lack of genuine interest or attention to the experience (Ward & McCotter, 2004). They also reported finding evidence in their examination of writing samples of blaming others and situations for their struggles and frustrations.

At the next level [Technical], Ward and McCotter (2004) identified reflections that were usually associated with a means to "solve specific problems" (p. 252). Effort and attention was usually on the ends rather than the means. Ward and McCotter (2004) said that Technical reflection did not usually address the cause of a particular problem but instead addressed how one arrived at a solution in an effective and efficient way.

Ward and McCotter (2004) said that Dialogic reflections used discussion and the continual questioning of classroom activities and practices. They suggested that the Dialogic level of reflection takes into consideration, another's viewpoint on teaching and learning. Ward and McCotter consider an alternative viewpoint as one

that may even come from an internal dialogue the student teacher has with him/herself. They stress that this Dialogic reflection is a continual process in which questions lead to more questions about how to help students. They said, "One of the most common forms that this reflection takes is grappling with the learning process for a struggling student" (p. 252).

Ward and McCotter (2004) found no evidence of Transformative reflections in their observations of student teachers. Their findings suggested that most student teachers reflected within the Technical or Dialogic levels. Some aspects of Routine reflection were also present.

> The developmental path for many pre service teachers suggests that concern for self and gaining competency in teaching tasks is and probably should be the most immediate focus. The question is whether these beginning stages of reflection will contain the seeds for deeper reflection later or whether reflection is undertaken as a process that aims for improvement and is open to the ideas of others. (p. 254)

Through this work, Ward and McCotter (2004) developed a rubric for evaluating teacher reflection. The rubric seeks to answer three questions within a standards based system.

These questions include: "First, what are the qualities that distinguish more and less meaningful reflection? Second, how are these qualities related to a focus on student learning and student learning outcomes? Finally, how can we describe these qualities in a way as to make them visible in valued outcomes in their own right?" (p. 245).

Their rubric specifically examined the three identified levels of reflection through three dimensions, Focus, Inquiry and Change.

The Focus dimension, viewed the effort and attention a student teacher placed on the students, their learning, and the process of their learning (Ward & McCotter, 2004). As the teacher's focus moved from Routine to Dialogic, for example, the focus of the reflections changed from the teacher to students who were struggling academically.

The Inquiry dimension included personal questions about instances or events, new ideas, and questions that reevaluate preconceived notions (Ward & McCotter, 2004). Within the Inquiry dimension, the questions a student teacher might ask could range from the situational questions associated with a problem, to questions about different instructional strategies [Technical], to "perspectives of students, peers and others [Dialogic]" (p. 250).

Finally, the Change dimension asks the question: How do the questions that are posed, change a teacher's practice, their view on their students and ultimately their view on students' learning? (Ward & McCotter, 2004). Within the Change dimension, a student teacher will respond to events, situations, or problems by using ideas that were learned, and change his or her future approach or practice.

Ward and McCotter conclude that teacher educators need to ensure that reflection has a clearly identified objective in preparing teachers. Establishing a clear definition of reflection is a way that makes these qualities widely accepted and recognized is a way to help this process (Ward & McCotter, 2004).

SUMMARY

This chapter examined the research associated with the contributions made to the field of reflection, reflective thinking and reflective practice from nearly three decades of research. It is intended to provide a foundation from which to examine and interpret reflection, reflective thinking and reflective practice among student teachers for this study. The review begins with a discussion concerning the challenges of not having a clear definition for reflection, as it relates to teaching.

Contributing to the challenges "associated with the lack of a clear or concise definition is" (Rodgers, 2002, p. 843) that many authors who research reflection often interpret, classify and define it in slightly different ways. Although there are some common themes that emerged throughout the literature, the wide variety of perspectives and interpretations sometimes appear to conflict. Despite the various descriptions and interpretations of reflection, reflective thinking and reflective practice, there were areas within the literature that revealed similar themes and patterns of reflection.

Teacher reflection can be "effective when it leads the teacher to make meaning from the situation in ways that enhance understanding" (Loughran, 2002, p. 36). The promotion of reflecting on one's practice is an important component for growth and improvement within preparation and induction of teachers (NCATE, 2008). "The value of reflection to the development of teachers has a growing consensus among teacher educators" (Ward & McCotter, 2004, p. 244).

Chapter III

METHODOLOGY

INTRODUCTION

The purpose of this study was to examine the thoughts about reflective practice from a group of student teachers that recently completed their clinical teaching experience. This study explored the characteristics that student teachers believe represent a "reflective teacher": the focus and frequency of student teachers' use of reflection during their clinical teaching experience; the purpose and frequency for which they reflect; and the extent they find the reflective activities to be helpful. The study also examined what student teachers found to be the most challenging aspect of maintaining a written record of their reflections, and the strategies that could potentially help them overcome these challenges. Student teachers were asked to identify the mode(s) of reflection they might use when they begin their first year of teaching. Finally, responses from a group of student teachers were analyzed to determine upon which themes and levels student teachers reflected on early, mid-way, and toward the end of the clinical teaching experience.

The study utilized a mixed methods sequential explanatory research design (Ivankova et al., 2006)**.** Quantitative and qualitative survey data were first collected to

examine student teachers' responses as a group. Qualitative interview data were then collected to examine the perceptions and attitudes associated with their reflection experiences. Quantitative and qualitative data were both connected and analyzed with the intent "to explain and interpret quantitative results by collecting and analyzing follow-up qualitative data" (Creswell, 2009, p. 211).

Research Questions

The following research questions for this study were addressed:

Research Question One: Based on their experiences with reflection, what characteristics do student teachers believe represent a 'reflective teacher'?

Research Question Two (a): What is the focus and frequency of student teachers' use of reflection during their clinical teaching experience?

Research Question Two (b): What is the purpose and frequency of student teachers' use of reflection during their clinical teaching experience?

Research Question Two (c): To what extent do student teachers find reflective activities helpful?

Research Question Three: What modes of reflection do student teachers report they are likely to use when they begin their first year of teaching?

Research Question Four (a): What do student teachers report to be the most challenging aspect of maintaining a written record of their reflections?

Research Question Four (b): What strategies do student teachers report help, or could help them, in overcoming the challenges they experience?

Research Question Five: In examining written reflections from student teachers in the same group, what themes and levels of reflection are evident at the beginning, the middle, and at the end of their clinical teaching experience?

Although there were initial questions proposed for this study, the questions were further assessed for relevance and "reformulated" (Bogdan & Biklin, 1982, p. 161) shortly after the study began.

Research Methodology

The mixed methods sequential explanatory research design (Ivankova et al., 2006) included a survey and a focus group interview of student teachers from two religiously affiliated liberal arts universities in the Midwest. Responses from the survey were collected and analyzed using quantitative and qualitative methods. "Qualitative and quantitative approaches in a single study complement each other by providing results with greater breadth and depth. Combining 'what' with possible 'why' adds power and richness to [the] explanation of the data" (Roberts, 2010, p. 145).

> Qualitative research is an 'umbrella term' with multiple research strategies that share certain characteristics. They state that the data are "rich in description of people, places, and conversations, and not easily handled by statistical procedures. Research questions are not framed by operationalizing variables; rather they are formulated to investigate topics in all their complexity [and] in context. (Bogdan & Biklen, 1982, p. 2)

Qualitative studies have the potential of discovering new, and sometimes, unanticipated discoveries with the discussion of concepts related to the subject being researched (Marshall & Rossmann, 1995). According to Creswell (2007), a qualitative

study requires a commitment and a willingness to gather information that is not easily quantified in order to make sense of what's being examined or recorded. He said that having access to the thoughts and feelings of the subjects, the researcher can more easily report findings that would otherwise be difficult to quantify. Creswell (2007) also states that qualitative studies require sorting through narrative, descriptive and complex information, and breaking it down into smaller and more general thoughts, categories, or arguments.

Merriam (1998) stated that "Qualitative researchers are interested in understanding the meaning people have constructed, that is, how people make sense of their world and the experiences they have in the world" (p. 13). It can include researchers who "understand a situation that would otherwise be enigmatic or confusing" (Eisner, 1991, p. 58).

"While the terms Reliability and Validity are essential criterion for quality in quantitative paradigms, in qualitative paradigms the terms Credibility, Neutrality or Confirmability, Consistency or Dependability and Applicability or Transferability are to be the essential criteria for quality" (Lincoln & Guba, 1985, as cited in Golafshani, 2003, p. 601).

The qualitative interview data in this study were collected to determine possible connections between the perceptions and attitudes associated with the survey responses and their experiences with reflection. Quantitative and qualitative data connected the intent "To explain and interpret quantitative results by collecting and analyzing follow-up qualitative data" (Creswell, 2009, p. 211).

Quantitative and qualitative data were examined to determine the relationship between data sets and address the research questions. The quantitative data were analyzed using descriptive statistics and cross-tabulation. A focus group interview was conducted to collect qualitative data from six (n = 6) student teachers. Interviews were analyzed to identify possible themes and levels of reflection.

In an effort to control costs associated with the study, survey, interview, and written reflection data were collected from a university that was located near the researchers' residence. The university was also selected because of its use of a curricular model which recognizes the value of reflection in its teacher education program.

To minimize any potential conflicts of interest, data were collected from a university with which the researcher has no professional affiliation. (Bogdan & Biklen, 1982).

Finally, the data from previously submitted written reflections from 14 (n = 14) student teachers were examined and interpreted to determine themes and levels found in the student teachers' written reflections. The themes and levels were interpreted using information from the authors in the literature review (Dewey, 1909; Hatton & Smith, 1995; Killion & Todnem, 1991; Kubler-La Boskey, 1994; Schön, 1983, 1987; van Manen, 1977, 1991; Ward & McCotter, 2004; Wellington & Austin, 1996).

Pilot Testing

The survey instrument and the focus group interview protocol were tested for validation and determination of face validity. For the pilot test, nine doctoral students from a university cohort of candidates reviewed both the survey instrument and interview protocol to simulate the data collection process. As a result of the pilot test, changes were made to the survey instrument and interview protocol to improve question clarity and arrangement of the survey and interview protocol. Changes to the survey instrument involved reordering questions, creating fewer open-ended questions, and adding more categorical choices from which the subjects could choose. Changes to the interview protocol involved providing the survey instrument to subjects prior to asking follow up questions (Appendix G). These changes were intended to ensure a common and clear understanding of the topic being investigated and further align the interview to the survey and research questions.

Population

Fifty-eight (n = 58) student teachers that completed a clinical teaching experience at two religiously affiliated liberal arts universities in the Midwest represent the sample group for this study. The study consisted of responses by a group of student teachers to a survey instrument distributed at the University's program evaluation session. This session provided student teachers the opportunity to offer feedback and recommendations for the University faculty when working with student teachers in the future.

From this same group, six student teachers volunteered to participate in a focus group interview. Finally, written reflections assigned by, and submitted to, the student teachers' field experience supervisor, were made available to the researcher. These written reflections were completed during the student teachers' semester-long clinical teaching experience. Fourteen subjects' (n = 14) reflections were examined. Because elementary school student teachers were not required to submit daily written reflections, the sample of candidates that completed written reflections for analysis was limited to secondary school teachers.

Instrumentation

A survey was administered to 58 (n = 58) student teachers that recently completed their clinical teaching experience. The survey instrument examined the following elements:

- The characteristics that student teachers believe represent a reflective teacher.
- How often student teachers use reflective activities during their clinical teaching experience.
- The purpose for which they reflect, and the extent they find the reflective activities to be helpful.
- The modes of reflection student teachers report they will most likely use when they begin their first year of teaching.
- What student teachers report to be the most challenging aspect of maintaining a written record of their reflections.

- The strategies that help, or may help them in overcoming the challenges they reported.

The researcher also conducted a focus group interview with volunteers from the same group of student teachers who completed the survey in an effort to assist in understanding the data from the survey responses.

Finally, the researcher analyzed written reflection data from a sample of secondary school student teachers selected from the same group of student teachers who completed the survey instrument and who participated in the interview. The written reflections examined did not include student names. Efforts to maintain anonymity were taken. The themes and levels were analyzed using information from the authors in the literature review (Dewey, 1909; Hatton & Smith, 1995; Killion & Todnem, 1991; Kubler-La Boskey, 1994; Schön, 1983, 1987; van Manen, 1977, 1991; Ward & McCotter, 2004; Wellington & Austin, 1996).

The written reflections were analyzed early, mid-way and toward the end of the clinical teaching experience. This was similar to Pultorak's "three stages of time during the student teaching experience" (Pultorak, 1996, p. 284).

Data Collection

The survey instrument was completed by a group of student teachers and submitted to the researcher during the student teachers' end-of-semester evaluation session. Additionally, the researcher recorded and transcribed the data from the focus group interview in order to determine possible similarities or connections with the responses from the survey instrument.

> Interviews may be used in two ways. Either they may be the dominant strategy for data collection, or employed in conjunction with participant observation, document analysis, or other techniques. In all of these situations the interview is used together with descriptive data ... so that the researcher can develop insights on how subjects interpret some piece of the world. (Bogdan & Biklen, 1982, p. 103)

In addition to survey and interview data, the researcher also collected samples of required written reflections that were submitted to the student teachers' university supervisor throughout the semester long clinical teaching experience. The written reflections are similar to diaries with the intent of capturing the "little experiences of everyday life that fill most of our working time and occupy the vast majority of our conscious attention" (Wheeler & Reis 1991, p. 340, as cited in Bolger, Davis & Rafaeli, 2003, p. 580). "[Digital] diaries offer major advantages in terms of data entry, management, and accuracy. Since participants enter their responses directly into the electronic diaries, the process of transcribing and double-checking the data, which are costly and error prone, are bypassed" (Bolger et al., 2003, p. 596).

Data Analysis

The data analyzed in this study consisted of survey responses, interview transcriptions and a sample of submitted written reflections. All of the data from the survey responses, focus group interview and the examination of written reflections were analyzed using information found in the literature review.

The mixed methods approach included a survey instrument and a focus group interview of student teachers from two religiously affiliated liberal arts universities in the Midwest. Responses from the survey were collected and analyzed with

quantitative and qualitative methods. Quantitative and qualitative data were mixed to examine the relationship between data sets and address the research questions.

The quantitative data were analyzed using descriptive statistics and cross-tabulation. The analysis of the survey questions examined attitudes, opinions, and preferences. A focus group interview was conducted to collect qualitative data from fourteen student teachers. Interviews were analyzed to identify themes and levels of reflection.

The written reflections were analyzed from the review of the literature (Dewey, 1909; Hatton & Smith, 1995; Killion & Todnem, 1991; Kubler-La Boskey, 1994; Schön, 1983, 1987; Valli, 1997; van Manen, 1977, 1991; Ward & McCotter, 2004; Wellington & Austin, 1996) to determine what topics and what levels of reflection were represented in the written narratives.

The written reflections in the study were comprised of a number of personal stories or anecdotes that are representative of the themes and levels of reflective thinking conveyed in the literature.

> A common rhetorical device in phenomenological writing is the use of anecdote or a story. "Story" means narrative, something depicted in narrative form. On the one hand, all human science has a narrative quality (rather than an abstracting quantitative character) and the story form has become a popular method for presenting aspects of qualitative or human science research. (van Manen, 1990, p. 115)

Data collected from the student teachers' written reflections were examined qualitatively. The intention was to gain a "complex detailed understanding" (Creswell, 2007, p. 40) of the participant's reflections over the semester. The expectation was that the findings from the examination "include the voices of the participants" (p. 37).

Limitations

The limitations of a research study are the circumstances or factors that impact a study and are beyond the researcher's control. They are the restrictions that affect the identification and quantification of the study's results (Roberts, 2004). The following are some of the limitations that impacted the study:

1. The written reflections from the student teachers being studied, as compared to the all student teachers, was narrow and therefore was not representative of any larger populations or samples of student teachers.
2. The small sample size, may have affected the generalizability of the study. While the population in this study was small, the subjects in this study did appear to be interested in the topic of reflection. Nearly 100% of the open-ended questions garnered some response. Over 10% of the subjects in the sample volunteered to participate in a focus group interview.
3. Because of financial limitations, the size of the sample was smaller than most of the studies reviewed in the literature.
4. The study was conducted at two religiously affiliated liberal arts universities in the Midwest and therefore was not a representative sample of other universities at a state, regional or national level.
5. Because elementary school student teachers were not required to submit daily written reflections, the sample of student teacher written reflections was limited to secondary school student teachers.

6. The length of the clinical teaching experience in this study is approximately one semester, however some clinical experiences are shorter in duration depending on the school or district.
7. The University's education department in the study embraces reflection and the reflective decision making process as a part of the program's conceptual framework. The subjects in the study will be more familiar with the concept of reflection and its purpose, as compared with universities that have not incorporated reflection into their programs of study.
8. For the purposes of this study, student teacher candidates reported on their thoughts about reflection and reflection activities based on their clinical student teaching experiences. Although attempts were made to align responses with a specific author or a supporting theory, it was apparent that many of the authors and their corresponding theories complemented each other.

SUMMARY

The purpose of this study was to examine the thoughts about reflection from a group of student teachers that recently completed their clinical teaching experience. This study explored the characteristics that student teachers believe represent a 'reflective teacher': the focus and frequency of student teachers' use of reflection during their clinical teaching experience; the purpose and frequency of student

teachers' use of reflection; and the extent they find the reflective activities to be helpful. The study also examined what student teachers found to be the most challenging aspect of maintaining a written record of their reflections, and the strategies that could potentially help them overcome the reported challenges. Student teachers were also asked to identify the mode, or modes, of reflection they might use when they begin their first year of teaching. Finally, reflections from a sample of the same group of student teachers were analyzed to determine on which themes and levels student teachers reflected early, mid-way, and toward the end of their clinical teaching experience.

Chapter III included: a description and purpose of the study; research questions; the sample being studied; the selection process of subjects; the method; timelines and the process of the research; the collection and reporting of data; the background and rationale of doing a mixed methods sequential explanatory study; and the limitations of the study.

Chapter IV

RESULTS

INTRODUCTION

The purpose of this study was to examine the thoughts about reflection from a group of student teachers. These included characteristics that student teachers believe represent a "reflective teacher"; the focus and frequency of student teachers' use of reflection during their clinical teaching experience, the purpose and frequency of student teachers' use of reflection, and the extent they find the reflective activities to be helpful.

The study also examined what student teachers found to be the most challenging aspect of maintaining a written record of their reflections, and the strategies that could potentially help them overcome the reported challenging aspects. Student teachers were also asked to identify the mode, or modes of reflection, they might use when they begin their first year of teaching.

Finally, reflections, from a sample of the student teachers in this study, were analyzed to determine the themes and levels upon which student teachers reflected early, mid-way, and toward the end of the clinical teaching experience.

A mixed methods sequential explanatory research design was utilized that included a survey of 58 (n = 58) student teachers from two religiously affiliated liberal arts universities in the Midwest, a focus group interview with six (n = 6) student teachers from the same group that completed the survey, and an examination of assigned written reflections from 14 (n = 14) student teachers from this same group. In this design, both quantitative and qualitative data were gathered consecutively and analyzed separately utilizing a sequential explanatory research design (Ivankova et al., 2006).

Quantitative survey data were first collected to examine student teachers' responses as a group. The survey instrument also contained open-ended questions that asked for further clarification or elaboration on the questions. Responses were analyzed from the research. Interview data were then collected from a group of six student teachers from the same group who participated in a focus group interview after completion of the survey. The interview was recorded and transcribed. Data from the subjects' responses were analyzed and interpreted based on the research.

Assigned written reflection data from 14 (n = 14) secondary school student teachers, selected from the same group as those who completed the survey instrument were examined, in order to determine the themes and levels of reflection early, mid-way and toward the end of the subjects' clinical teaching experience. The themes and levels were analyzed using information from the authors in the literature review (Dewey, 1909; Hatton & Smith, 1995; Killion & Todnem, 1991; Kubler-La Boskey,

1994; Schön, 1983, 1987; van Manen, 1977, 1991; Ward & McCotter, 2004; Wellington & Austin, 1996).

Because elementary school student teachers were not required to submit daily written reflections, the sample of student teacher written reflections was limited to secondary school student teachers.

Quantitative and qualitative data were both collected and analyzed with the intent "to explain and interpret quantitative results by collecting and analyzing follow-up qualitative data" (Creswell, 2009, p. 211).

The survey instrument and the focus group interview questions were developed to address the purpose of the study, the statement of the problem and the subsequent research questions. A pilot study was conducted in which nine doctoral candidates were given the survey instrument to compete. The director of education at the university selected for this study also provided feedback on the survey. Additionally, a former principal and two former superintendents reviewed the survey instrument for validation and clarity.

The survey was conducted with 58 (n = 58) student teachers that recently completed the clinical teaching experience. Results from the survey provided both quantitative and qualitative data. The survey was administered and data gathered utilizing a paper-pencil instrument (Appendix E). The survey included a series of forced choice, Likert-item, and free response items. The interview with six student teacher candidates from the same group was conducted after completion of the survey.

The written reflections from 14 (n = 14) secondary school candidates were examined several weeks after the survey was administered. These written reflections were provided by the student teachers' field experience supervisor.

Quantitative survey data were analyzed, utilizing simple statistics and cross-tabulation. The qualitative data from the open-ended survey questions and the focus group interview, conducted with six volunteers, enabled additional data to be gathered to contribute to the understanding of the responses to the survey questions.

Consistent with the sequential explanatory design, quantitative and qualitative data were collected consecutively, analyzed independently and findings were reported separately in this chapter. Findings are organized by research question with quantitative data reported first and qualitative data second. Sequential explanatory quantitative and qualitative data occurs in Chapter V during a discussion of the conclusions.

Research Questions

This study was guided by a set of research questions that were developed from the literature. These research questions were developed to examine the thoughts about reflection among a group of student teachers that recently completed their clinical teaching experience.

Research Question One: Based on their experiences with reflection, what characteristics do student teachers believe represent a 'reflective teacher'?

Research Question Two (a): What is the focus and frequency of student teachers' use of reflection during their clinical teaching experience?

Research Question Two (b): What is the purpose and frequency of student teachers' use of reflection during their clinical teaching experience?

Research Question Two (c): To what extent do student teachers find reflective activities helpful?

Research Question Three: What modes of reflection do student teachers report they are likely to use when they begin their first year of teaching?

Research Question Four (a): What do student teachers report to be the most challenging aspect of maintaining a written record of their reflections?

Research Question Four (b): What strategies do student teachers report help, or could help them, in overcoming the challenges they experience?

Research Question Five: In examining written reflections from student teachers in the same group, what themes and levels of reflection are evident at the beginning, the middle, and at the end of their clinical teaching experience?

Description of the Sample

Student teachers from two religiously affiliated liberal arts universities in the Midwest were the subjects of this study. The universities, one predominately enrolling male students and the other predominately female students, both have coed classes. The sample was selected to represent student teachers at two small (under 5,000 students) affiliated universities in the Midwest. The interview group represented a subset of the student teachers from the same group that completed the survey. Samples of written reflections were selected from 14 (n = 14) secondary student teachers from the same group. Because written reflections were not required of the elementary

school student teachers, the sample of written reflections analyzed was limited to those of secondary school student teachers.

The survey was administered to 58 (n = 58) student teachers during a year-end program evaluation session.

After approximately 25 minutes, most of the student teachers completed and submitted their survey to the researcher. Of the 58 (n = 58) student teachers invited to participate, all agreed to participate. Individual surveys were reviewed for completion. All of the surveys were returned and completed representing a response rate of 100%. Response data was tabulated within a week of the survey.

Demographics of the subjects' gender and area of licensure are in Tables 1 and 2.

Table 1

Gender (n = 58)

Sex	N	%
Male	13	22
Female	45	78

Survey participants included students enrolled at one of two partner universities, one predominately male and the other predominately female students, but coed in some classes. The response choice for gender was redacted in the survey (Appendix E) in an attempt to maintain the anonymity of the institutions. There were 56% more female subjects than male subjects.

Data were also gathered on the subjects' area of licensure preparation. Results are listed in Table 2.

Table 2

Area of Preparation (n = 58)

Area of License	N	%
K-6 (elementary generalist)	31	53.4
K-12 (world languages, visual art, music)	13	22.4
K-8 (world language endorsement)	2	3.4
5-8 (general science, math, language arts endorsement)	14	24.1
5-12 (science, language arts, social studies, mathematics)	14	24.1
K-12 (ESL)	5	8.6

The majority of student teachers participating in the study (n = 31, 53.4%) reported preparing for a K-6 grade elementary school generalist licensure. Fourteen subjects (n = 14, 24.4%) reported preparing for a 5-8 grade (general science, math, language arts endorsement). Fourteen subjects (n = 14, 24.4%) reported preparing for a 5-12 grade (science, language arts, social studies, mathematics) licensure. Thirteen subjects (n = 13, 22.4%) reported preparing for a K-8 grade world language, visual art, or music licensure. Five subjects (n = 5, 8.6%) reported preparing for a K-12 grade

English Language Learner licensure and two (n = 2, 3.4%) subjects reported preparing for a K-8 grade world language endorsement.

RESEARCH QUESTION 1

The first research question examined personal and professional opinions of what student teachers believed are the characteristics of a reflective teacher. Both quantitative and qualitative data were collected from the survey and analyzed to examine research question one.

To gather the quantitative data, 58 subjects (n = 58) were asked to assess seven different statements describing behavioral characteristics to determine if they thought the statement was a more, somewhat, or less descriptive characteristic of a reflective teacher. Subjects were also given an opportunity to identify other characteristics they considered descriptive of a reflective teacher.

Other qualitative data were collected from an interview conducted with six subjects (n = 6) from the same group. The subjects were asked to expand on the survey question in order to provide more detail about what they thought were characteristics of a reflective teacher. The responses were transcribed and analyzed to enhance the understanding of the survey responses. Quantitative and qualitative findings are presented independently.

Quantitative Survey Data

The survey question asked subjects to rank whether they believed the following characteristics were more, somewhat, or less descriptive of a reflective

teacher. These characteristics of a ‘reflective teacher’ were: ‘is interested in improving teaching skills; seeks new ways to reach students; thinks about social or cultural influences in the classroom; seeks colleagues’ perspective on teaching; consults research literature on teaching, question the way things are done; and thinks quickly under stress.’

Research Question One: Based on their experiences with reflection, what characteristics do student teachers believe represent a “reflective teacher”? Results from the survey question are presented in Table 3.

Table 3

Characteristics that Student Teachers Believe Represent a ‘Reflective Teacher’ (n = 58)

Reflective Teachers…	More Descriptive		Somewhat Descriptive		Less Descriptive	
	N	%	n	%	n	%
Are interested in improving teaching skills.	55	94.8	3	5.1		
Seek new ways to reach students.	48	82.7	10	17.2		
Thinks about social or cultural influences in the classroom.	48	82.7	9	15.5	1	1.7
Seek colleagues’ perspective on teaching.	40	68.9	16	27.5	1	1.7
Consult research literature on teaching.	31	53.4	19	32.7	8	13.7
Question the way things are done.	39	67.2	17	29.3	3	5.1
Think quickly under stress	26	44.8	20	34.4	8	13.7
Another characteristic of a reflective teacher is…	33	56.8	3	5.1		

The majority of subjects (n = 55, 94.8%) reported that a more descriptive characteristic of a reflective teacher is one who is interested in improving his or her teaching skills. Forty-eight subjects (n = 48, 82.7%) reported that a more descriptive characteristic of a reflective teacher is one who seeks new ways to reach students. Forty-eight subjects (n = 48, 82.7%) reported a more descriptive characteristic of a reflective teacher is one who thinks about social or cultural influences in the classroom. Forty subjects (n = 40, 68.9%) reported a more descriptive characteristic of a reflective teacher is one who seeks colleagues' perspective on teaching. Thirty-nine subjects (n = 39, 67.2%) reported a more descriptive characteristic of a reflective teacher is one who "questions the way things are done".

Qualitative Survey Data

When provided with the opportunity to identify another characteristic of a reflective teacher, the subjects also identified thirty-five additional characteristics. The statements were divided in to three categories of characteristics of reflection. One set of statements categorizes a teacher as one who thinks about new approaches to reach students (Ward & McCotter, 2004). Below were examples of statements that would be considered new approaches to reach students:

> Motivating students to achieve their goals.
> Who cares about students' achievement and works towards helping them achieve at high levels.
> Quick to adjust teaching strategies to students' benefit.
> Looking at student performance and feedback.
> One [who] takes the time to try a variety of teaching techniques.
> Implementation of new material/lessons to further enhance student learning.
> Adapt lesson plans/teaching methods to students' needs.

Another set of statements that categorize a reflective teacher is one who reacts and makes adjustments while teaching (Schön, 1987), and who thinks about, and plans for upcoming lessons (van Manen, 1991; Killion & Todnem, 1991). Below were examples that are considered adjustment actions during a lesson and planning for future lessons:

> Examines past teaching and attempts to improve based on [test results].
> Makes changes or notes changes that should be made the next time a lesson is taught.
> Is flexible during times of change and can make quick decisions.
> Changing practices based on experiences.
> Make changes to lessons/ideas regularly.

Qualitative Interview Data

In addition to the quantitative and qualitative survey data that were collected, interview data were transcribed, analyzed and coded to help answer research question one. Six subjects (n = 6) from the same group that completed the survey participated in a focus group interview to gather this qualitative data. Interview subjects were asked to describe characteristics they believe are representative of a "reflective teacher." Two categories of characteristics emerged from the analysis of their responses.

The first subject's response reinforces the notion that a "reflective teacher" places high value on improving one's teaching skills (van Manen, 1977; Valli, 1997).

> …I think that one [improving teaching skills] is the most descriptive [and] it certainly would be the basis of my teaching.

Another characteristic to emerge was, of a teacher who seeks new ways to reach students. (Ward & McCotter, 2004). Below are two responses that are identify this characteristic:

> When I think of a reflective teacher, I think of somebody who was constantly thinking how they can change their teaching for their students needs. So, constantly using your student assessments and your student performance. How you change your teaching skills or your teaching approach… and work on your teaching skills so that your students can succeed.

The second subject talked about reaching students but also improving teaching skills and communicating with others:

> I actually thought about it a little bit differently. I thought the second one [Seek new ways to reach students] was the umbrella term. If you're looking for new ways to reach your students, I thought that that might include improving your teaching or talking to other colleagues. I thought that term encompasses everything. If you're really interested in reaching your students, then you need to look at yourself as a teacher to improve your own style.

RESEARCH QUESTION 2

Research question two was separated into three sub-questions. These included: the focus of student teachers' reflection, the purpose for which they reflected, and, how helpful student teachers found the reflective activities to be.

Research Question Two (a): What is the focus and frequency of student teachers' use of reflection during their clinical teaching experience?

Research Question Two (b): What is the purpose and frequency of student teachers' use of reflection during their clinical teaching experience?

Research Question Two (c): To what extent do they find reflective activities helpful?

Research Question Two (a): Quantitative and Qualitative Survey Data

Two survey questions gathered data to help answer sub question two a. Quantitative and qualitative data were collected and analyzed to examine Research Question Two a. The quantitative survey instrument included a question regarding the frequency and the focus of their reflection activities.

Both quantitative and qualitative data were collected for this sub-question. To gather quantitative data regarding the focus and the frequency of student teachers' use of reflection, a Likert-item response was sought. Subjects were asked how often they wrote about their teaching experiences, how often they talked with veteran teachers, how often they talked with other student teachers, or, how often they thought about their teaching experiences.

To gather qualitative data, the survey instrument included an open-ended response question, which was: "I reflected on my student teaching in other ways". Responses were transcribed and analyzed to identify themes consistent with the research.

Descriptive statistics were utilized to determine response frequency. Quantitative and qualitative findings are presented independently.

Research Question Two (a) asked subjects to rank whether they focused their reflections often, occasionally, or rarely on the following:

> Writing about my teaching experiences, talking with veteran teachers, talking with other student teachers, thinking about my teaching experiences, or, I reflected on my student teaching in other ways.

Responses and frequencies are presented in Table 4.

Table 4

Focus and Frequency of Student Teachers' Use of
(n = 58)

I focused my Teaching Reflections on…	Often		Occasionally		Rarely	
	N	%	n	%	n	%
Writing about my teaching experiences.	41	70.6	10	17.2	5	8.6
Talking with veteran teachers.	22	37.9	27	30.6	9	15.5
Talking with other student teachers.	20	34.4	24	41.3	14	24.1
Thinking about my teaching experiences.	53	91.3	4	6.8		
I reflected on my student teaching in other ways	27	46.5	11	18.9		

The majority of subjects (n = 53, 91.3%) reported that they often thought about their teaching experiences as a way of reflecting during the clinical teaching experience. Forty-one subjects (n = 41, 70.6%) reported that they often wrote about their teaching experience as a way of reflecting during their clinical teaching experience.

Qualitative Survey Data

In addition to the survey question, subjects were asked to respond to an open-ended question that asked them to expand on other ways they focused their reflections on their teaching. Thirty-seven (n = 37) responses were gathered from the statement: "I reflected on my student teaching in other ways." The responses were analyzed and

separated into four categories based on the literature. These included reflecting on their past & future lessons, reflecting on their students, reflecting with others and conducting research (Dewey, 1909; Killion & Todnem, 1991; Kubler-La Boskey, 1994; Schön; 1983, Valli, 1997; van Manen, 1991).

In the first set of responses, the subjects reported that they reflected often or occasionally on their lessons (Schön, 1983) or that they planned for future lessons (Killion & Todnem, 1991; van Manen, 1991). Below are examples of responses from the subjects that are consistent within this category:

> When planning future lessons, pulling up past lessons and thinking about how they went and how I should apply this knowledge to future lessons.
> Student understanding, looking at students' scores or with daily assessments to see if I was effective.
> Taking notes of things that went well in a lesson or lesson plans.
> Journaling, making changes to lessons/ideas.
> Section of lesson plans.
> Thinking of different ways to teach the same lesson.
> What was or was not effective.
> How I managed the class.
> Writing on lesson plans.

In the second set of responses, the subjects reported that they reflected often or occasionally about their students (Kubler-La Boskey, 1994; Valli, 1997). Below are examples of responses that are consistent with this type of reflection:

> Writing about my students.
> Student interests and activities and responses to activities.
> Interactions with students.
> Experiences with students.
> My interactions/relationships with my students.
> Responding to student feedback.
> My students and reactions to my students.
> Sharing what my students talk to me about.
> Student responses to lessons.

In the third set of responses, the subjects reported that they reflected often or occasionally with others (Dewey, 1909, Valli, 1997). Below are examples of responses from the subjects that are consistent with this type of reflection:

> Talking with others, not people who studied education.
> Specific views in my teaching.
> With a supervisor and director.
> Observing veteran teachers.
> Discussing my lessons with teachers who have taught similar things.
> Talking with my supervisor.

In the fourth set of responses, the subjects reported that they often or occasionally conducted research (Valli, 1997). Below are examples of responses from the subjects that are consistent with this type of reflection:

> Researching ways to improve teaching strategies.
> Ways to help my specific class. Researching best practice.
> Looking for professional development materials online.

Qualitative Interview Data

Six student teachers participated in a focus group interview to gather qualitative data. Subjects were asked to describe the frequency and the focus of their reflection activities during their teaching. Interview responses were analyzed. The responses were varied and addressed several themes based on the literature.

The first subject's comments were consistent with Schön's (1983, 1987) reflection in and on action.

> For me, I was reflecting all the time, whether I was reflecting during lesson or if I look at my students and they're not engaged or not understanding. I'll [say], 'this is off base,' and I'll have to do something else and adapt. [Going] back to that first question, to reach my students, I did reflect after every lesson and say; 'Does this change how I teach tomorrow? When I teach the same

> thing next year? What would I change in this lesson?' It's constant reflecting about yourself and your lesson and…it's about the students.

The subject's comment "Does this change how I teach tomorrow, or when I teach the same thing next year?" was consistent with van Manen's (1991) Anticipatory form of reflection and Killion and Todnem's (1991) research of reflection for action.

Another subject added that the students' feedback during the lesson is important:

> Reflecting on the spot is so important. I remember I was teaching [class] and getting feedback from the students, [and] in theory this lesson should have worked. I was giving them an assignment so they probably just weren't that motivated to do that anyway but it just wasn't working well and the students knew it, and I knew it and so I asked them, 'what do we need to change?' because it was clearly not working. I think it's just really important to be spontaneous sometimes and reflect, but have the students reflect as well.

A third subject's comments identified with Valli's (1997) Personalistic level of reflection of considering relationships with others. It is also consistent with the assertion is that there is an appropriate time and setting for all types of reflection (Jay & Johnson, 2002; Stanley, 1998; Hatton & Smith, 1995).

> I think that is so true, especially because, as a part of our student teaching, we were required to write something down everyday. I think, during the day, I was reflecting on the lesson and on the lesson plan, but in the journals I was thinking; 'how was I doing, how was my relationship with my cooperating teacher?, with my students?' I just think there are so many parts of reflection that use different styles to reflect in different ways.

A fourth subject discussed reflection that reinforced Ward and McCotter's (2004) Dialogic level of reflection as being an ongoing process.

> I don't think reflection is a formal thing. Ideally, I think it's important to journal and get thoughts down, and make sure [I'm] teaching to [my] philosophy. But reflection is just like sort of a natural thing and that teachers should naturally have that reflective instinct. I don't sit and journal after the lesson, 'what went well today?', what didn't?', because you just know, and

> you remember the things that work and things that didn't work, so your just constantly reflecting…it just sort of happens.

A fifth subject talked about reflecting in action (Schön, 1987):

> I think for teachers, reflection is almost like assessments for students. You can have the summative reflection and the formative reflection. Even as soon as your words come out of your mouth, if you see one blank look, you might think of rephrasing what you just said. Even just one blank look, you might need that. That constant reflection on things is important.

Research Question Two (b) was slightly different from Research Question Two (a) in that it asked student teachers to consider the purpose of their use of reflection during their teaching. One survey question addressed this sub question. Quantitative and qualitative data were collected and analyzed to examine this question. The survey instrument asked how often, and for what purpose student teachers reflected on their teaching. It included a Likert-item and an open-ended response opportunity. Both quantitative and qualitative data were collected for the question and analyzed separately.

To gather additional qualitative data, the interview included a similar question regarding student teachers' perspectives on how often, and for what purpose they used reflection during their clinical teaching experience.

Qualitative responses were transcribed and analyzed to identify themes consistent with the research. Quantitative and qualitative findings are presented independently.

Quantitative Survey Data

The quantitative survey instrument requested subjects to rank how often, and for what purpose reflection were used during their clinical teaching experience.

The survey question for Research Question Two (b) asked subjects to rank whether they reflected often, occasionally, or rarely on the following purposes:

> Consider ways to adjust my decisions or actions; improve my classroom management; enhance my lesson planning; think about new ways to reach my students; consider other areas for my improvement; understand social or cultural and influences on education; and meet a requirement for my student teaching program.

Research Question Two (b): What is the purpose and frequency of student teachers' use of reflection during their clinical teaching experience? Responses and frequencies are presented in Table 5.

Table 5

Purpose and Frequency of Student Teachers' Use of
(n = 58)

I used reflection to…	Often		Occasionally		Rarely	
	N	%	N	%	n	%
Consider ways to adjust my decisions or actions.	46	79.3	14	24.1		
Improve my classroom management.	40	68.9	24	41.3	1	1.7
Enhance my lesson planning.	33	56.8	21	36.2	3	5.1
Think about new ways to reach my students.	41	70.6	15	25.8	1	1.7
Consider other areas for my improvement.	42	72.4	17	29.3	1	1.7
Understand social or cultural and influences on education.	23	39.6	28	48.2	6	10.3
Meet a requirement for my student teaching program.	34	58.6	19	32.7	4	6.8
I used reflection for other purposes.	18	31	3	5.1		

The majority of subjects (n = 46, 79.3%) reported that they often used reflection to consider ways to adjust their decisions or actions. This was consistent with a level of reflection, in which a teacher's effort is on understanding the quality and types of experiences in making future decisions (Killion & Todnem, 1991; Schön, 1983; van Manen, 1977, 1991).

Forty-two subjects (n = 42, 72.4%) reported that they often used reflection to consider other areas for their improvement (Valli, 1997; van Manen, 1977; Wellington & Austin, 1996).

Forty-one subjects (n = 41, 70.6%) reported that they often used reflection to think about new ways to reach their students (Ward & McCotter, 2004).

Forty subjects (n = 40, 68.9%) reported that they often used reflection to consider improving their classroom management (Ward & McCotter, 2004).

Qualitative Survey Data

In addition to the survey question, subjects who completed the survey instrument were asked to respond to an open-ended question that asked them to expand on what purpose reflection is used. Twenty-one responses were gathered from the statement: "I used reflection for other purposes." The purposes that were identified as being used often or occasionally by the subjects were analyzed and separated into two categories based on the literature. These included improving on their professional development and growth and, about their students (Kubler-La Boskey, 1994; Valli, 1997; van Manen, 1977; Wellington & Austin, 1996).

In the first set of responses, the subjects reported that they used reflection often or occasionally to improve on their professional development and growth (Valli, 1997; van Manen, 1977; Wellington & Austin, 1996). Below are examples of responses that are consistent with this type of purpose:

> Work/life balance.
> Center and focus myself.
> My own benefit (it's therapeutic).
> Understanding my frustrations and shortcomings.
> Being able to come back and see how I reacted in certain experiences.
> Learning my personal teaching style.
> Professional development.
> To see what my areas of strengths are.
> Write down my thoughts and struggles.
> Remembering certain moments.
> My knowledge of content.

In the second set of responses, the subjects reported the purpose for their reflection was often or occasionally about their students' learning (Kubler-La Boskey, 1994; Valli, 1997). Below are examples of responses from the subjects that are consistent with this type of purpose:

> Thinking about the best ways to teach students. Using modern issues to connect with students' lives.
> Creating a better learning environment for my students.
> Think about what I am trying to get across to students and why I am a teacher.
> How to connect with more than three quarters of my class each lesson.
> Researching new ways to engage students.
> Adapting and discovering what was successful for my students.
> Improve student success.

Qualitative Interview Data

The interview gathered data from six subjects (n = 6) who were asked to expand on the purpose for which they used reflection. The results from the interview

are reported below. Several themes emerged that were consistent with the survey responses and the open ended responses. Although their reflection on behavior management can be defined as a Routine level (Ward & McCotter, 2004), the subjects were cognizant of reflecting at different levels simultaneously, depending on the situation. The assertion is that there is an appropriate time and setting for all types of reflection (Hatton & Smith, 1995; Jay & Johnson, 2002; Stanley, 1998).

> I think I hit all those different reasons at different times depending on the needs of my class. For third grade, behavior management was a breeze for me and then I moved on to eighth-grade for my second placement and… that was the thing that I had to constantly change in [order to] make it work for those 35+ students. I did consider all the other purposes too, but some seem to be more urgent to reflect on and to discuss with my cooperating teacher. I definitely did try to hit all those and I did have student teaching requirements as well, but behavior management was a big thing for my last six weeks of student teaching.

Another subject added:

> I agree with that too, especially the middle school level. Because when I was at the high school, classroom management was breeze, and then I walked into seventh grade and, I needed help. I went to my teacher and asked, ‘okay what can we do?, how do we handle students that are walking around room, because they can't sit still?’ Whereas, in the high school they could sit for two hours and not move. It's just such a difference.

The following quote is consistent with Kubler-La Boskey’s (1994) Alert Novice ability level. In this response the subject refers to her passion for what she is teaching. Kubler-La Boskey (1994) describes this as a passionate creed, having a passion for the area in which the student teacher is preparing to be licensed.

> For me, I think the biggest thing I reflected on was on new ways to teach my students. I have such a passion for what I’m teaching that I want my students to have that passion as well. Trying to get that intrinsic motivation within them, by approaching the lesson in different ways, [or] explaining

> demonstrations in a different way. I would do that because I would like them to have that passion.

Another subject revealed a similar commitment to her students (Wellington & Austin, 1996; Valli, 1997), however, as in the examples above, there was a transition to a focus on a more Routine reflection of behavior management (Ward & McCotter, 2004).

> I think that it comes down to your students, because you're there for them, so when I think about reflecting on my management and managed behavior in the classroom, it comes down to that, getting those students motivated. I think about reflecting on my teaching, or… I think of, 'what can I do to make my students motivated?', [or] 'what do I need to change, so that they are on task, so that they don't act out, because they're motivated to learn?'. It comes down to adapting your teaching skills, so that you could meet the needs of your students and make sure that they were motivated and interested in what they're learning.

The next subject discussed solving problems of motivation and engagement. However, it was evident that there was also an interest in improving efficiency (Wellington & Austin, 1996):

> For me it was a similar thing, I was also in high school, so it's probably a little bit different, but for me it was, thinking of activities and ways that I can reach these students in different ways, depending on their needs. All my students have different needs obviously; some of them had different cultural needs. I had a lot of student that were [English Language Learners] in my classes, and that was different. In some sections we had a lot of [EL] students and some [we] didn't. I had to change, based on the particular class I was teaching, what I needed to reflect about. If I reflect on my teaching and reflect on how to reach those students, then the classroom management is kind of solved, if they're all on task.

Two survey questions addressed Research Question Two (c): The first question asked student teachers if they thought the written reflection activity was very helpful, helpful, somewhat helpful, not helpful, or that they did not keep a written journal.

Quantitative Survey Data

Quantitative data were collected and analyzed to examine this sub question. The quantitative survey instrument asked subjects to rank how helpful they thought writing out their reflections in a journal were. The instrument included four forced-choice responses.

Research Question Two (c): To what extent do student teachers find reflective activities helpful? Responses are presented in Table 6.

Table 6

The Helpfulness of the Writing Out Reflections
(n = 58)

Benefits of a Reflective Journal	n	%
Yes, writing about my experiences in a journal was very helpful.	18	31.0
Writing about my experiences was somewhat helpful.	22	37.9
No, writing about my student teaching experiences was not helpful.	3	5.1
I did not keep a reflective journal	15	25.8

Of those subjects who kept a journal, the majority (n = 22, 37.9%) said writing was somewhat helpful. Eighteen subjects (n = 18, 31%) who kept a journal said writing was very helpful. Three subjects (n = 3, 5.1%) found that writing about their

student teaching was not helpful. Fifteen subjects (n = 15, 25.8%) reported not keeping a reflective journal.

Qualitative Interview Data

The interview gathered data from six subjects (n = 6) about whether they thought writing about their teaching experience was helpful. Below are some of the responses to this question:

> [Yes] Helpful. It was definitely like a task, but it was kind of therapeutic at the same time. That was how I would end my day.

Another subject added:

> In our journals, prompts for things like; 'How are you adjusting to the student teaching life?', was very therapeutic on a personal level, or, 'how was I personally doing in a situation?'. It was like a diary or a journal, but I think reflecting on specific lessons is important when we just jotted down, 'what went right? [and] what went wrong?'

Another subject discussed reflecting on her action Schön (1987), and what to do in the future (Killion & Todnem, 1991; van Manen, 1991).

> I was scared, I was so scared that I was going to be that girl that had eight weeks of work to do, the last week, but I did it every day and it became a therapy tool. [It was] like, 'ok what went well?, what didn't go well?, what did we need to change?'

The next subject talked about the benefit of reflection as being relevant to her experiences (Dewey, 1909). Toward the end of her comments there is evidence of van Manen's (1977) Hermeneutic-Phenomenological level of understanding and re-experiencing the events that take place in the classroom.

> In our journal we had more specific prompts, and at first I really liked that. When I came to one that said 'your choice' it was like, 'whoa, what do I write about?' 'You were giving me such specific ones.' [laughter]. But then at my second placement I actually started not liking the specific ones because they

> got a little too specific, so those didn't help much at all. I just wrote them because I had to. But the 'your choice' ones, the ones that I had more options on, actually became my favorite. I could write about a specific lesson, write about a specific situation, the student, or parent teacher conferences. Things that were a lot more relevant to what I was actually doing.

Another subject discusses the benefit belonging to a community (Dewey, 1909).

> It was kind of nice because the questions were [what] everyone was going through, 'what didn't go well today?' questions like that. Everyone's going to have something to say. So it was kind of unifying.

This final subject reported struggling with the assigned reflections. Her comments indicate an apparent desire to belong to a community (Dewey, 1909) as evidenced by her reference to blogging and keeping a video journal.

> I didn't like sitting down and formally writing full sentences and paragraphs personally, which was a requirement for these reflections. What I like to do is, after teaching a lesson, take the physical written lesson plan and scribble all over and say; 'this', and 'nope, this', 'next time this' with bullets afterwards. While I said I wouldn't hand in my messy handwriting, I would have rather drawn a mind map or did bullet points or kept a video journal, or something that's just more my style. I'd rather blog than [type formal sentences] on the keyboard. That's just how I prefer to communicate. To have to do this for my requirements was frustrating sometimes.

The second survey question that addressed Research Question Two c., included a Likert-item response to gather more specific data about the benefits of reflection to their teaching. Responses included: 'Managing my students' behaviors; responding to my students' needs; planning future lessons; solve existing problems; preparing for emerging problems; understand the forces that influence education (social; cultural; political); becoming a more efficient teacher (doing things the right way); discovering my students' needs; and becoming a more effective teacher (doing the right things when needed).'

Both quantitative and qualitative data were collected and analyzed to examine this survey question.

Quantitative Survey Data

The quantitative survey instrument requested that subjects rank if a mode of reflection was: very, somewhat, or not beneficial to their teaching. They could also indicate if they were unsure.

Research Question Two (c): To what extent do student teachers find reflective activities helpful? Response frequencies are presented in Table 7.

Table 7

The Benefits of Reflection
(n = 58)

Benefits of	Very Beneficial		Somewhat Beneficial		Not Beneficial		Can't Say	
	N	%	N	%	n	%	n	%
Managing my students' behaviors.	23	39.6	32	55.1	3	5.1		
Responding to my students' needs.	33	56.8	25	43.1	1	1.7		
Planning future lessons	36	62.0	20	34.4	2	3.4	2	3.4
Solve existing problems.	36	62.0	22	37.9	2	3.4		
Preparing for emerging problems.	23	39.6	27	46.5	6	10.3	2	3.4
Understand the forces that influence education (social; cultural; political)	27	46.5	28	48.2	3	5.1	1	1.7
Becoming a more efficient teacher (doing things the right way)	46	79.3	10	17.2	4			
Discovering my students' needs	39	67.2	10	17.2	1	1.7		
Becoming a more effective teacher (doing the right things when needed)	45	77.5	11	18.9	2	3.4		
Other (Please Explain)	21	36.2	4	6.8				

The majority of subjects (n = 46, 79.3%) reported that reflection helped them become more efficient (doing things the right way). Forty-five subjects (n = 45, 77.5%) reported that reflection helped them become more effective (doing the right things when needed). Thirty-nine subjects (n = 39, 67.2%) reported that reflection helped them discover their students' needs.

Qualitative Survey Data

In addition to the survey question, subjects who completed the survey instrument were asked to respond to an open-ended question that asked them to expand on whether reflection benefited their teaching during their clinical teaching experience. Twenty-two (n = 22) responses were gathered from the choice of 'other' benefits of reflection. The 'other' that subjects identified as very, or somewhat beneficial, were analyzed and separated in to four categories based on the literature. These included improving on their professional development and growth, helping their students, reflecting while the lesson is going on, and reflecting for future lessons (Killion & Todnem, 1991; Kubler-La Boskey, 1994; Schön, 1983; Valli, 1997; van Manen, 1977, 1991; Wellington & Austin, 1996).

In the first set of responses, the subjects reported that reflection benefitted their teaching by helping them with their professional development and growth (Valli, 1997; van Manen, 1977; Wellington & Austin, 1996). Below are examples of how reflection benefitted their professional development and growth:

> How I value myself as a teacher.
> Managing my own stress.
> Helping me understand what I need to work on as a teacher.

My own time management skills.
Understanding myself as a teacher.
Thinking about the days' lesson as a whole, after-words.
My personal growth and confidence.
Being able to have time to write down thoughts and reflect to be able to keep it in memory.
To keep my sanity.
Developing my teaching style and views.
Giving me concrete evidence for why a lesson did/didn't work.
To see where I needed to improve to better help students become successful.
Accessing my ability to effectively communicate information to a large group.

In the second set of responses, the subjects reported that reflection helped their teaching was by specifically addressing the needs of their students (Kubler-La Boskey, 1994; Valli, 1997). Below are examples of how reflections benefitted their students:

Helped think of new ways to teach the content.
Helping my students succeed.
Thinking about student centered teaching activities.

In the third set of responses, the subjects reported that reflection helped their teaching by adjusting a lesson while it was going on (Schön, 1983) or in reflecting on past lessons (Schön, 1987). Below are examples of how reflection benefitted their teaching:

Adapting lesson plans/changing instructional methods.
Making sound decisions on the spot, as needed.
Allowing me to share my thoughts and then being able to go back and think about them at a later time.

Qualitative Interview Data

The interview gathered data from six subjects (n = 6) about whether they thought reflection helped their teaching during their clinical teaching experience. Interview responses were analyzed.

The first two responses are concerned with keeping students on task and classroom management. This is consistent with a Routine level of reflection (Ward & McCotter, 2004).

> I have a scenario that came to mind. I know in a couple of my classes I have a lot of 'high-flyers' that always need two or three extra activities to be done toward the end of the lesson, so I think just putting those in there and planning it and reflecting, 'okay, well these [students] can do this, what can these two other [students] do, because they've already finished that?'.
>
> I can relate to that because with [English Language Learners], one [unit] can take two or three weeks, so being able to have that time variable was important too because some took a shorter amount of time than I thought and some much longer. You had to have backup lessons for some of the [students].

The next subject's response was consistent with a focused effort to improve her skills (Wellington & Austin, 1996) and evidence of reflecting for action (Killion and Todnem, 1991; van Manen, 1991).

> I found reflection helpful in guiding my teaching in general, making decisions and helping with behavior. I think it's beneficial to think about the kinds of skills I need to work on. We've [reflected on] transitions, student involvement, voice quality and things that I wouldn't have thought about before, unless I was required to do so. It was helpful to think about those skills and reflect on the specific skills, [in order] to notice my strengths and weaknesses and what I do need to work [on].

RESEARCH QUESTION 3

Research Question Three asked student teachers to identify the modes of reflection they will likely use when they begin their first year of teaching. Both quantitative and qualitative data were collected and analyzed to examine research question three. Quantitative and qualitative findings are presented independently.

Quantitative Survey Data

To gather quantitative data, the survey question asks student teachers to select as many modes of reflection they plan to use when they begin their first teaching assignment. Responses are presented in Table 8.

Table 8

Aspects of Teaching Student Teachers are Likely to Reflect Upon
(n = 58)

Modes of	n	%
Thinking to myself about my actions or events in my classroom through internal dialogue.	55	94.8
Writing about my actions or events in my classroom in a personal journal.	25	43.1
Talking with others about my teaching, including…		
More experienced teachers who are in my building.	56	96.5
A mentor teacher provided by my district.	48	82.7
Other first year teachers.	54	93.1
My Principal.	44	75.8
Other school personnel (behavior specialists; content area coaches).	46	79.3
Friends who are not teaching.	37	63.7
My parents or other family members.	47	81.0
Connecting with others through social media		
Twitter	12	20.6
Facebook	25	43.1
Mobile applications like Day One or Everyday.me	1	1.7
Google +	6	10.3
Blogs such as Blogger or Tumblr	9	15.5
Videos like You Tube or Vimeo	8	13.7
Another Way of Reflecting	17	29.3

The majority of subjects (n = 56, 96.5%) reported they would be talking with more experienced teachers who are in their buildings about their teaching.

Fifty-five subjects (n = 55, 94.8%) reported thinking to themselves about actions or events in their classroom through internal dialogue.

Fifty-four subjects (n = 54, 93.1%) reported talking with other first year teachers about their teaching as a way they intend to reflect.

Forty-eight subjects (n = 48, 82.7%) reported they would talk with a mentor teacher provided by the district.

Forty-seven subjects (n = 47, 81.0%) reported that they would talk with parents or other family members.

Forty-six subjects (n = 46, 79.3%) reported that they would talk with other school personnel, such as a behavior specialist or content area coaches.

When asked about connecting with others through social media, the majority of selections (n = 25, 40.9%) identified Facebook as a mode of choice. Twelve selections (n = 12, 19.6%) identified Twitter as a mode of choice.

Qualitative Survey Data

To gather qualitative data, the survey instrument also asked subjects to identify other modes of reflection that they may be likely to use in their first teaching job. Seventeen (n = 17) additional responses were given when subjects were asked to identify other modes of reflection they intend to use.

The modes identified were analyzed and separated into two categories based on the literature. These included a desire to communicate with others and conducting research (Dewey, 1909; Valli, 1997; Ward & McCotter, 2004).

In the first set of responses, the subjects reported a desire to communicate with individuals and groups of people in their first job (Dewey, 1909; Valli, 1997; Ward & McCotter, 2004).

> Cooperating teachers from student teaching.
> All teachers.
> Discussions with my students.
> Listening to others. I believe listening is very different than talking.
> Professional meetings with a team.
> Looking up other teachers thoughts and ideas online.
> Emailing friends in the field.
> Email.

Three subjects reported they would be conducting research as one of their preferred modes of reflection (Valli 1997).

> Researching better ways to approach lessons or problems.
> Researching/reading professional journals as they apply to my teaching.
> Researching suggestions to improve teaching.

Qualitative Interview Data

The interview gathered data from six subjects (n = 6) about the modes of reflection they would likely use in their first teaching job. The interview question was similar to the survey question. Interview responses were analyzed. A theme that emerged from this question by the student teachers was that the preferred mode of reflection was to communicate with others. The comments were consistent with Valli's (1997) Deliberative type of reflection, and Ward and McCotter's (2004)

Dialogic level of reflection. There was evidence of teachers having a desire to reach out to others. This aligns with Dewey's (1909) criteria of wanting to reflect within a community.

The first subject preferred more informal verbal processing:

> Bullet points, video journals, recording, anything that doesn't involve formal full sentences and paragraphs. I love to write, but [ugh] when I have so many ideas at once, all I want to do is talk it out.

A second subject responded with a strong desire to process her thoughts verbally:

> I'm a verbal processor, I love talking and getting my thoughts out there. I found it very helpful to talk to my cooperating teacher about what I was thinking. Even if it was just talking about students, she knew what I'm talking about. It was hard for me to go home and talk to my roommates or my family about these students when they don't know the students. I found it helpful, mostly, to reflect on my teaching or even get ideas from teachers who also knew those students [or] from other team members who teach the same students. I think [talking] is my preferred way of reflecting. Verbally expressing what I'm thinking and hearing if other people share the same ideas. That's just been my preference.

Subject three concurred:

> Conversations were definitely my preference as well. Also, one that really stood out for me on [the list of choices] was talking to behavioral specialists and special education [teachers], just so the student is getting what [he or she] needs.

The fourth subject reported listening as a key to her growth:

> For 'other' I put listening, because I think talking to someone and listening is very different and for me, sometimes that helped me most. Being in the teacher's lounge and listening to other teachers talk about their teaching styles, what situations they are going through and what types of things they were going to do to fix those [situations]. Just by learning, being around other teachers, other specialists, the principal and even the just students themselves. If you are around students and they're talking to you, and you just listen to them talk to each other about what is going on, what they like about school and what they don't, you can learn a lot about how to help your classroom, I think.

RESEARCH QUESTION 4

Research question four asked student teachers to report the most challenging aspect of maintaining a written record of their reflections and what strategies help, or could help them, in overcoming the challenges they experienced.

The fourth research question was separated into two sub questions. Research Question Four (a) asked what they found to be the most challenging aspect of maintaining a written record of their reflections. Subjects were asked to choose one of the following challenging aspects: "finding the time to write; thinking about what to write; sharing written reflections with others; or, writing reflections that did not benefit their teaching." Although subjects were asked to "choose one of the following," 19 subjects (n = 19) selected more than one challenging aspect, one subject (n = 1) stated "none of the above," and one subject (n = 1) did not answer the question. Therefore, only 37 responses (n = 37) were used to analyze this sub question.

To gather qualitative data, the survey instrument included an open-ended response question to determine other challenging aspects to writing out reflections during the clinical teaching experience. Responses were transcribed and analyzed to identify themes consistent with the research. Qualitative data were analyzed separately.

Quantitative Survey Data

The survey instrument requested subjects to identify the most challenging aspect of maintaining a written record of their reflections. Responses are presented in Table 9.

Table 9

Challenging Aspects of Writing Reflections
(n = 37)

A Challenging aspect to writing reflections	N	%
Finding the time to write.	24	64.9
Thinking about what to write.	2	5.4
Sharing my written reflections with others.	1	2.7
Writing reflections that did not benefit my teaching.	8	21.6
Most Challenging for me was…	2	5.4

The majority of subjects (n = 24, 64.9%) report that finding time to write was a challenge. Eight subjects (n = 8, 21.6%) report that writing reflections that did not benefit their teaching was a challenge.

In addition to the survey question, subjects who completed the survey instrument were asked to respond to an open-ended question that asked them to

expand on what was the most challenging aspect for them during their student teaching experience. Two additional challenging aspects were identified. One subject commented that putting all of her thoughts into words was the most challenging aspect. Another subject commented that keeping up and remembering to write was the most challenging aspect.

Qualitative Interview Data

The interview gathered data from six subjects (n = 6) about what they found to be most challenging about writing reflections during their clinical teaching experience. Interview responses were analyzed. Several themes were represented in this question.

Although the first two subjects' comments were consistent with Valli's Personalistic reflection on personal growth, van Manen's (1977) self-discovery, and Wellington and Austin' (1996) Dialogic orientation on self-development, both had discussed the challenging aspect of finding time to write.

> I made time for it just because I knew I had to do it, so I gave myself five minutes after every school day. But I think going forward, is it going to be worth my time to sit down and write it? Or, should I just think about what I did on the lesson plan, move forward, think about the next one, and jot down notes, rather than formally keeping a journal. I think I forced myself to, because I knew I had to, but in my own time I don't know if I would force myself to write it.

The following subject recognized the value of writing out her reflections, but reported a struggle with the amount of things to consider:

> I think that its sort of an obvious thing to say that teachers don't have a lot of time and I think its sort of a flaw of my own that I don't keep a written journal. I always thought I would keep the written journal every day. [We] hear our practicum teachers tell us; 'take that time, five minutes a day to just write'. I think that in the long run [writing out reflections] will be valuable if we take

> the time to do that. I just feel like there's so much you need to do, and so you're constantly reflecting in your head. That would be what would inhibit me from keeping a journal, even though I know how valuable it would be, if I did just write a half a page a day or something.

The third subject concurred with the challenging aspect of finding time to write, however, she also stated the possible benefits one might expect to realize if a habit of writing reflections is established:

> Self-reflection, something that's very intuitive for all of us, we all do it. [However], it's kind of like cooking. We'll need that recipe at first, but when we have more experience, we will know what works and what won't. So, maybe it's more beneficial to actually, formally write when we're beginning to student teach, so we can see a progression. Eventually it will be more intuitive.

Subject four appeared to suggest the challenging aspect of finding time to write, but it was unclear if time was the limiting factor or if the subject prefers to write out reflections in less formal way.

> I think even on my lessons I got to the point where I was bullet pointing things and I would just write in as the day went on, like; 'do this, instead of this'.

Research Question Four (b) asked subjects to write out what they thought would help them overcome any challenging aspects they experienced. Quantitative and qualitative data were collected and analyzed.

Qualitative Survey Data

Forty-six subjects (n = 46) responded to this question. The majority of subjects (n = 16, 34.7%) reported a preference for using communication with others as a strategy that helps, or could help them, in overcoming the challenges to writing out their reflections. Below are comments that support communication with others:

> Just talking to others around me in the teaching profession really helped.
> Sharing my reflections more with others would have helped me much more. Others, meaning non-faculty/staff.
> Reflecting with others as listed above; with teachers, friends etc…. to talk things over with.
> Having a fellow student teacher in my building that taught the same content. This would have given me a person who could empathize with my situation.
> Understanding from my cooperating teacher that all teachers reflect and respond appropriately.
> Talking it through with experienced teachers and peer student teachers.
> Taking the initiative to reach out to both students and staff for advice about what went well/isn't going well.
> Better communication with other student teachers past and present.
> I felt talking with my cooperating teacher and getting the feedback on my lessons, along with my personal thoughts and feelings was the most beneficial.
> Constantly talking to my cooperating teachers and the grade level/department about effective and efficient ways to teach my students.
> The best thing I did to connect with students was being about to talk one on one or learning about them.
> Actively seeking feedback from teachers/staff and students by thinking through challenges on my own and then sharing these personal reflections with others, especially my cooperating teachers and supervisor. I was able to combine this information to come to a solution that best suited the situation.
> My cooperating teacher in my first placement got me through it all.
> Strong communication.
> Talking with cooperating teachers and staff mentors I think really helped me overcome any challenges that came about during my student teaching experience.
> Having someone to talk to about my reflecting on a daily or weekly basis would have helped me overcome challenges. I am a verbal processor.
> Reading the journals of other science teachers and having an opportunity to speak with them in an informal setting about student teaching.

Eleven subjects (n = 11, 23.9%) reported having more time helps, or could help them, in overcoming this challenge to writing reflections. Below are examples of strategies of overcoming the challenging aspect of not having enough time to reflect:

> I think writing them as soon as the day is over will be helpful for all future student teachers to know.
> Time management.

> Doing the journals while I was still at school instead of waiting to write them when I got home, would've eliminated distractions.
> More time offered for reflection, then it could be more quality reflection.
> Maybe, planning ahead a little more because I always had so much to do every night. That left me with little to no social life.
> Setting aside time made specifically for reflection. - Writing changes down made during lesson ASAP.
> Finding time to write my reflections when I felt like I was internally reflecting and I have so many other things to do. I think I would have had more time to really reflect if we didn't have so many things to do specifically for the department for student teaching.
> Having less detailed lesson plans would have allowed more time for me to reflect.
> My time management outside of the classroom needs more work, and it would have helped me with many problems that I faced.
> The requirements of the school as well as the comments from my cooperating teacher really help me reflect on my teaching. While a lot was written, I felt my greatest reflection was done in my mind, on the spot and if something needed to be written I would put it somewhere. I feel like I will do more/better reflecting if I don't have other schoolwork to work on. I'm excited to reflect on my own, in my own classroom.
> Since I had trouble finding the time to write reflections, I think it would have helped if I had scheduled time to write the reflections. However, I was always thinking and talking to others about my teaching; it's just hard to find the time to actually sit down and write reflections.

Nine subjects (n = 9, 19.5%) reported being able to choose their mode of reflection as a strategy that helps, or could help them, in overcoming the challenges they experienced. Below are examples that reflect their desire for autonomy:

> I think having a better sense of what to reflect would help to overcome challenges that I experienced.
> I would rather do written bullet points, mind maps.
> I think if I would have focused on writing down challenges, and brainstorming ways to overcome the challenges, that it would have helped identify challenges and how to overcome them.
> For required reflections as assignments, it would have been nice to have the means of reflection according to our style.
> Guidelines for what to reflect on.
> Trying to fit my reflections into a box/reflecting on only one thing 14 different times. Being able to reflect in my own way. I was more stressed by trying to conform my reflections to a set of 14 standards. I am constantly thinking and

> reflecting on what I can do to make each day more successful than the last for each student.
> For me means thinking and processing a wide range of things in each lesson. I would have preferred to reflect like that.
> Being able to reflect however we wanted rather than having to reflect on specific questions.
> Viewing my reflections more as a chance to improve, and less as a requirement to graduate.
> Reviewing my "written" reflections prior to teaching a new lesson.

Five subjects (n = 5, 10.8%) reported reducing the quantity of written reflections as a strategy that helps, or could help them, in overcoming the challenges they experienced. Below are examples that address the issue of quantity of written reflections:

> Many reflections seemed repetitive; sometimes I didn't know what to write.
> Maybe not having so many required reflection topics, but the choice to reflect on something freely.
> Allowing us to pick and choose maybe 2 to 3 days to reflect per week instead of requiring us to write every day. I think it would have motivated me to write about things that really stuck out and were more important to me.
> If there was more of a focus just on reflecting, not all of the other parts of the portfolio too. Too much on our plate to reflect.
> I enjoyed in my secondary high school placement. We were provided with prompts but I think it was too much to have to write every day.

Five subjects (n = 5, 10.8%) reported that writing reflections was not a challenging aspect. Below are examples of how and why writing helped them to reflect.

> I made it a routine.
> I loved reflecting every night, and it helped me a lot.
> There was a very small barrier.
> Having time was the largest problem. Now being done with all of the student teaching requirements, I am reflecting immensely!! I'm constantly researching new effective approaches to reading and Phonics lessons!
> Writing reflections was a stress reliever for me. I was sometimes overwhelmed and I used reflection to help me focus on what I needed to focus on.

Qualitative Interview Data

The interview gathered data from six subjects (n = 6) about what strategies they report help, or could help them, in overcoming the challenges they experience. Several themes emerged from this question. One theme identified was having the freedom or the autonomy to determine how they would use reflection. Four (n = 4) subjects stated that having the autonomy to reflect was a strategy that helps, or could help them, in overcoming the challenges they experienced.

Below is one subject's challenge with not having autonomy:

> My biggest challenge with written reflection, as you probably gathered, is that it was written in the first place. I don't mind having to do it. I would rather not have had to do it in the format that it was asked to be in.

Another subject added:

> I've really learned that what I'm doing works for me and embrace my own style because that's what makes a good teacher anyway. We're not robots, we need to put our personality into it.

A third subject reinforced the strategy to do what works for her:

> There's a difference between reflecting on my own teaching and comparing myself to another. I think it's challenging, because I see those teachers who are so great, but that's not me. When it comes to comparing myself to another, that's really difficult, sometimes, it's hard for me. We all own our own teaching styles.

Another subject concurred:

> Especially during student teaching because you feel you need to be this mold that your cooperating teacher already has.

Another theme that emerged was the importance of receiving feedback. One subject reported that receiving feedback from her students was an important strategy that helps, or could help her, in overcoming the challenges she experienced.

> My cooperating teacher made every student in class give me some advice for my own classroom. [It was] interesting what some of the students said; 'your quizzes were perfect' or 'they were really hard' or 'they were challenging but still not too hard'. Some of the students said; 'make sure that you don't let kids get away with anything'. It was really interesting from they're perspective and was something I was always kind of scared to hear. 'Oh what are my students thinking about me?' And I almost didn't want to hear it, but I think actually going to your students mid-way through the semester and [asking them]'what would you rather see in the class?, what am I doing well? or what can I improve on from their perspective?'

The following subject valued the feedback she received, but wanted more constructive feedback from her cooperating teacher:

> One of my cooperating teachers was good about telling me about what I did well, but not what I needed to work on. I wanted *that* feedback sometimes too.

Another subject reported a struggle she had with encouraging her second cooperating teacher to provide her with feedback. She also reinforced the value of hearing needed ideas and strategies in order to improve her teaching. Her rationale for needing to hear feedback to help improve her work with her students is apparent:

> … my first placement was great. He told me good things and bad things. In the second placement I had two teachers which was hard enough to make it work for all three of us but the one was a pretty young teacher and she just didn't give me feedback, positive or negative. It was just kind of 'oh yea, it seemed to go well'. I think actively searching for more feedback was a little challenging to me on that one because I just felt like she didn't care enough to give it. Once I started pressuring her to give it to me then I finally learned from that. But like you said, it's also hard to know your own flaws and your potential failures as a teacher. To be able to work on that is also very important, so you've got to get over it. It's for the students, and you need to learn to get the feedback, no matter who it's from, and we should work on that.

A final subject reported that managing all of feedback could become a challenging aspect and that it is important to prioritize what is important for her to do to improve her teaching.

> It's great to have feedback from so many different people but also at times it overwhelmed me. I was reflecting on my tone of voice, the way I speak, the way I do my anticipatory set, and everything at once and you can't fix everything at the same time. I think it would be helpful to also reflect on what you potentially think of the most important things to work on. That's what I figured out after my first evaluation. I also think its important to know what things are more important to reflect on.

RESEARCH QUESTION 5

Research Question Five examined 178 (n = 178) written reflections from 14 (n = 14) student teachers that recently completed the clinical teaching experience. The subjects were selected from a group of secondary school student teachers that were required to submit daily written reflections as a part of their clinical teaching assignment. All subjects provided consent to allow their reflections to be examined for the study. Elementary student teachers were not required to submit daily reflections as part of their clinical teaching assignment and are not represented in the sample. The subjects were from the same group as those who completed the survey instrument earlier in the day. The study was conducted at two religiously affiliated liberal arts universities in the Midwest.

As part of their assignment, secondary school teachers were required to reflect on specific topics throughout their clinical teaching experience (Appendix I), as well as reflecting on topics of their own choosing. These “your choice” reflections were examined.

The rationale for examining “your choice” written reflections was to increase the likelihood that the reflections being examined were most representative of what the subjects were thinking and reflecting about on their own.

Of the “your choice” reflections that were examined, the majority of subjects (n = 9, 64.3%) in the study, wrote at least 15 reflections throughout the clinical teaching experience. One subject (n = 1) completed twelve reflections, two subjects (n = 2) completed nine reflections, one subject (n = 1) completed five reflections, and one subject (n = 1) completed four reflections. Because the starting and ending dates for the clinical teaching assignments varied by school district and school, the identified “beginning, middle, and end of the experience” time frames were estimated for each student teacher.

The themes and levels of the subjects’ written reflections were analyzed using information from the authors in the literature review (Dewey, 1909; Hatton & Smith, 1995; Kubler-La Boskey, 1994; Schön, 1983, 1987; van Manen, 1977; Ward & McCotter, 2004; Wellington & Austin, 1996).

Because there is no generally accepted definition for reflection (Hatton & Smith, 1995) an identification of the levels of reflection were made with a somewhat general description. Student teachers’ reflections were identified as being non-reflective statements, pre-reflective statements, and more-reflective statements.

Statements were considered non-reflective if the written entries addressed immediate or simple descriptions of events or circumstances. The non-reflective written entries could also be focused on managing student behavior, or on personal

reactions and feelings about an immediate circumstance or event (Hatton & Smith, 1995; Ward & McCotter, 2004; Wellington & Austin, 1996).

Statements were considered pre-reflective if the written entries addressed technical strategies for improving curriculum and instruction, accepting pre-established research, and procedures involving teaching activities such as homework completion, pacing instruction and wait time (Valli, 1997; van Manen, 1977). There were also references to effectiveness and efficiency in the classroom (Wellington & Austin, 1996).

Statements were considered more-reflective if the written entries addressed thoughts about student learning, motivation, struggles and emotions (Valli, 1997). Statements were also considered more-reflective if the subject discussed reflection during their lessons, after their lessons were completed, and for planning their upcoming lessons (Killion & Todnem, 1991; Schön, 1983, 1987; van Manen, 1991). Additionally, a more-reflective statement focused on the process of deliberating sound curriculum approaches (van Manen, 1977), and attended to the holistic needs of the students' (Kubler-La Boskey, 1994; Valli, 1997).

Specific Themes of Reflection throughout the Clinical Experience

Throughout the clinical teaching experience, 72 (n = 72) of the non-reflective statements were examined in greater depth. Table 10 illustrates the distribution of non-reflective themes that were identified in the analysis.

Table 10

Non-Reflective Themes
(n = 72)

Statements that were about…	Frequency n	%
Thoughts and concerns are exclusive to the student teacher.	29	40.3
Simple reporting of events or experiences.	24	33.3
Managing students' behavior.	13	18.1
Short term tasks and immediate issues.	6	8.3

The majority (n = 29, 40.3%) of the non-reflective statements examined were identified as thoughts and concerns, which were exclusive to the student teacher. Twenty-four (n = 24, 33.3%) of the non-reflective statements examined were identified as a simple recording of events or experiences. Thirteen (n = 13, 18.1%) of the non-reflective statements examined were identified as being concerned about managing students' behavior. Six (n = 6, 8.3%) of the more-reflective statements examined were identified as Thinking about short-term tasks or immediate issues.

Throughout the clinical teaching experience, 18 (n = 18) of the pre-reflective statements were examined in greater depth. Table 11 illustrates the distribution of different topics that were identified in the analysis of the pre-reflective statements.

Table 11

Pre-Reflective Themes
(n = 18)

Statements that were about…	Frequency n	Frequency %
The technical skills of teaching.	10	55.6
Providing explanations based on students' personal judgments.	3	15.8
Expressing a passion for the subject that they are licensed to teach.	3	15.8
Reviewing one's practice with the intention to improve efficiency.	2	11.1

The majority (n = 10, 55.6%) of the pre-reflective statements examined were identified as attending to the technical skills of teaching. Three (n = 3, 15.8%) of the pre-reflective statements examined were identified as attempts to provide reasons or explanations, often based on personal judgment. Three (n = 3, 15.8%) of the pre-reflective statements examined were identified as expressing a passion for the subject in which they are licensed. Two (n = 2, 11.1%) of the pre-reflective statements examined were identified as reviewing one's practice with the intention to improve efficiency.

Throughout the clinical teaching experience, 88 (n = 88) of the more-reflective statements were examined in greater depth. Table 12 illustrates the distribution of different topics that were identified in the analysis of the more-reflective statements.

Table 12

More-Reflective Themes
(n = 88)

Statements that were about…	Frequency n	Frequency %
Thinking of one's growth and professional development.	29	33
Reflecting on previous lessons.	21	23.9
Attention on students' needs [social, emotional, academic].	16	18.2
Reflecting on future lessons.	11	12.5
Reflecting during teaching.	4	4.5
Considering different and competing viewpoints.	3	3.4
Attempting to personalize learning.	3	3.4
Trying new approaches to reach students.	1	1.1

The majority (n = 29, 33%) of the more-reflective statements examined were identified as thinking about one's growth and professional development. Twenty-one (n = 21, 23.9%) of the more-reflective statements examined were identified as

thinking about past lessons. Nine (n = 16, 18.2%) of the more-reflective statements examined were identified as attending to the students' needs [social, emotional, academic]. Eleven (n = 11, 12.5%) of the more-reflective statements examined were identified as thinking about future lessons.

Reflections throughout the Clinical Teaching Experience

Research Question Five: In examining written reflections from student teachers in the same group, what themes and levels of reflection are evident at the beginning, the middle, and at the end of their clinical teaching experience?

Student teachers' reflections were examined early in each of the 14 (n = 14) student teachers' clinical teaching experience. Fifty-eight (n = 58) student teacher reflections were analyzed. Table 13 illustrates the distribution of non-reflective, pre-reflective and more-reflective statements that occurred early in the subjects' clinical teaching experience.

Table 13

Reflections Early in the Experience
(n = 58)

	Non-Reflective Statements		Pre-Reflective Statements		More-Reflective Statements	
	n	%	n	%	n	%
Reflections early in the clinical teaching experience	24	41.4	4	6.9	30	51.7

The majority (n = 30, 51.7%) of the entries examined early in the clinical teaching experience were identified as being more-reflective statements. Twenty-four (n = 24, 41.4%) of the entries analyzed were identified as being non-reflective statements. Four (n = 4, 6.9%) of the entries analyzed were identified as being pre-reflective statements.

Student teachers' reflections were examined mid-way through each of the 14 (n = 14) student teachers' clinical teaching experience. Sixty-three (n = 63) student teacher reflections were analyzed. Table 14 illustrates the distribution of; non-reflective, pre-reflective and more-reflective statements that occurred mid-way through the clinical teaching experience.

Table 14

Reflections Mid-way through the Experience
(n = 63)

	Non-Reflective Statements		Pre-Reflective Statements		More-Reflective Statements	
	n	%	N	%	n	%
Reflections mid-way through the clinical teaching experience	25	39.7	9	14.3	29	46.0

The majority (n = 29, 46%) of the entries examined mid-way through the clinical teaching experience were identified as being more-reflective statements. Twenty-five (n = 25, 39.7%) of the entries analyzed were identified as being non-reflective statements. Nine (n = 9, 14.3%) of the entries analyzed were identified as being pre-reflective statements.

Student teachers' reflections were examined toward the end of each of the 14 (n = 14) student teachers' clinical teaching experience. Fifty-seven (n = 57) student teacher reflections were analyzed. Table 15 illustrates the distribution of; non-reflective, pre-reflective and more-reflective statements that occurred toward the end of the clinical teaching experience.

Table 15

Reflections toward the End of the Experience
(n = 57)

	Non-Reflective Statements		Pre-Reflective Statements		More-Reflective Statements	
	n	%	N	%	n	%
Reflections toward the end of the clinical teaching experience	23	39.7	5	8.6	29	51.7

The majority (n = 29, 51.7%) of the entries examined toward the end of the experience were considered more-reflective statements. Twenty-three (n = 23, 39.7%) of the entries examined were considered to be non-reflective statements. Five (n = 5, 8.6%) of the entries examined were considered to be pre-reflective statements.

Throughout the clinical teaching experience, 72 (n = 72) written reflections from 14 (n = 14) student teachers were identified to be non-reflective statements. Table 16 illustrates the distribution of non-reflective statements throughout the clinical teaching experience.

Table 16

Non-Reflective Statements
(n = 72)

	Early in the experience		Mid-way through the experience		Toward the end of the experience	
	n	%	n	%	n	%
Non-Reflective Statements	24	33.3	25	34.7	23	31.9

The majority (n = 25, 34.7%) of the non-reflective statements were identified mid-way through the clinical teaching experience. Twenty-four (n = 24, 33.3%) of the non-reflective statements were identified early in the clinical teaching experience. Twenty-three (n = 23, 31.9%) of the non-reflective statements were identified toward the end of the clinical teaching experience.

Throughout the clinical teaching experience, 18 (n = 18) written reflections from 14 (n = 14) student teachers were identified to be pre-reflective statements. Table 17 illustrates the distribution of pre-reflective statements throughout the clinical teaching experience.

Table 17

Pre-Reflective Statements
(n = 18)

	Early in the experience		Mid-way through the experience		Toward the end of the experience	
	n	%	n	%	n	%
Pre-Reflective Statements	4	22.2	9	50.0	5	27.8

The majority (n = 9, 50.0%) of the pre-reflective statements were identified mid-way through the clinical teaching experience. Five (n = 5, 27.8%) of the pre-reflective statements were identified toward the end of the clinical teaching experience. Four (n = 4, 22.2%) of the pre-reflective statements were identified early in the clinical teaching experience.

Throughout the clinical teaching experience, 88 (n = 88) written reflections from 14 (n = 14) student teachers were identified to be more-reflective statements. Table 18 illustrates the distribution of more-reflective statements throughout the clinical teaching experience.

Table 18

More-Reflective Statements
(n = 88)

	Early in the experience		Mid-way through the experience		Toward the end of the experience	
	n	%	n	%	n	%
More-Reflective Statements	30	34	29	33	29	33

The majority (n = 30, 34%) of the more-reflective statements were identified early in the clinical teaching experience. Twenty-nine (n = 29, 33%) of the more-reflective statements were identified mid-way through the clinical teaching experience. Twenty-nine (n = 29, 33%) of the more-reflective statements were identified toward the end of the clinical teaching experience.

SUMMARY

The purpose of this study was to examine the thoughts about reflection from a group of student teachers that recently completed their clinical teaching experience. This study sought to; explore the characteristics that student teachers believe represent a “reflective teacher”; the focus and frequency of student teachers’ use of reflection during their clinical teaching experience, the purpose and frequency for which they reflect, and the extent they find reflective activities to be helpful.

The study also examined what student teachers found to be the most challenging aspect of maintaining a written record of their reflections, and the

strategies that could potentially help them overcome the reported challenging aspects. Student teachers were also asked to identify the mode, or modes of reflection, they might use when they begin their first year of teaching. Finally, reflections from a sample of the same group were analyzed to determine what themes and levels student teachers reflected on early, mid-way, and toward the end of the clinical teaching experience. Quantitative and qualitative data were collected and analyzed independently.

This chapter presented findings by research question with quantitative data presented first and qualitative data presented second. Chapter V merges qualitative and quantitative findings to answer the research questions, identifies implications, and offers recommendations for further study.

Chapter V

DISCUSSION

INTRODUCTION

The term "reflection" is widely used, both in and outside of education. "Many write about reflection with the apparent assumption that everyone knows what it is" (Kember et al., 1999, p. 22). Due to the lack of understanding or agreement on the definition of reflection in education, it remains difficult to research reflection with consistent measures (Collin et al., 2013). "Because of unclear understandings of what reflective practice actually is, there is a corresponding lack of understanding about how to teach it" (Beauchamp, 2006, p. 12, as cited in Collin et al., 2013, p. 112).

In addition to the difficulty in finding a common definition, Zeichner and Liston (1996) also discussed several factors that prevented reflection from being utilized among teachers. They report that teachers are not helped with the fact that "there are numerous institutional constraints that increase the complexity of teachers' work, such as the lack of time, high teacher-pupil ratios, and pressure to cover a required and broadly defined curriculum" (Zeichner & Liston, 1996, p. 12).

Chapter Summaries

Chapter I introduced the study, included the statement of the problem, purpose statement, and five research questions. The study examined reflection and student teachers' thoughts about reflection.

With an emphasis on student growth, learning, and personal improvement, teacher reflection can be "effective when it leads the teacher to make meaning from the situation in ways that enhance understanding so that she or he comes to see and understand the practice setting from a variety of viewpoints" (Loughran, 2002, p. 36). The study of reflection, reflective thinking, and reflective practice is significant because it is these types of activities that will help teachers "identify and replicate best practice, refine serendipitous practice, and avoid inferior practice" (Danielson, 2009).

This study addressed five research questions. They include:

Research Question One: Based on their experiences with reflection, what characteristics do student teachers believe represent a 'reflective teacher'?

Research Question Two (a): What is the focus and frequency of student teachers' use of reflection during their clinical teaching experience?

Research Question Two (b): What is the purpose and frequency of student teachers' use of reflection during their clinical teaching experience?

Research Question Two (c): To what extent do student teachers find reflective activities helpful?

Research Question Three: What modes of reflection do student teachers report they are likely to use when they begin their first year of teaching?

Research Question Four (a): What do student teachers report to be the most challenging aspect of maintaining a written record of their reflections?

Research Question Four (b): What strategies do student teachers report help, or could help them, in overcoming the challenges they experience?

Research Question Five: In examining written reflections from student teachers in the same group, what themes and levels of reflection are evident at the beginning, the middle, and at the end of their clinical teaching experience?

Chapter II reviewed the literature and examined the research associated with contributions to the field of reflection, reflective thinking and reflective practice from nearly three decades of research. The literature review provided a foundation for examining and interpreting reflection, reflective thinking, and reflective practice among student teachers for this study.

The review began with a discussion about the challenges of not having a clear definition for reflection as it relates to teaching. Of the authors who researched reflection, many interpreted, classified, and defined it in slightly different ways, thus contributing to the "lack of a clear or concise definition" (Rodgers, 2002, p. 843). The variety of perspectives and interpretations makes it challenging to establish a strong foundation from which to clearly define, assess or teach reflection.

Despite the various descriptions and interpretations of reflection, reflective thinking, and reflective practice, there were areas in the literature that revealed common themes and patterns of reflection.

Chapter III identified the methodology used in the study. A mixed methods sequential explanatory research design was used in this study (Ivankova et al., 2006), which included administering a survey to student teachers and conducting a focus group interview of student teachers from the same group that completed the study survey. Responses from the survey were collected and analyzed with quantitative and qualitative approaches. "Qualitative and quantitative approaches in a single study complement each other by providing results with greater breadth and depth. Combining what with possible why adds power and richness to your explanation of the data" (Roberts, 2010, p. 145). Quantitative and qualitative data were examined to determine the relationship between survey and interview data sets. The quantitative data were analyzed using descriptive statistics and cross-tabulation. The focus group interview was conducted to collect qualitative data from six student teachers. Interviews were analyzed to identify the themes and levels of reflection using information from the authors in the literature review (Dewey, 1909; Hatton & Smith, 1995; Killion & Todnem, 1991; Kubler-La Boskey, 1994; Schön, 1983, 1987; Valli, 1997;van Manen, 1977, 1991; Ward & McCotter, 2004; Wellington & Austin, 1996).

The open-ended survey questions and interview data were collected to understand the attitudes and experiences associated with the quantitative survey responses. Utilizing quantitative and qualitative data provided the opportunity "to explain and interpret quantitative results by collecting and analyzing follow-up qualitative data" (Creswell, 2009, p. 211).

Finally, assigned written reflection data from 14 (n = 14) secondary school student teachers, selected from the same group as those who completed the survey instrument, were examined. This examination provided the opportunity to interpret the themes and levels of reflection early, mid-way, and toward the conclusion of the subjects' clinical teaching experience. The themes and levels were interpreted using information from the authors highlighted in the literature review (Dewey, 1909; Hatton & Smith, 1995; Killion & Todnem, 1991; Kubler-La Boskey, 1994; Schön, 1983, 1987; Valli, 1997; van Manen, 1977, 1991; Ward & McCotter, 2004; Wellington & Austin, 1996).

The five research questions were explored using a mixed methods approach of data collection and subsequent interpretation. Data were collected using a written survey instrument, a focus group interview, and an examination of selected reflective journal entries from a sample of secondary school student teachers that completed the survey instrument.

The primary data collection tool was a survey instrument that was developed in response to the statement of the problem, the research questions addressed in the study, and a review of the literature. Fifty-eight (n = 58) student teachers completed the survey. The second data collection tool was a semi-structured, focus group interview of six student teachers from the sample group. Data from both the survey instrument and the interview were gathered during a year-end program evaluation session and luncheon.

Demographic data collected included participant gender and the area of licensure for which each subject was preparing. Data were collected and analyzed from the survey instrument and a focus group interview to determine the subjects' thoughts about the following items:

- The characteristics that student teachers believed represented a "reflective teacher";
- The focus and the frequency of student teachers' use of reflection during their clinical teaching experience;
- The purpose and the frequency of student teachers' use of reflection during their clinical teaching experience;
- The extent they found the reflective activities to be helpful;
- The modes of reflection that student teachers reported they would be most likely use when they begin the first year of teaching;
- The most challenging aspect of maintaining a written record the reflections; and
- Strategies they report helped, or might help them in overcoming the challenges in the future.

Finally, data from written reflections from 14 (n = 14) secondary school student teachers were gathered, early, mid-way and toward the end of their clinical teaching experience. These written reflections were interpreted as being not reflective, somewhat reflective, or very reflective statements as determined in the review of the literature (Dewey, 1909; Hatton & Smith, 1995; Killion & Todnem, 1991; Kubler-La

Boskey, 1994; Schön, 1983, 1987; Valli, 1997; van Manen, 1977, 1991; Ward & McCotter, 2004; Wellington & Austin, 1996).

Chapter IV presented the results of the study. The majority of subjects report that a descriptive characteristic of a reflective teacher is one who is interested in improving his or her teaching skills. A teacher who seeks new ways to reach his or her students is another descriptive characteristic identified by the student teachers in the survey. A third descriptive characteristic identified is one who thinks about social or cultural influences in the classroom.

The majority of subjects reported that they often thought and wrote about their teaching experience as a way to reflect during the clinical teaching experience. The majority of subjects also reported that they often used reflection to consider ways to adjust their decisions or actions. A number of subjects also reported that they often used reflection to consider new ways to reach their students, improve their classroom management, and improve themselves professionally. Of those subjects who kept a journal, the majority said writing was either somewhat or very helpful.

The majority of subjects (n = 46, 79.3%) reported that reflection helped them become more efficient (doing things the right way). Forty-five subjects (n = 45, 77.5%) reported that reflection helped them become more effective (doing the right things when needed). This was consistent with Wellington and Austin's (1996) Technical orientation, where the focus of teachers efforts are on reviewing one's practice to improve their own effectiveness and efficiency as a teacher.

A majority of subjects reported that reflection helped them discover their students' needs. When thinking about the modes of reflection subjects would be likely to use in their first job, the majority of subjects report that they planned to talk with more experienced teachers or with an assigned mentor teacher who is in their building. Other modes of reflection that were reported include thinking to themselves about their previous actions or events in the classroom, and talking with family members and other school personnel (i.e., a behavior specialist or a content area coach).

When asked about connecting with others through social media, the majority of selections (n = 25, 40.9%) identified Facebook as a mode of choice. Twelve selections (n = 12, 19.6%) identified Twitter as a mode of choice.

The majority of subjects reported that finding time to write reflections was a challenge. About one-third reported that writing reflections not directly beneficial to their teaching was a challenge.

When thinking about a strategy that helps, or could help them, in overcoming the challenging aspect that they identified, the majority of subjects reported communicating with others. There was also a number of subjects who reported having more time to reflect as a means of overcoming some of the challenging aspects. Some reported that being able to choose their mode of reflection was important. Several reported reducing the quantity of reflections as a strategy that helped, or could help, them in overcoming the challenges they experienced.

Chapter V includes study conclusions, discussions, limitations, and recommendations for district and school administrators, teacher educators, and future

student teachers. Chapter V also includes recommendations for future study and research. The chapter concludes with a final summary.

First Conclusion: Characteristics of a Reflective Teacher

Based on their experiences with reflection, student teachers from this study believe characteristics that most represent a "reflective teacher" include one who strives to improve his/her teaching skills, has a desire to find new ways to reach students, thinks about social or cultural influences in the classroom, seeks colleagues' perspective on teaching, and questions the way things are done.

The student teachers in the study report several characteristics that were descriptive of a reflective teacher. Improving one's teaching skills was a characteristic that was chosen most frequently. Over 95% of subjects reported that this characteristic was very descriptive of a reflective teacher. This is consistent with the findings of several of the authors in the research. van Manen (1977) discussed this development of technical skills with attention on achievement and accountability as well. Wellington and Austin (1996) also referred to reflecting on one's technical skills and highlighting a teacher's desire to create and modify their instructional strategies. Over 80% of subjects reported that a more descriptive characteristic is one who seeks new ways to reach students. This was consistent with Ward and McCotter's (2004) Dialectic approach of trying new approaches to reach students. This type of reflective ability is similar to what Kubler-La Boskey referred to in her description of "pedagogical thoughtfulness" (Kubler-La Boskey, 1994, p. 17) where the teacher

devotes significant attention on the student's needs. Over 80% of subjects reported a more descriptive characteristic of a reflective teacher is one who thinks about social or cultural influences in the classroom or in the school.

Forty subjects (n = 40, 68.9%) reported a descriptive characteristic of a reflective teacher to be one who seeks perspectives on teaching from others. This is consistent with Valli's (1997) Deliberative type of reflection, which involved seeking experience and advice from others. It was also consistent with one of Dewey's (1909) four criteria for reflection that emphasized the importance of connecting with a community of colleagues.

Thirty-nine subjects (n = 39, 67.2%) reported that questioning the way things are done is a characteristic of a reflective teacher. This was consistent with the viewpoints of many researchers who noted that questioning is a "critical" reflection disposition (Gore & Zeichner, 1991; Hatton & Smith, 1995; Jay & Johnson, 2002; Sparks-Langer & Colton, 1991; Valli, 1997; van Manen, 1977; Zeichner & Liston, 1987).

There were 35 additional characteristics of a reflective teacher were identified by the subjects. The majority of the subjects (n = 9) included characteristics that were similar to Ward and McCotter's Dialogic level of reflection. In this level, the teacher is continually experimenting with new approaches to reach students. Six subjects (n = 6) reported characteristics that were consistent with Schön's (1983, 1987) Reflection-In-and-On-Action.

Second Conclusion: How Student Teachers Reflect

The majority of subjects (91.3%) from the study reported that they often thought about their teaching experiences as a way to reflect during their clinical teaching experience. Over 70% reported that they often wrote about their teaching experience as a way to reflect during their clinical teaching experience.

Both of these responses are representative of Schön's (1987) Reflection-On-Action. Hatton and Smith (1995) reinforced Schön's ideas, adding that reflection was about "stepping back and mulling over, or tentatively exploring reasons, back and forth on an idea" (Hatton & Smith, 1995, p. 42).

When reviewing the open ended responses, it appears that the dominant "thoughts" and "writings" to which student teachers refer to include thinking about new approaches to reach students (McCotter, 2004), thinking about planning for upcoming lessons (Killion & Todnem, 1991) and thinking about making adjustments while teaching (Schön, 1983).

Thirty-seven additional ways of reflection were identified by the subjects when provided the option to identify–as either often or occasionally–other methods they reflected during their clinical teaching experience. Nearly one-third of the subjects reported a method of reflecting that was consistent with Schön's (1983, 1987) Reflection-In-and-On-Action. Another one-third of subjects reported methods of reflecting–often or occasionally–that were consistent with Valli's (1997) Personalistic type of reflection, in which the focus is on the students' thoughts.

Less than one-fourth of subjects reported methods of reflecting–often or occasionally–that were consistent with Valli's (1997) Deliberative type of reflection, in which the teacher considers different viewpoints.

Third Conclusion: The Purpose of Reflection

Student teachers in the study used reflection as a vehicle for helping them adjust their decisions or actions in the classroom, consider other areas for their professional improvement, think about new ways to reach their students, and improve their classroom management.

The majority of subjects (n = 46, 79.3%) reported that they often used reflection to consider ways to adjust their decisions or actions. This was consistent with van Manen's (1977) Hermeneutic-Phenomenological level or Practical Action level in which the focus of the teachers' efforts is on understanding the quality and types of experiences in making future decisions. This is also consistent with van Manen's (1991) Anticipatory form of reflection and Killion and Todnem's (1991) Reflection-For-Action. It was also an indication of Schön's (1987) Reflection-On-Action.

Forty-two respondents (n = 42, 72.4%) reported that they often used reflection to improve themselves professionally. This was consistent with Valli's (1997) Personalistic level. It was also represented in Wellington & Austin's (1996) Transpersonal orientation of using reflection for self-development.

Forty-one respondents (n = 41, 70.6%) reported that they often used reflection to think about new ways to reach their students. This was consistent with Ward and

McCotter's (2004) Dialogic level of reflection, which describes a teacher who will try new approaches to reach students.

Forty respondents (n = 40, 68.9%) reported that they often used reflection to consider improving their classroom management. This was consistent with Ward and McCotter's (2004) Routine level of reflection, which represented a concern with managing student behaviors.

The respondents identified 21 (n = 21) additional purposes for which reflection was used during the clinical teaching experience. Interpretations of the responses were referenced to the literature. The majority of responses (n = 13) identified ways of reflecting that were consistent with Valli's (1997) Personalistic type of reflection, represented by the teacher thinking about his or her own growth. It was also consistent with Wellington and Austin's (1996) Transpersonal orientation of self-development. Additionally, the comments referencing self-discovery were consistent with van Manen's (1977) Hermeneutic-Phenomenological level.

Fourth Conclusion: Reflection Activities
Student Teachers Found Helpful

Student teachers in the study report that writing out their thoughts and talking with colleagues were helpful as they reflected on their lessons and what they intended to do in future lesson planning. It also helped them become more efficient and effective teachers and discover their students' needs. These modes of reflection also helped student teachers think about their personal growth, self-discovery and self-development.

Research Question Two (c) asked about the extent to which student teachers found reflective activities helpful. Of those subjects who kept a journal, 40 (n = 40, 67.9%) stated writing was either somewhat or very helpful. Fourteen (n = 14) subjects offered that writing about their student teaching was not helpful.

The second survey question related to Research Question Two (c) asked if reflection benefited subjects teaching during their student teaching experience. The majority of subjects (n = 46, 79.3%) reported that reflection helped them become more efficient (doing things the right way). Forty-five subjects (n = 45, 77.5%) reported that reflection helped them become more effective (doing the right things when needed). This was consistent with Wellington and Austin's (1996) Technical orientation, where the focus of teachers' efforts centered on reviewing their practice to improve their own effectiveness and efficiency as a teacher.

Thirty-nine respondents (n = 39, 67.2%) reported that reflection helped them discover their students' needs. This was consistent with Ward and McCotter's (2004) Dialogic level of reflection, which is descriptive of a teacher who thinks about new approaches to reach students. It is also consistent with Valli's (1997) Personalistic type of reflection, taking a holistic view and considering the thoughts, personal desires, future hopes and emotions of students.

The respondents identified 22 (n = 22) additional purposes for which reflection was used during the clinical teaching experience. Interpretations of the responses were referenced to the literature. The majority of responses (n = 11) reported methods of reflection that were consistent with Valli's (1997) Personalistic type of reflection,

represented by the teacher thinking about his or her growth. It was also consistent with Wellington and Austin's (1996) Transpersonal orientation of self-development. Additionally, the comments related to self-discovery were implied in van Manen's (1977) discussion of the Hermeneutic-Phenomenological level of reflection.

Four modes of reflection that were identified as being helpful during the clinical teaching experience were consistent with Kubler-La Boskey's (1994) pedagogical thoughtfulness of a focus on student's needs. The responses were also similar to Valli's (1997) Personalistic type of reflection that considers a holistic approach to students. Finally, the responses were also consistent with Ward and McCotter's (2004) Dialogic level of trying new approaches to reach students.

Fifth Conclusion: The Ways Teachers Intend to Reflect

Student teachers in the study reported that they intended to reflect when they begin their first teaching job. Although student teachers identified "thinking" about their actions or events in the classroom, communication with others appeared to be the mode that garnered the most responses. Talking with more experienced teachers, other first year teachers, mentor teachers, family members, or other school personnel were strategies that they intended to reflect in their first teaching job.

The majority of subjects (n = 56, 96.5%) reported they would be talking with more experienced teachers who are in their buildings. This was consistent with Valli's (1997) Deliberative type of reflection where the teacher uses the experiences and advice from colleagues. Fifty-five (n = 55, 94.8%) subjects reported thinking to

themselves about actions or events in their classroom through internal dialogue. This was consistent with Schön's (1987) reflection on action.

Fifty-four (n = 54, 93.1%) subjects reported that they would be talking with other first year teachers. This was consistent with Valli's (1997) Deliberative type of reflection, where the teacher considers the experiences and advice from colleagues. It was also consistent with one of Dewey's (1909) four criteria for reflection, having an attitude of reaching out to a community of colleagues.

Subjects also reported other modes of reflection that they indicated they would use in their first teaching job. Forty-eight (n = 48, 82.7%) subjects reported they would talk with a mentor teacher provided by the district. Forty-seven (n = 47, 81.0%) subjects reported that they would talk with other family members. Forty-six (n = 46, 79.3%) subjects reported that they would talk with other school personnel, such as a behavior specialist or content area coaches.

When asked about connecting with others through social media, the majority of selections (n = 25, 40.9%) identified Facebook as a mode of choice. Twelve selections (n = 12, 19.6%) identified Twitter as a mode of choice. This was consistent with one Dewey's (1909) four criteria for reflection of reaching out to a community of colleagues.

The subjects identified 17 (n = 17) additional modes of reflection they would use on their teaching first job. Interpretations of the responses were referenced to the literature. Fourteen (n = 14) subjects reported they would be conducting research, which is consistent with Valli's (1997) Deliberative type of reflection.

Eight (n = 8) respondents indicated that they would use some form of conversation or discussion with others as a mode of reflection when they begin their first job. This is consistent with Valli's (1997) Personalistic type of reflection, which involved seeking experience and advice from colleagues. This was also consistent with one of Dewey's (1909) four criteria for reflection of reaching out to a community of colleagues.

Some of the statements are also represented by Ward and McCotter's (2004) Dialogic level of reflection which involves seeking others perspectives.

Sixth Conclusion: The Challenging Aspects of Writing Reflections for Student Teachers

Student teachers in the study reported the following as challenging aspects to writing reflections: finding time to write; writing reflections that they believe did not benefit their teaching; and being required to reflect in a more formal structured approach.

The majority of subjects (*n* = 41, 70.6%) report that finding time to write was a challenging aspect. Twenty-one subjects (*n* = 21, 36.2%) report that writing reflections that did not benefit their teaching was a challenging aspect. There were nine (*n* = 9) subjects that reported other responses to the question. Two responses reinforced the challenging aspect of finding time to write about their thoughts. In addition to the two responses that reinforced the time constraints, subjects also reported that the process of writing out reflections was challenging.

Seventh Conclusion: Ways to Overcome the Challenging Aspects of Writing Reflections

Student teachers in the study report that communication with others, seeking feedback and advice from others, and having the autonomy to determine how and when they will use reflection, help in overcoming the challenging aspects of reflection.

The majority of subjects reported a preference for using communication with others as a strategy that helps, or could help them, in overcoming the challenges to reflecting. This is consistent with Valli's (1997) Deliberative type of reflection, which involved seeking experience and advice from colleagues. This was also consistent with one of Dewey's (1909) four criteria for reflection of reaching out to a community of colleagues. Some of the statements are also consistent with Ward and McCotter's (2004) Dialogic level of reflection that involves seeking others' perspectives.

Eight subjects (n = 8) reported being able to choose their mode of reflection as a strategy that helps, or could help them, in overcoming the challenges they experienced.

Five subjects (n = 5) reported reducing the quantity of reflections as a strategy that helps, or could help them, in overcoming the challenges they experienced.

Eighth Conclusion: Prevailing Themes and Levels of Written Reflections from Student Teachers

Student teachers' levels of reflection did not appear to change over the course of the clinical teaching experience. When given the opportunity to write about their

clinical experiences, the majority of entries (n = 88) were at the more-reflective levels. This was evident throughout the duration of the student teachers' clinical experiences. The more-reflective entries were evenly distributed throughout the clinical teaching experience. When subjects chose to write about more-reflective topics, the majority of written statements were about personal growth, previous lessons taught, relationships with students, or how to motivate and inspire students to learn.

There were 72 (n = 72) non-reflective entries that were evenly distributed throughout the clinical teaching experience. The non-reflective statements consisted of thoughts and concerns that were self-centered, simple descriptions of events or experiences, and managing students' behavior (Valli, 1997; Ward & McCotter, 2004; Wellington & Austin, 1996).

There were 18 (n = 18) entries that were considered pre-reflective. There were slightly more pre-reflective statements mid-way through the clinical teaching experience. One possible explanation for the fewer number of pre-reflective statements may have been due to the written reflection prompts (Appendix I) about which the subjects were already required to write. Nearly half of the written reflection prompts provided by the university appear to address the more technical aspects upon which beginning teachers typically focus their effort and attention. Some of these include: checking for understanding, correcting papers, time on task, wait time, Anticipatory sets, activating prior knowledge, listening skills to name a few. These were consistent with a more technical focus on instruction as revealed in the literature (Valli, 1997; van Manen, 1977; Wellington & Austin, 1996). Another explanation for

the fewer number of pre-reflective statements may be a consequence of student teachers' not having enough experience working with the more technical aspects of teaching. This inexperience may have made it uncomfortable to for them to submit these types of reflections.

Additional Thoughts

Upon re-examining the written reflections from one subject who was hired mid-way through her clinical teaching assignment, it was evident that the majority of her written reflections were considered to be more-reflective statements, as described in the literature. This subject conveyed written reflections at various levels, and times, with multiple levels of reflections being made simultaneously (Hatton & Smith, 1995; Jay & Johnson, 2002; Stanley, 1998). The subject also discussed her personal growth, and professional development (Valli, 1997; Wellington & Austin, 1996). The subject made references to students' growth, motivation, and of strategies to reach them. She also reflected on past and future lessons (Killion and Todnem, 1991; Kubler-La Boskey, 1994; Schön, 1983; Valli, 1997; Ward & McCotter, 2004). Finally, a statement in one of her more-reflective entries involved questioning of the rationale of an instructional approach (Wellington & Austin, 1996). This was unusual, as it was rare for any of the subjects to approach this Critical level of reflection. Based on the analysis of the entries, this newly hired teacher appeared to have a clear understanding of the value the benefit of reflection.

Limitations

1. The written reflections from the student teachers being studied, as compared to all student teachers, was narrow and therefore was not representative of any larger populations or samples of student teachers.
2. The small sample size, may have affected the generalizability of the study. While the population in this study was small, the subjects in this study did appear to be interested in the topic of reflection. Nearly 100% of the open-ended questions garnered responses. Over 10% of the subjects in the sample volunteered to participate in a focus group interview.
3. Because of financial limitations, the size of the sample was smaller than most of the studies reviewed in the literature.
4. The study was conducted at two religiously affiliated liberal arts universities in the Midwest and therefore was not a representative sample of other universities at a state, regional or national levels.
5. Because elementary school student teachers were not required to submit daily written reflections, the sample of student teacher written reflections was limited to secondary school student teachers.
6. The length of the clinical teaching experience in this study is approximately one semester; however, some clinical experiences are shorter in duration depending on the school or district.
7. The University's education department in the study embraces reflection and the reflective decision making process as a part of the program's

conceptual framework. The subjects in the study were more familiar with the concept of reflection and its purpose, as compared with universities that have not incorporated reflection into their programs of study.

Recommendations for Further Study

1. It is recommended that this study be replicated by conducting research that compares results employing additional variables such as, size of the university and region of the country.
2. After completing a year or several years of classroom experience, it would be valuable to examine whether or not the respondent student teachers view reflection and reflective activities differently. Variables to explore may include the passage of time, the teacher's attitudes toward reflection, and the building & district leadership's commitment to supporting teacher reflection. It is also recommended that the same student teachers that were interviewed be invited to participate in a similar interview after three to five years of experience in the field.
3. This study was conducted at two religion-affiliated liberal arts universities in the Midwest that promoted and taught student teachers the skills associated with reflection and reflective activities, and therefore, was not a representative sample of other universities at the state, regional or national levels. A future study could examine student teachers' thoughts about reflection at universities that have both similar and dissimilar commitments to reflection as a part of their teacher development program.

4. Because of financial limitations, the size of the sample was smaller than most studies reviewed in the literature. It is recommended that research be conducted with a larger sample of student teachers.

Recommendations for District and School Leadership

1. School district and building leaders could benefit receiving from training to gain an expanded understanding of reflection, reflective thinking, and reflective practice that will lead to a commitment by these leaders to support teachers by allocating time and the structure to reflect on their practices. These types of activities will help teachers "identify and replicate best practice, refine serendipitous practice, and avoid inferior practice" (Danielson, 2009).
2. Teachers entering the field could benefit if opportunities were provided to participate in professional learning communities that actively promote reflection in their school. Results from the study support teachers' desire to reflect with other colleagues, mentors and supervisors. Encouraging experienced and new teachers to engage in reflective activities together may contribute to the development of a common language and common understanding of reflection, reflective thinking and reflective practice. This could lead to better opportunities for student learning and teacher growth.
3. Student achievement has been shown to increase when teachers have the skills and abilities to monitor and adjust instructional strategies through

intentional reflective activities (Killion & Todnem, 1991). Therefore, school leaders are encouraged to provide teachers with the time and the flexibility to engage in these types of reflective opportunities within their professional day.

4. School leaders could review the focuses, purposes, and modes of reflection that subjects from this study identified as helpful and, subsequently, encourage new teachers to reflect in similar ways. The support for this form of professional development can assist new teachers establish a pattern of reflection throughout their career.

Recommendations for Higher Education Institutions

1. As part of their academic preparation, student teachers should be provided with instruction on and opportunities to reflect. They should also have a balance of specifically assigned and unassigned written reflections. This balance will provide them with a structure, as well as the ability, to reflect "from the heart."
2. Student teachers could benefit from working with cooperating teachers who have had formal training in reflection and are committed to making reflection a part of their professional practices. Their mentorship and guidance for student teachers could also provide models for student teachers to develop a patterns of reflecting as they begin their teaching career.

Recommendations for Teacher Educators

1. Teacher educators are encouraged to support the student teacher in understanding the content and values of their reflection activities while allowing those students opportunities to have autonomy over reflection methods and topics.
2. Teacher educators who understand the value of reflection are encouraged to be advocates to influencing their universities to make reflection a relevant part of their program goals and outcomes.
3. Teacher educators are encouraged to assist cooperating teachers in understanding the expectations of the student teacher's reflection assignments. The cooperating teachers should provide encouragement to the student teachers to reflect in a more intentional focused way, and not [in] a "mere haphazard mulling over" (Rodgers, 2002, p. 849) manner. Additionally, the cooperating teachers should help the student teacher reflect in ways that are developmentally appropriate and relevant to their needs, maturity and experiential level.
4. Teacher educators are encouraged to be aware of what student teachers express about the challenging aspects of written reflection during their clinical teaching experience and, therefore, assist them to develop strategies to overcome those challenging aspects to write out reflections. With a better understanding of the challenging aspects that prevent student teachers from reflecting and ideas to overcome those challenges, teacher

educators can also aid cooperating teachers understand when to anticipate these challenging aspects and offer support to the student teacher.

SUMMARY

The promotion of reflecting on one's practice is an important component for growth and improvement within a teacher's preparation and induction (NCATE, 2008). The purpose of this study was to examine the thoughts about reflection from a group of student teachers that recently completed their clinical teaching experience. This study sought to explore the characteristics that student teachers believe represent a "reflective teacher"; the focus and frequency of student teachers' use of reflection during their clinical teaching experience, the purpose and frequency of student teachers' use of reflection, and the extent to which they found the reflective activities to be helpful.

The study also examined what student teachers found to be the most challenging aspect of maintaining a written record of their reflections, and the strategies that could potentially help them overcome the reported challenging aspects. Student teachers were also asked to identify the mode, or modes of reflection, they might use when they begin their first year of teaching. Finally, reflections from a sample of the same group were examined and interpreted to determine what themes and levels student teachers reflected on early, mid-way, and toward the end of the clinical teaching experience.

Final Thoughts

Regardless of what style or mode of reflection a teacher chooses to use, it seems to be important to establish a pattern early on in the career so that reflection becomes embedded in the professional practice. That requires commitment and structure in the preparation and the induction for beginning teachers. There does not seem to be a right way to reflect, there's just your way.

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APPENDICES

APPENDIX A

IRB Approval Letter

OFFICE OF RESEARCH AND SPONSORED PROGRAMS
ST. CLOUD STATE UNIVERSITY.

Institutional Review Board (IRB)

Administrative Services 210
Website: stcloudstate.edu/osp ***Email: osp@stcloudstate.edu***
Phone: 320-308-4932

Name: Eric Williams
Address: 2430 Tiffany Court
St. Cloud, MN 56301
Email: wier1202@stcloudstate.edu

Co-Investigator:

Project Title: An Examination of Reflections During the Student Teacher's Field Experience
Advisor: John Eller

IRB APPLICATION DETERMINATION: EXEMPT

The Institutional Review Board has reviewed your application to conduct research involving human subjects. Your project has been: **EXEMPT**

We are pleased to advise you that your project has been deemed as exempt in accordance with federal regulations. The IRB has found that your research project meets the criteria for exempt status and the criteria for protection of human subjects in exempt research. Please note the following items concerning our exempt policy:

--Principal Investigator assumes the responsibilities for the protection of human subjects in this project

--Project is approved through the end date stated in your application or per the stamped consent form, whichever is later. To continue the research beyond this timeframe, either submit a continuing review form or a new IRB application.

--Any proposed revisions are to be submitted to the IRB for review and approval.

--Adverse events (research related injuries, harmful outcomes, significant participant withdrawal, etc.) must be reported to the IRB as soon as possible.

--The IRB reserves the right to review the research while it is in progress or when it is completed.

Good luck on your research. If we can be of further assistance, please contact the Office of Research and Sponsored Programs at 320-308-4932 or email lidonnay@stcloudstate.edu. Use the SCSU IRB number listed on any forms submitted which relate to this project, or on any correspondence with the IRB.

For the Institutional Review Board:

Linda Donnay
IRB Administrator
Office of Research and Sponsored Programs

For St. Cloud State University:

Patrica Hughes
Interim Associate Provost for Research
Dean of Graduate Studies

OFFICE USE ONLY

SCSUIRB# 1308 - 1587
Type of Review:

Today's Date: 5/15/2014
EXEMPT: 5/9/2014
Expiration Date: 5/8/2015

APPENDIX B

Contact Letter to Director of the Teacher Education

From: Eric Williams
Sent: Monday, March 31, 2014 6:50 PM
To: Dr. David Lietzman
Subject: Request to meet about a possible doctoral study

Hello Dr. Lietzman,

My name is Eric Williams, and I am a doctoral candidate in the Department of Educational Leadership at St. Cloud State University.

The purpose of my study is to examine what teacher candidates reflect on throughout their student teaching field experience and how reflection changes during their field experience.

For this research, I would like to evaluate teacher candidate reflections from student teaching field experiences. If possible, I would like to request sample reflections from both elementary and secondary candidates. I spoke with Del Brobst today about the possibility of examining archived teacher candidate reflections.

The findings of the study will be presented qualitatively and individual participants will not be identified.

I hope that the results of this research will benefit a variety of groups and individuals.

This information may assist university supervisors help teacher candidates understand and anticipate possible changing levels of reflective thought as they progress through the student teaching experience. Additionally, it may provide teacher candidates with a better understanding of reflection and recognize the significance of reflecting on their practice.

I think that working with College of St. John's/St. Benedict would be a unique opportunity. I've reviewed Program Goal IX; and Professional Development, and find it consistent with the research that I've conducted over the last several years. Not all universities promote the value of reflection and reflective thought in their teacher education program goals.

If it works in your schedule I would like to present some background information on my research and my proposed study.

Thank you in advance for your consideration and I hope to hear from you.
Sincerely,
Eric Williams

APPENDIX C

Follow up Letter to Director of the Teacher Education

From: Eric Williams
Sent: Wednesday, April 23, 2014 1:10 PM
To: Lietzman, David
Subject: Re: Request to meet about a possible doctoral study

Hello Dr. Lietzman,
I hope your recovery is going well. I had a chance to present my proposed study to Del, Melisa and Janet two weeks ago. Next Tuesday, I am scheduled to do the dissertation proposal to my committee. I appreciate the opportunity to work with you and your staff. Hopefully this was mutually beneficial.

During our meeting last week, we had talked about the possibility of distributing a survey to the students at the luncheon on May 14th, and to invite students, who would be interested, in participating in a focus group interview at a later date.

I'm attaching a DRAFT of the survey questions that will address several of my research questions. If you are fine with this, or if you had other thoughts, I'd welcome the opportunity to work with you on the survey.

I think Melisa, Del and Janet were ok with this plan, but wanted to get your input. If you would have the time to connect, I'd appreciate it.

Thanks!

Eric Williams, 763-300-1189

APPENDIX D

Survey and Focus Group Interview Consent Form

Clinical teaching experience
Education Research Study, St. Cloud State University

This is a focus group interview is about your thoughts about your reflections (journals, conversations, thoughts, planning lessons etc…) during your recent student teaching experience. Participation is voluntary. Your decision whether or not to participate will not affect your current or future relations with St. Cloud State University, College of St. Benedict/St. Johns University or the researcher. If you decide to participate, you are free to withdraw at any time without penalty. Participants must be at least 18 years of age or older.

All of the responses was held in confidence for the duration of this study. Any reference to specific individuals was deleted from the responses. Any data associated with this survey was shredded after three years.

In addition to the survey, there will also be a short focus group interview conducted by the researcher in the coming days. The responses from the focus group interview will be used to provide more insight from the survey responses. **Please put your name and contact information on the sign-up sheet that will be circulated if you wish to be contacted about participating in the focus group interview.**

Finally, we would like permission to analyze random reflections from your group that you may have submitted to your professor during the student teaching experience. **If we have your permission to do this, we would ask that you provide your Banner ID _____ number to Dr. Leitzman as consent to evaluate the reflections.** The reporting of any entries will be anonymous, however you may be identified by a specific quote or quotes. Some quotes maybe published in the study.

Research results and aggregate data from the survey responses will be available to you upon request. A copy of an individual's survey will be available to specific participant upon request, either by phone or email. You may also contact me for the results of the study.

We appreciate your willingness to share your views with us. If you have any questions, comments, or concerns about the survey or the nature of the research, please free feel free to contact my colleague, Dr. John Eller or myself.

Sincerely,

Eric Williams, Superintendent
Holdingford School District
P.O. Box 250
Holdingford, MN 56340
eric.williams@isd738.org
763-300-1189

Dr. John Eller,
St. Cloud State University, St. Cloud, MN
jfeller@stcloudstate.edu
320-308-4241

APPENDIX E

Survey

Student Teachers' Use of During Clinical Experience Education Research Study, St. Cloud State University

Please respond to each of the following questions, then return your completed survey to Dr. Leitzman or Mr. Williams.

1. In which college are you enrolled? ___ CSB or ___ SJU

2. In which areas are you preparing to be licensed to teach? (Please check all that apply)

___ K-6 (elementary generalist)

___ K-12 (Special Education)

___ K-12 (world languages, visual art, music)

___ K-8 (world language endorsement)

___ 5-8 (general science, math, language arts endorsement)

___ 5-12 (science, language arts, social studies, mathematics)

___ 9-12 (science)

___ Another licensure not Listed above: _____

3. Based on your experience, which of the following characteristics describe features of a "reflective teacher?" Please consider each characteristic, and then check the box to the right that best indicates your opinion.

Reflective Teachers…	**More Descriptive**	**Somewhat Descriptive**	**Less Descriptive**	**Can't Say**
Are interested in improving teaching skills				
Seek new ways to reach students				
Think about social or cultural influences in their classrooms				
Seek colleagues' perspectives on teaching				
Consult research literature on teaching				
Question the way things are done				
Think quickly under stress				
Another characteristic of a reflective teacher is… (Please write-in and check →)				

4. On what did you focus your reflections during your student teaching experience?

I focused my Teaching Reflections on…	Often	Occasionally	Rarely	Never
Writing about my teaching experiences				
Talking with veteran teachers				
Talking with other student teachers				
Thinking about my teaching experiences				
I reflected on my student teaching in other ways, including…(please write-in and check →)				

5. What were the purposes for your reflections during student teaching?

I used reflection to…	Often	Occasionally	Rarely	Never
Consider ways to adjust my decisions or actions				
Improve my classroom management				
Enhance my lesson planning				
Improve my teaching skills				
Think about new ways to reach my students				
Consider other areas for my improvement				
Understand social or cultural influences on education				
Meet a requirement for my student teaching program				
I used reflection for other purposes, including… (please write-in and check →)				

6. If you kept some type of reflective journal during your student teaching experience, did you find it helpful to write about your teaching experiences?
(Please check one of the following responses).

___ Yes, writing about my experiences in a journal was very helpful.

___ Writing about my experiences was somewhat helpful.

___ No, writing about my student teaching experiences was not helpful.

___ I did not keep a reflective journal.

7. Did reflection benefit your teaching during your student teaching experience?

was beneficial for…	Very Beneficial	Somewhat Beneficial	Not Beneficial	Can't Say
Managing my students' behavior				
Responding to my students' needs				
Planning future lessons				
Solving existing problems				
Preparing for emerging problems				
Understanding the forces that influence education (social; cultural; political)				
Becoming more efficient teacher (doing things the right way)				
Discovering my students' needs				

8. Thinking ahead to your first teaching job, on what aspects of your teaching will you be likely to reflect? (Please check all of the following options that apply.)

___ **Thinking** to myself about my actions or events in my classroom through internal dialogue.

___ **Writing** about my actions or events in my classroom in a personal journal.

___ **Talking** with others about my teaching, including… (again, please check all options that apply)

- ___ More experienced teachers who are in my building
- ___ A mentor teacher provided by my district
- ___ Other first year teachers
- ___ My principal
- ___ Other school personnel (behavior specialists; content area coaches)
- ___ Friends who are not teaching
- ___ My parents or other family members

___ **Connecting** with others through social media, including…

- ___ Twitter
- ___ Facebook
- ___ Mobile apps like Day One or Everyday.me
- ___ Google+
- ___ Blogs such as Blogger or Tumblr
- ___ Videos like YouTube or Vimeo

___ **Another way** of reflecting (please write-in) _____

___ I don't think I'll be reflecting on my teaching during my first teaching job.

9. What did you find to be most challenging about writing reflections during student teaching experiences? (Please choose one of the following options)

___ Finding time to write
___ Thinking about what to write
___ Sharing my written reflections with others
___ Writing reflections that did not benefit my teaching
___ Most challenging for me was…(Please write-in)_____

10. As you now look back on your reflections about your student teaching experiences during the past semester, what might have helped you overcome any challenges you experienced?

Thank you for sharing your thoughts about "reflection."

APPENDIX F

Focus Group Interview Sign-up Sheet

Focus Group Interview Sign-up Sheet

If you are interested in being contacted to participate in a focus group interview, please put you contact information below.

Name,	email address	phone
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

APPENDIX G

Focus Group Interview

Interview Questions

Hello _____.

Thank you once again for your participation in this study.

I was recording our conversation to ensure an accurate transcription. I'll be asking you questions that that were asked in the survey on Wednesday, May 14th. Your answers will help me more fully understand the responses that the student teachers provided on that Survey.

Before we begin, can you tell me what subject and grade level each of you are preparing to be licensed in?

First, I'm going to re-read the **third question** from the survey: which of the following characteristics describe features of a "reflective teacher?"

The statements included:
-Interested in improving teaching skills
-Seeking new ways to reach students
-Thinking about social or cultural influences on the classroom
-Seeking colleagues' perspectives on teaching
-Consulting research literature on teaching
-Questioning the way things are done
-Thinking quickly under stress

If you recall, the categories of more, somewhat, less descriptive and can't say - were used.

Would you tell me more about what it means to be a reflective teacher to you?

The **fourth question** focused on the ways, and how often you reflected on your student teaching experience.

The choices included:

Writing about my teaching experiences
Talking with veteran teachers
Talking with other student teachers
Thinking about my teaching experiences
I reflected on my student teaching in other ways, including…

If you recall, the categories of often, occasionally, rarely and never - were used.
Would you tell me a little more about the ways and how often you reflected?

The **fifth question** asked about the purpose and how often, you reflected on your student teaching experiences?

The choices included

Consider ways to adjust my decisions or actions
Improve my classroom management
Enhance my lesson planning
Improve my teaching skills
Think about new ways to reach my students
Consider other areas for my improvement
Understand social or cultural influences on education
Meet a requirement for my student teaching program
I used reflection for other purposes, including…

If you recall, the categories of often, occasionally, rarely and never - were used.

Would you tell me more about the purpose and how often, you reflected?

The **sixth question** asked if you kept some type of reflective journal during your student teaching experience and if you found it helpful to write about your teaching experiences?

The choices included:

Yes, writing about my experiences in a journal was very helpful.
Writing about my experiences was somewhat helpful.
No, writing about my student teaching experiences was not helpful.
I did not keep a reflective journal.

Would you tell me if you kept some type of reflective journal and did you find it helpful to write about your teaching experiences?

The **seventh question** talked about how reflection **benefited your teaching** during your student teaching experience?

Choices included:

Managing my students' behavior
Responding to my students' needs
Planning future lessons
Solving existing problems
Preparing for emerging problems
Understanding the forces that influence education (social; cultural; political)
Becoming more efficient teacher (doing things the right way)
Discovering my students' needs
Becoming a more effective teacher (doing the right things when needed)
Reflecting on my teaching was beneficial in other ways, including

Would you tell me more about how you found reflection to be helpful to you?

Question Eight: Next, I'm going to re-read the list of different modes of reflection student teachers might be likely to use as they begin their first year of employment?

The choices included:

Thinking to myself about my actions or events in my classroom through internal dialogue.
___ Writing about my actions or events in my classroom in a journal.
___ Talking with others about my teaching, including (again, please check all that apply)…
___ More experienced teachers who are in my building
___ A mentor teacher provided by my district
___ Other first year teachers
___ My principal
___ Other school personnel (behavior specialists; content area coaches)
___ Friends who are not teaching
___ Parents or other family members
___ Connecting with others through social media, including…
___ Twitter
___ Facebook
___ Mobile apps like Day One or Everyday.me
___ Google+
___ Blogs such as Blogger or Tumblr
___ Videos like YouTube or Vimeo

Another way of reflecting, like (please write-in)_____

___ I don't think I'll be reflecting on my teaching during my first teaching job
Are there modes of reflection that you think was particularly helpful to you as you begin your teaching assignment?

Why do you believe _____ was helpful to you?

The **ninth question** asked what you found to be more challenging about **writing reflections during student teaching experiences**
___ Finding time to write
___ Thinking about what to write
___ Sharing my written reflections with others
___ Writing reflections that did not benefit my teaching
___ I found another challenge about writing reflections
(Please specify):
_____

Question Ten: Finally, What were the most challenging or difficult aspects about using a journal or other writing to reflect on your student teaching? What would have helped you overcome any challenges you may have experienced?

This concludes our interview. Thank you for participating in this study. Your assistance will not only help school leaders and university educators, but it will also help student teachers as they embark on this exciting journey!

APPENDIX H

Authorization Letter

College of Saint Benedict
Saint John's University

Education Department

8 May 2014
Linda Donnay,
Director of Compliance and Ethics
Office of Research and Sponsored Programs
Saint Cloud State University,
Administrative Services 201
Saint Cloud, Minnesota 56301

Ms. Donnay:
I am writing to affirm that our department has reviewed Mr. Eric Williams' pending study of our teacher candidates' reflection on facets of their emerging practice during their student teaching experiences. His study is congruent with our emphasis on preparing "teachers as reflective decision-makers." When completed, I believe that Mr. Williams' research will provide useful information that will inform our efforts to encourage novice teachers' continuing use of that critical professional skill.

During the past month I have examined his research questions, contributed to the design of the survey our candidates will be asked to complete, and have reviewed a set of questions that will guide his further exploration of reflection as practiced by a self-selected sample of survey respondents who accept his invitation to participate in a focus group. I have examined the introduction he prepared to inform respondents about his study and the consent form that those respondents will complete. We have explored ways in which he might record and analyze information provided by survey responses and focus group participants. I will provide logistical support and compliance oversight as Mr. Williams gathers the information from our teacher candidates on 14 May 2014.

I find Mr. Williams planned study and related materials to be consistent with the standards advanced by the Joint Committee on Standards for Educational Evaluation as published in *The Program Evaluation Standards* (1994, 2nd edition, Sage, Thousand Oaks, Ca.). I also find his planned study to be consistent with the expectations set by our two colleges' Institutional Review Board, of which I was a founding member in years past (http://www.csbsju.edu/institutional-review-board).

I would be pleased to provide further information should you have questions or concerns with respect to our colleges' or our candidates' roles in what I expect to be a productive study of a key element in their successful preparation to serve Minnesota's schools.

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APPENDIX I

University Assigned Prompts

University Assigned Prompts

1. Reactions to my first day in the building ,
2. Comments about the subjects I will be teaching.
3. How well am I learning names of students I will teach?
4. Anxiety about teaching my first class.
5. What I like/dislike about my student teaching assignment.
6. Analysis of my first lesson plans.
7. My successes for the week.
8. Things that need improvement.
9. Comments about the number of classes and students I am teaching.
10. Reactions to my interactions with my cooperating teacher, other faculty members, and staff.
11. Why I have or have not become involved in extracurricular activities.
12. How well am I progressing with my portfolio assignments?
13. Assessment of the first three weeks of student teaching.
14. Analysis of my lesson planning/preparedness.
15. Comments about discipline/classroom management
16. My greatest success thus far.
17. What I have done to rest and relax.
18. Assessment of my progress during the first four weeks of student teaching.
19. What I did over the weekend to prepare for teaching.
20. How I feel about my knowledge and college preparation.
21. I do/do not understand how to apply Blooms taxonomy to my questioning skills.
22. How well am I learning names of students I will teach?
23. Description of my best Anticipatory set.
24. What I know about checking for understanding.
25. Descriptions of outstanding students.
26. I do/do not feel stressed out. Why?
27. I have/have not made significant progress in my classroom management skills.
28. Description of the paper correcting I have to do and the time it takes to do it.
29. I feel best about the following skills I have as a teacher.
30. Reactions to my last week teaching this grade level.
31. Reaction to completing the first eight weeks of student teaching.
32. Reactions to my cooperating teacher and the new setting.
33. What management changes do I need to make for this level of student?
34. I have mastered/not mastered wait time.
35. I can/can not adjust my plans while I am teaching.
36. I have made the following adjustments for students' individual needs.
37. At this point I like teaching middle school/high school better.
38. I have used these technological resources in the classroom.
39. I have done the following in my classroom to increase students' intrinsic motivation.
40. I have effectively used the following nonverbal cues.
41. These are the strategies I have used to sample student thinking.
42. These are strategies I have used successfully to link new content to students' prior understanding.
43. These are some of the assessment strategies I have created and used.
44. These are some of the things I have discovered about my teaching performance that will help me improve.
45. These are some of the things my university supervisor pointed out to me that have been useful to me in improving my teaching performance.
46. As this very moment, I'd like to . . . .
47. I have/have not taught specific listening techniques to the students in my classes.

48. I am thinking about the need for teaching specific listening techniques to student in my classes, and my conclusion is . . . because. . . .
49. Descriptions of ways I have monitored and adjusted my teaching strategies during the presentation of a lesson are . . . .
50. The student behaviors that cause me the most frustration in the classroom are . . .
51. I would describe my daily preparation as . . . .
52. I notice that I do/do not focus on the same few students in each class each day.
53. I have the following tasks to complete for my portfolio:
54. I feel best about the following skills I have as a teacher.
55. Reactions to beginning my last week of student teaching.
56. Things I will miss the most about student teaching.