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Insights Into Reflection and Pre-service Teacher Education: An Hermeneutic Phenomenology

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Insights Into Reflection and Pre-service Teacher Education: An Hermeneutic

Phenomenology

by

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Dedication

Each strand of your life will weave together with the last to prepare you for the next.

Al Nearing

reflection and this dissertation. Thank you. Diane Herring, who first taught me the great responsibility one assumes when they are a teacher. Thank you. Harley, who taught me that sometimes you need to take to a break. Linda Smith, who taught me that teaching is a noble profession and a such, the acts of teaching and learning should be approached with love, rigor, and reverence. Thank you. Ken Wick, who taught me to close my eyes, shut my mouth, and listen to myself breathe. Thank you. And as always Al Nearing, who taught me. Thank you.

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Abstract

With recent calls for teacher education programs to increase both the quantity and quality of field experiences (NCATE, 2010), it is important for teacher educators to understand how pre-service teachers create meaning from those experiences. Reflection is a mode of thought historically associated with creating "warranted assertabilities" (Dewey, 1938, p.15) from experience. Therefore, reflection is a common component of many teacher education programs (Darling-Hammond, 2010). Despite the abundance of research that has been conducted about reflection and teacher education, little is understood about the process of supported reflection as it is experienced by pre-service teachers. In this hermeneutic phenomenology, I explored the described experience of reflection for one pre-service teacher with whom I worked. Findings from this study created new understandings about reflection which include: (dis)positions may be tendencies toward temporary places rather than static, pre-determined qualities, dissonance appears to be present throughout the reflection process, judgment and knowledgeable others play key roles in the reflection process, and coding, note-taking, and writing appear to be ways for pre-service teachers and university supervisors to create texts that can be juxtaposed to create dissonance and dialectic tension.

Chapter 1:

Introduction

Education, therefore, is a process of living and not a preparation for future living.
John Dewey

Scene One: Teaching and Learning in Ms. Smith's Room

I see a room of eighteen eight-year-olds, second graders maybe. In the corner I see a group of three children, one sitting with his legs outstretched, back against the wall, reading from a book titled Rainforest Babies. Another child is on her knees bent over what looks like a pile of trade books, notebooks, and various writing tools. The third child is on her belly with bent knees and feet criss-crossing behind her as she is reading about medicinal plants located in the rainforest. Her chin rests in her hands as she shouts in disbelief, "Plants can be used for medicine!?" A teacher enters the conversation by sitting on the floor, her feet kicked to the side. Her elbow is on her leg and her chin is in her hand. She looks at the child and asks, "So what did you find out?" A conversation ensues during which the child is talking about what she is thinking, pointing out interesting parts of the book she is reading and the sticky notes posted throughout the book on which are written questions she has. I see both the child and teacher thinking and looking for information. "You know," the teacher says, "I was just talking with Devon over there" she points across the room to a child sitting in front of the computer, "he is reading about deforestation and how people are cutting down large parts of the rainforest, I wonder what impact that would have on the plants you are reading about. I think the

two of you should get together and share your information to see what you can make of it." The child gathers her things and heads across the room shouting, "Hey, Devon, did you know there are important plants in that rainforest!?" The teacher smirks and looks up to the rest of the children in the group, "So, how are you all coming along?"

Scene Two: Teaching and Learning in Ms. Vanderpool's Room

I see a room of eighteen eight-year-olds, second graders maybe. I see a group of four children sitting at their desks. They are reading a printed out article about the rainforest and deforestation. On the top of the sheet in all capital letters are the words: FOCUS SKILL: MAIN IDEA & DETAIL. One boy is reading the article out loud and stumbling over many words. The girl to his left has her head in her hand and she is easily reading the text and answering the questions at the bottom of the page. The two other children have stopped reading and are now talking to each other about the biggest snakes they have ever seen. Their arms are outstretched to show how long the snakes were. A teacher comes over. She stands next to group. "What are we supposed to be doing?" The boys drop their heads and look at each other. "You need to read this article and find the main idea. How do we find the main idea?" The girl raises her head and says, "it is what it is mostly about." "That's right, Amanda, how smart!" the teacher smiles. "Where do we find the main idea? Is it in the beginning, the middle, or the end?" she asks. "The beginning?" one of the boys says with little confidence. The teacher congratulates him and says "That's right. Good job. Keep reading." as she moves to the next group.

Embedded within the Scenes

In scene one, children were authentically engaged in reading and writing to find information about self-selected areas of interest regarding the rainforest. They seemed to effortlessly read and reread multiple texts, attend to text structures, determine importance,

synthesize information, record their thinking. During this time they were practicing, with guidance, what to do when they come across a word they can't read, how to figure out what words mean, how to mentally organize the information they read. After they gathered information they had to make decisions about what medium they would use the share their information with others (video, poster, photoessay, book, comic-strip, etc). The atmosphere in the room was that of focused energy, authenticity, and joy.

In scene two, some children were able to read the article and answer the questions with ease. Others were unable to decode the text with any amount of accuracy that would lead to comprehension. Some were frustrated, some were bored, some were happy that they were doing a 'good job.' Those who were able to read the article and answer the questions engaged in what amounts to test-taking practice. Those who were unable to read and understand the text were not engaged in reading practice at all. The atmosphere in the room was that of dullness, complacency, and artificiality.

Behind the Scenes

For scene one to happen, the teacher reviewed her data about the independent reading levels (Fountas & Pinnell, 1996) of her students. She gathered books from a number of places (school book room, personal collection, colleagues classroom libraries, school library, surrounding public libraries) that were representative of the independent levels of her students. She taught her students how to select books that were at their independent reading levels (Routman,1991) to help them decide for themselves how to choose texts that are just right for them to read. She modeled reading strategies (Harvey & Goudvis, 2000; Keene, 2008; Keene & Zimmerman, 1997) and how to navigate informational text (Harvey, 1998). She knew, from anecdotal notes, which of her students needed guidance as they came across words they could

not read in text and she was sure to visit those students during their work with that in mind. She needed to visit the students' work after school to determine what kind of support particular students needed the next day to continue developing their literacy practices. She knew the difference between superficial talk and engaging in authentic conversation (Johnson, 2004; Miller, 2008) with a child designed to provide support for their learning as well as honor and respect their work. She knew that reading and writing are reciprocal and mutually reenforced when done in conjunction with one another. She knew the importance of integration (Cunningham and Allington, 2011), both within elements of literacy and across content areas. She knew children are motivated when they are given choice, challenge, and authentic projects (Miller, 2002). She planned this sequence of learning experiences with these things in mind.

For scene two to occur, the teacher tore out the page in the FCAT practice book with main idea and detail on it. She gave it to the students. She told the students that the main idea is what the article is mostly about and that it is usually at the beginning of the article. The teacher monitored the children to make sure they were on task. The teacher needed limited knowledge and understanding of children and literacy practices to enact this form of teaching.

The above two scenes beg the question, how do people (pre-service teachers) learn to become teachers who are able to use research-based practices to facilitate learning, as illustrated in scene one? This is a question I am intensely interested in and I believe the pivotal difference among teachers is reflection, the ability to have an experience and think about it in a way that creates new understandings about teaching and learning. For pre-service teachers this means reflecting on their field experiences in ways that create new understandings about teaching and learning. As a former classroom teacher who facilitated learning much like the learning illustrated in scene one, I know this is possible. I know that engagement with influential mentors

(knowledgeable others) and my ability to reflect on my field experiences, created understandings about teaching and learning and perhaps more importantly cultivated in me an insatiable desire to understand my own and children's learning. However, as a current teacher of pre-service teachers, I have experienced the difficulty in facilitating their learning about teaching and learning. It is complicated. This dissertation is intended to create new understandings about how pre-service teachers learn about teaching and learning by reflecting on their field experiences with knowledgeable others.

Rationale

How does someone learn how to teach? On the surface, this question seems to be easily answered in the following way: the education of pre-service teachers is traditionally marked by the taking of coursework to learn content and pedagogy as well as engaging in field experiences during which the preservice teachers observe certified teachers and practice teaching on their own. It is assumed that what has been 'learned' in their coursework will transfer and inform the actions they take during their field experiences and ultimately permeate their practice as certified teachers.

However, recently there has been a shift away from the traditional approach to preparing preservice teachers and toward a "move to programs that are fully grown in clinical practice and interwoven with academic content and professional courses" (National Council for Accreditation of Teacher Education, 2010, p. ii). As a result, a greater emphasis is being placed on the amount of time preservice teachers spend engaging in field experiences. However, more practice in classrooms does not necessarily equate with higher-quality experiences (Allsopp, DeMarie, Alvarez-McHatton, & Doone, 2006).

Theory and Definitions

Herein lies a problem. If preservice teachers are expected to spend increased amounts of time engaging in field experiences, how do those experiences help preservice teachers learn about teaching and learning from a professional stance? In other words, how do preservice teachers make meaning from the increased amount of field experiences in ways that inform their future actions in the classroom and ultimately result in student learning? John Dewey (1933) suggested that to make meaning from *any* experience one needs to reflect on it. *Reflection*, as defined by Dewey, is a mode of thinking that is akin to inquiry. Reflection is defined by one's ability "to look back over what has been done so as to extract the net meanings which are the capital stock for intelligent dealing with future experiences" (Dewey 1938, p.110). For Dewey, the reflective act includes five phases. Although the description below may appear linear, a person can, and often does, fluctuate between phases during reflection. In the pre-reflective phase, one has an experience in which dissonance is felt. Thinking then turns to reflection as the person experiences the following:

(1) *suggestions,* in which the mind leaps forward to a possible solution;

(2) an intellectualization of the difficulty or perplexity that has been *felt* (directly experienced) into a *problem* to be solved, a question for which the answer must be sought;

(3) the use of one suggestion after another as a leading idea, or *hypothesis,* to initiate and guide observation and other operations in collection of factual material;

(4) the mental elaboration of the idea or supposition as an idea or supposition (*reasoning,* in the sense in which reasoning is a part, not

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the whole, of inference); and (5) testing the hypothesis by overt or

imaginative action.

 (Dewey, 1933, p.107).

Dewey's writings seem to suggest that if preservice teachers reflect on their field

experiences they will learn about teaching and learning in meaningful ways which will then

inform their future actions in the classroom.

Indeed, reflection has been a key component of many teacher preparation programs and

has been researched widely. I detail the literature on reflection in Chapter Two of this

dissertation but I will briefly outline the most common approaches used to study reflection here.

Researchers examine the levels of reflection preservice teachers achieve as they use memory to

think about a field experience and document their thinking in journal entries (Cohen-Sayag &

Fischl, 2012; Seban, 2009), portfolios (Chetcuti, 2007), and papers (Alger, 2006; Seban, 2009).

Researchers also document the levels of reflection achieved by preservice teachers as they use

video of their own teaching as the text on which to reflect (Rosaen, Lundenburg, Cooper, Fritzen

& Terpstra, 2008). Some researchers examine reflection as it takes place in asynchronous on-line

spaces in conversations with peers and supervisors (Anderson & Matkins, 2001; Harland &

Wondra, 2011). Others, write about reflection as it occurs in synchronous environments, namely

in-person conversations with peers (Genor, 2005) or collaborating teachers (Ottenson, 2007).

Although researchers operationalize reflection in varying ways, reflection, as it is most

often researched, is conceived of as a static object- a thing created in isolation with a memory of

an experience or a video of an experience. The reflective journal entry (Seban, 2009), the critical

incident paper (Hamlin, 2004), the reflective paper written after editing video of teaching (Rosaen

et al. 2008), are all seen by researchers as reflection and are studied as such. I disagree. I argue

that reflection is better conceived of as a verb. It is the "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, 1933, p. 9). Therefore, in my proposed study, I operationalize reflection as a process (Branscombe & Schneider, 2013). I wish to understand differently the experience preservice teachers have of the process of reflection rather than the objects of reflection.

When I write that reflection is a process, I include key elements and concepts theoretically associated with reflection to be part of that process. First, I believe reflection is begun by an authentic feeling of *dissonance*. I operationalize dissonance as a misalignment of one's beliefs, thoughts, words, and actions. For example, in an experience, one would feel dissonance when what they are doing (action, words) is different than what they believe they should be doing (beliefs, thoughts). But there is more to dissonance than an experience of misalignment. Cognitive dissonance, a theory created by Festinger (1957) has received much attention by social psychologists over the years. Findings within that body of literature include the idea that a lack of choice prevents dissonance from occurring (Zanna & Copper, 1974), in high-choice situations, dissonance is experienced only if adverse consequences occur (Linder, Copper & Jones, 1967), dissonance occurs when a person believes they are responsible for the adverse consequence (Cooper, 2007), dissonance is experienced as discomfort (Elliot & Divine, 1994), and because of this discomfort, the human tendency is to justify ones actions that resulted in the misalignment.

I believe these findings have great relevance to the process of reflection. Dissonance is the impetus for reflection. As Dewey explained (1933), once dissonance is felt, then thinking can turn to reflection. However, considering the findings mentioned above, I can imagine how a

preservice teacher would need help in recognizing his or her responsibility in creating the 'adverse consequences' that inevitably occur when learning to teach. I can see how assistance is needed to even recognize that an adverse consequence did occur. And as dissonance is uncomfortable, I can see how a knowledgeable other is needed to 'stay with' the dissonance and discomfort long enough to break the cycle of merely justifying our behaviors rather than creating new and rich understandings about teaching and learning from our experiences. As such, I emphasize dissonance as an aspect of the process of reflection, an aspect which appears not to have received attention in the empirical literature on reflection.

Many studies operationalize reflection as an object that is created as a result of a preservice teacher thinking in isolation. My thinking differs. I believe that to reflect in isolation recreates and cements one's currently held beliefs rather than creating new meanings and possibilities from experience. For preservice teachers, reflecting in isolation often means relying on their 'apprenticeship of observation' (Lortie, 1975) which includes the numerous experiences with teaching and learning they have had as students themselves. I argue that the knowledge about teaching and learning from their 'apprenticeship of observation' or observation of others is not adequate for making "warranted assertabilities" (Dewey, 1933) about teaching and learning as presented in scene one of this introduction. Nor is it sufficient for learning about teaching from a professional stance.

I believe that in order to make "warranted assertabilities" from field experiences, dialectic interaction with a *knowledgable other* (Vygotsky, 1978) is needed. A knowledgable other creates spaces in which the preservice teacher mediates the old, that which is too familiar to be the impetus for dissonance, and new, that which is too unfamiliar to be noticed. I operationalize the role of 'knowledgable other' as a member of the teaching community of

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practice (theory/research about teaching and learning, collaborating teacher, university supervisor) who draws from her/his experience and theoretical understandings to create dissonance and guide the pre-service teacher in the reflection process as she/he constructs meaning from the field experience.

The need for interaction with a knowledgable other also stems from Dewey's (1933) writings about the roles *judgment* and analysis/synthesis play in the reflective process. Part of reflecting on experiences is using previously constructed theory to select or reject the pertinent aspects of an experience. These judgments or discernment play a critical role in knowing, as Dewey writes, "… what to let go as of no account; what to eliminate as irrelevant; what to retain as conducive to the outcome; what to emphasize as a clew to the difficulty" (p. 123). The knowledgeable other can provide support and guidance as the pre-service teacher reflects on her field experiences by using her/his previously constructed theories to help discern on which aspects of an experience emphasis needs to be placed.

Intimately related to judgment is *analysis and synthesis*. For Dewey, these are not considered dichotomous concepts. Analysis means to place emphasis on certain aspects of an experience rather than 'to take apart' an experience. Synthesis is conceived of as putting into context (relating back to the whole) that which emphasis was placed (Dewey, 1933, p.129). In other words, in order to construct theory from practice, we must be able to engage in reflection by making judgments that allow us to both accept and reject, analyze and synthesize, our experiences. Again, it is the role of the knowledgeable other to assist the pre-service teacher during reflection by placing emphasis on certain aspects of experience and helping, through the use of theories, to create dialectic tension. The knowledgeable other engages in dialectic

discourse with the pre-service teacher about that which emphasis was placed concomitantly with maintaining an awareness of how that which emphasis was placed relates to the whole.

My beliefs about reflection also come from my own experiences and reflections on reflection. Knowledgeable others who have supported my own reflection include the writings of Dewey, Gadamer, Heidegger, mentors, and colleagues. It is through *dialectic tension* with these knowledgable others that I make "warranted assertabilities" and gain new insights from my experiences reflecting with preservice teachers that I use to inform my future actions.

I distinguish *dialectic* tension from *dialogic* interaction. I draw from the rich philosophical history of dialectics as a means by which exploring opposing concepts help to inquire into contradictions and solutions. In particular, I align myself with the Hegelian concept of dialectics as the process of thought by which apparent contradictions are seen to be part of a higher truth. Dialogic interaction on the other hand can refer to any interaction during which people are taking turns speaking or writing. And it is dialogic interaction that has been studied by researchers (Lee, 2004; Sharma, Phillion & Malewski, 2011; Shoffner, 2008) rather than dialectic tension. I argue that it is the tension brought about through dialectic engagement with experience that plays a central role in the process of reflection. Merely taking turns talking about an experience with a knowledgeable other, will most likely not create new understandings. Therefore, I wish to come to understand a preservice teachers' experience of dialectic tension with a knowledgeable other.

To view reflection (1) as a process, (2) as spawned by a feeling of dissonance, (3) as needing support from a 'knowledgeable other', and (4) as present during dialectic tension, complicates things. It certainly makes researching reflection a complex and challenging enterprise. However, it is a challenge I wish to undertake.

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Overview of Study

In my research, I seek to understand and see anew the idea of reflection as it is experienced by a pre-service teacher with whom I work. I engage in an hermeneutic phenomenology (Gadamer, 1976; Van Manen, 1990), to deepen my understanding of *reflection as process* as it is experienced by a preservice teacher. In this study, I ask the following question: What is the experience of video-mediated, dialectic reflection with a knowledgeable other for the preservice teacher with whom I work?

In the following chapters, I engage with the concept of reflection. First, in chapter two I review the literature on reflection in pre-service teacher education. Chapter two is set up to be a self-contained manuscript. In chapter three I detail the context, methodology and methods I used to engage in this research. Then in chapter four, titled *Understandings*, I present three hermeneutic windows (Sumara, 1996) through which to view reflection. Finally, in chapter five I discuss the possible implications this work has for teacher education.

I end this introduction by revisiting Dewey's quote about education. What if learning to teach is "a process of living", rather than a "preparation for future living?" It seems then that part of the process would include thinking (specifically reflecting) and being. I believe engaging with reflection in the above mentioned way may open new possibilities for thinking about reflection and the ways preservice teachers make "warranted assertabilities" (Dewey, 1938, p.15) from their field experiences.

Chapter Two

Examining the Theoretical Assumptions Which Undergird Research in the Reflective Practices of Pre-service Teachers

Abstract

Over a decade ago, Roskos, Vukelich, and Risko (2001) reviewed the literature on reflection and learning to teach. They concluded that researchers defined reflection in a number of ways which led to a focus on descriptions of reflection rather than analyzing and interpreting data in ways that built an evidentiary base. In this critical review, I examine the literature on reflection and pre-service teacher education since the publication of the Roskos et al. (2001) review with an emphasis on how researchers define reflection and to what extent those definitions resonate with Dewey's (1933, 1938) theoretical writings about reflection. I reviewed 42 empirical studies. Through deductive analysis and hermeneutic (Gadamer, 1976) engagement with these texts, I found that researchers primarily define reflection as thinking about a past experience rather than a specific mode of thought, prompted by dissonance in experience, which creates "warranted assertabilities" (Dewey, 1938, p.15) about teaching and learning. I present that perhaps much of the empirical literature researchers have created so far in the name of reflection has pointed toward reflection but seems to not have worked with the complexities of reflection as a communal process (Branscombe & Schneider, 2013) which involves judgment, dissonance, and dialectic tension (Dewey, 1933).

Introduction

With recent calls for teacher education programs to increase both the quantity and quality of field experiences (NCATE, 2010), it is important for teacher educators to understand how pre-service teachers create meaning from those experiences. Reflection is a mode of thought historically associated with creating "warranted assertabilities" (Dewey, 1938, p.15) from experience. As such, a common component of teacher education programs is reflection (Richardson, 1990; Darling-Hammond, 2010) and pre-service teachers are often asked or required to reflect on their field experiences (Calandra, Brabtley-Dias, Lee, & Fox, 2009). With support from Schon's (1983) groundbreaking work, reflection is lauded as the means by which pre-service teachers become problem-solvers and meet the intellectual challenges of the classroom (Quinn, Pultorak, Young, and McCarthy, 2010). However, reflection remains an "ambiguous and contentious construct" (Collin, Karsenti, and Komis, 2012, p. 104).

Indeed a prior review (Roskos, Vukelich & Risco, 2001) points to the body of empirical literature on reflection and pre-service teachers as,

lacking studies with complex and creative designs which employ theoretical and analytical perspectives that can illuminate the joint interactive effects of individual propensities and environmental factors on reflection development in the professional setting (p.619).

In the above mentioned review, Roskos et al. (2001) analyzed/interpreted 54 empirical reflection studies. They made five major interpretive observations of the literature under review: (1) researchers focused on descriptions of reflection rather than analyzing and interpreting data in ways that built "an evidentiary base" (p. 613), (2) the research on reflection occurred in the later years of the pre-service teachers' education and so little is known about the development of

reflection; (3) researchers defined reflection in a number of ways; (4) researchers struggled with the simultaneity of the "person-environment dynamic" (p. 614); and (5) there was an apparent lack of historical continuity among studies. That is to say few studies built upon each other and they did not use multiple theoretical frames to create a movement in understanding.

I view Roskos at al's. (2001) third interpretive statement as central to the ambiguity that is associated with the word reflection in pre-service teacher education. Although the authors pointed to the multiple ways researchers defined reflection they did not explicate to what extent those definitions resonated with theories of reflection or how the researchers' definitions of reflection impacted the designs of the studies which in turn impacted whether or not reflection occurred. Therefore, in this critical review, I consider the relationship between researchers' multiple definitions of reflection and their analysis and interpretative statements about reflection. I juxtapose the findings of empirical studies conducted after 2001 with theoretical writings about reflection in an effort to create new understandings about the complexities of studying reflection. I also examine the theoretical assumptions present in the literature on reflection in pre-service teacher education and through dialectic tension, I illuminate the difficulties of studying reflection and, through those difficulties, the possibilities of exploring reflection in its complexity.

Reflection: Current Understandings

In order to create meaning from the multiple studies and theoretical writings in this review, I drew from my current understandings of reflection, my prejudices (Gadamer, 1976). Prejudices in the hermeneutical sense are not "unjustified and erroneous so that they inevitably distort the truth" (p.9). Rather, prejudices are precisely what allows us to experience the world. I used my prejudices about reflection to enter into conversation with these texts about reflection with the intention of wanting to hear something new. My current understandings of reflection are

based upon both theoretical writings and my extensive personal engagement with reflection and pre-service teachers. Below I detail the ideas with which I entered this review.

I understand reflection to have its roots firmly planted in Cartesian philosophy (Fendler, 2003). Descartes (1596-1650) outlined how knowledge is created. In his work, *Rules for the Direction of Mind* (in Great Books of the Western World, 1952, volume 31), Descartes made the claim that one does not need to look outside oneself to intuit truth and as such create knowledge. For Descartes, to be self aware (to be both the subject who is thinking and the object of which the self is thinking) is to create knowledge. Fendler shared that "Reflection, in its common Cartesian meaning, rests on the assumption that self-awareness can generate valid knowledge. When epistemology rests on reflection, it is not necessary to appeal to divine revelation or to a higher authority for knowledge" (2003, p. 17). In this way, one breaks from tradition (as if this were possible) and relies on the self to create knowledge. The idea that from one's own thinking one can create valid knowledge informs how reflection is often operationalized in teacher education-- especially when pre-service teachers are required or asked to reflect in isolation (Delandshere & Arens, 2003; Wunder, 2003). The studies I summarize and synthesize later in this paper reveal the remnants of Cartesian thinking in regard to reflection, which, I will argue, make problematic the transformative potential of reflection as a mode of thought which brings about "warranted assertabilities" (Dewey, 1938, p.15) and understanding.

In contrast to a Cartesian notion of reflection as self-awareness, Dewey (1933), views reflection as a communal activity. The contrast between Cartesian knowledge and Dewey's thinking about knowledge can be illustrated in the following quote: "Human knowing is a communal activity [for Dewey], not a solitary achievement" (Campbell, DaWaal, Hart, et al. 2008, p. 192). Therefore, asking a pre-service teacher to *think*, in isolation, about a field

experience in an attempt to generate knowledge about teaching and learning is aligned with a Cartesian view of knowledge construction. However, Dewey (1933) makes an important distinction between thinking and reflecting. Although they are often used interchangeably, there are significant differences between the two. Thinking is aligned with thoughts and feelings, impulses. Dewey (1933) writes,

Hence it is that he [sic] who offers 'a penny for your thoughts' does not expect to drive any great bargain if his offer is taken; he will only find out what happens to be 'going through the mind' and what 'goes' in this fashion rarely leaves much that is worth while behind. (p.4)

Thinking is comprised of the myriad of images and "uncontrolled coursing of ideas" (Dewey, 1933, p.4) that populate our minds. Reflection is different. Reflection is the

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, 1933, p.9)

Pre-service teachers can think about their field experiences and create their own meaning from those experiences but does this result in "warranted assertabilities" (Dewey, 1938.p.15) about teaching and learning?

Reflection thus implies that something is believed in (or disbelieved in), not on its own direct account, but through something else which stands as witness, evidence, proof, voucher, warrant; that is as *ground of belief*. (Dewey, 1933, p.11)

One can *think* about a field experience in isolation but in order to *reflect* on a field experience in an attempt to create "warranted assertabilities" (Dewey, 1938, p.15) about teaching and learning, one needs to engage in the communal activity of interacting with knowledgeable others, be it theories about teaching and learning and/or people within the community of practice

(Wenger, 1998) of teaching. When reading the literature for this review I searched for evidence of how the researcher(s) viewed reflection as a communal activity and how researchers defined reflection and the extent to which reflection was differentiated from thinking.

If reflection is a communal activity, then reflection is not a series of one's individual thoughts; rather, I understand reflection to be a *process* (Branscombe & Schneider, 2013) of skillful meaning construction carried out in concert with others. Dewey (1933) wrote about the process of reflection. First, one must have an experience in which *dissonance* is felt followed by an immediate interpretation of the experience. Without dissonance, one would not be compelled to engage in reflective thought, rather one would continue on with what they were doing without creating new understandings. After this initial responsive thinking, one names the problem associated with the experience and generates possible explanations. From these possibilities an hypothesis is formed. The final phase in the reflective act occurs when hypotheses are tested. When engaging with the literature for this review I was attuned to the elements of the process of reflection in which the pre-service teachers were engaged.

For Dewey (1934), it is not just any experience that initiates a moment which is ripe to reflect upon. The experience needs to be one in which there is a confrontation with the environment or when personal values conflict. It is this dissonance that is the impetus of reflective thinking. Dewey writes,

The live creature demands order in his living but he also demands novelty. Confusion is displeasing but so is ennui. The "touch of disorder" that lends charm to a regular scene is disorderly only from some external standard. From the standpoint of actual experience it adds emphasis, distinction, as long as it does not prevent a cumulative carrying forward from one part to another. If it were experienced as disorder it would produce an unresolved clash and be

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displeasing. A temporary clash, on the other hand, may be the factor of resistance that summons up energy to proceed more actively and triumphantly. (p. 173)

The above quote emphasizes the importance of the dissonance felt to be neither too minor so as not to be registered nor too major so as to constitute disorder. When pre-service teachers are asked to reflect on their field experiences it is important to consider how they are or are not experiencing dissonance within those experiences.

As *dissonance* is the impetus for reflection, I paid particular attention to the role dissonance played in the studies I reviewed. I drew upon the following ideas from the literature on dissonance: (1) a lack of choice prevents dissonance from occurring (Zanna & Cooper, 1974), (2) in high-choice situations, dissonance is experienced only if adverse consequences occur (Linder, Cooper & Jones, 1967), (3) dissonance occurs when a person believes they are responsible for the adverse consequence (Cooper, 2007), and (4) dissonance is experienced as discomfort (Elliot & Divine, 1994), and because of this discomfort, the human tendency is to justify ones actions that resulted in the dissonance rather than change their beliefs in a way that would 'generate fruitful and testable hypotheses'. As I analyzed the studies included in this review I used the above understandings of dissonance to discern to what extent dissonance played a role in the process of reflection the pre-service teachers underwent.

When attending to the process of reflection as described by Dewey, I searched for additional factors that impact reflection such as *judgment.* An aspect of reflecting on experiences is using previously constructed theory to select or reject the pertinent aspects of an experience. These judgments or discernment play a critical role in knowing, as Dewey writes, "… what to let go as of no account; what to eliminate as irrelevant; what to retain as conducive to the outcome;

what to emphasize as a clew[1] to the difficulty" (p. 123). Judgment presupposes background knowledge. In the case of pre-service teachers, judgment presupposes knowledge about teaching and learning. Both the reading and writing literature (Duke & Pearson, 2002; Hidi & Boscolo, 2006) make important and establish a relationship between the content knowledge possessed by the reader and/or writer and the impact that content knowledge has on the comprehension of and/or development of ideas within a text (that which the pre-service teacher is reflecting upon and/or constructing through reflection). When analyzing studies in this review I searched for the role judgment played in the pre-service teachers' process of reflection.

Based on my personal experience working closely with pre-service teachers as they reflect on their field experiences, I believe a *knowledgeable other* (Vygotsky, 1978) in contrast to a Cartesian other, is needed to provide support throughout the rigorous process of reflection. Namely, support is needed to assist the pre-service teacher in judging or discerning the pertinent aspects of an experience to consider. According to Dewey, making meaning of experiences must include a balance of new and old. New, meaning something strange or curious about a situation that causes us to refer to old, or familiar, ideas to make sense of the new. This can be problematic for pre-service teachers as teaching and learning can appear 'old' to them as they rely on their apprenticeship of observation (Lortie, 1975) and false sense of expertise from years of being students themselves (Britzman, 2003) to interpret their field experiences. Dewey (1933) writes,

...unless the familiar are presented under conditions that are in some respect unusual, there is no jog to thinking; no demand is made upon the hunting out something new and different. And if the subject presented is totally strange, there is

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[1] Dewey's spelling of clue

no basis upon which it may suggest anything serviceable for its comprehension (p. 290).

It is the role of the knowledgeable other to attend to this aspect of reflection during conversations with the pre-service teacher. The knowledgeable other seeks to emphasize those aspects of an experience which may seem familiar to the pre-service teacher because of her apprenticeship of observation by speaking about them in ways that may be unusual as to jog thinking. Likewise, the knowledgeable other may emphasize that which may seem utterly strange to the pre-service teacher in a manner that connects the aspect of experience to something that is familiar and so jogs thinking. As such, I carefully examined the role knowledgeable others did or did not play in the process of reflection.

Additionally, support of knowledgeable others is needed to assist the pre-service teacher to 'stay with' the uncomfortable experience of dissonance long enough and skillfully enough to form professional understandings about teaching and learning. And so I examined the degree to which *dialectic tension* was present in the process of reflection for the pre-service teachers in the studies I reviewed. I distinguish *dialectic tension* from *dialogic interaction*. I draw from the rich philosophical history of dialectics as a means by which exploring opposing concepts help to inquire into contradictions and solutions. Dialogic interaction on the other hand can refer to any interaction during which people are taking turns speaking or writing.

It is also important to note that many leveling and typifying schemes have been created as ways to measure and/or describe the products (journal entries, transcripts of conversations, etc.) that result from perceived reflection. Many researchers (Van Manen, 1977; Zeichner & Liston, 1987; Sparks-Langer, Simmons, Ellwein, Graue & Comfort,1990; Meizrow, 1991; Kitchner & King, 1981; Hatton & Smith, 1995) have written about ways to categorize the levels of reflection

produced by pre-service teachers (see Appendix A for a list of their corresponding levels). Although the leveling schemes differ, they follow a common pattern of low levels of reflection being considered those in which the pre-service teacher merely describes an experience to high levels of reflection as those in which the pre-service teacher considers the moral and ethical dimensions of her/his experiences. Although most researchers rely on using these schemes to measure and describe the artifacts of perceived reflection in their studies, based on my theoretical understanding of reflection primarily informed by Dewey (1933, 1938), I question whether reflection can be leveled. For example, a low level of reflection is characterized by a mere description of an event but as Dewey (1933) notes, a mere description is not reflecting; a mere description is not creating "warranted assertabilities" (Dewey, 1938, p.15) about teaching and learning. Likewise, when a pre-service teacher considers the moral and ethical dimensions of her/his work, a characteristic associated with high levels of reflection, she/he is not necessarily creating "warranted assertabilities" about those dimensions either. She/he could merely be sharing their thoughts and feelings not necessarily reflecting. In this review, I report the findings of the studies as the researchers reported (primarily in levels). However, I discuss how focusing on perceived levels of reflection may be moving researchers away from understanding reflection and toward leveling *thinking* not reflection.

To summarize, I approached this review with the following current understandings of reflection: (1) reflection is a communal activity, (2) reflection is different from thinking, (3) it is a process in which dissonance and judgment play key roles, (4) and a knowledgeable other is needed to assist the preservice teacher as they 'stay with' the dissonance throughout the process in order to create the dialectic tension necessary to develop new understandings.

Methods

Research Questions

This review was guided by the following questions: (1) In what ways do researchers define reflection in studies published after the Roskos et al. (2001) review? (2) What relationship exists between researchers' multiple definitions of reflection and their analysis and interpretative statements about reflection? (3) What new understandings can be created when the findings of these studies are juxtaposed with multiple theoretical writings about reflection? (4) What insights can be gained into the complexities of studying reflection through engagement with the literature?

Inclusion Criteria

This review utilized both empirical and theoretical studies of reflection and pre-service teacher education. Both types of research were needed to create the dialectic tension necessary to create new understandings. Therefore, I used two separate inclusion criteria sets to obtain data for this review. The following parameters were used for finding empirical studies: articles needed to be published between 2001 and 2012; treat reflection as the central construct under examination, and published in peer-reviewed journals. The inclusion criteria for theoretical writings was less systematic. I drew from seminal works of which I was well aware (Dewey, 1933, 1934, 1938; Gadamer, 1976) as well as searched for theoretical writings from fields (Cognitive Dissonance Theory) with which I was less familiar (Cooper, 2007). Additionally, any theoretical papers that I found as a result of searching for the empirical studies were read and considered as to their relevance for this study.

Obtaining Data

After the inclusion criteria were developed, I conducted an electronic database search of

the Education Resources Information Center (ERIC), PsychINFO, JSTOR, and EBSCOhost

using search teams commonly used in the field of reflection and preservice teacher education

such as reflect, reflective practice, preservice, teacher preparation, etc. The electronic data base

search yielded 626 hits. Of those, 32 studies met the inclusion criteria. Next, I conducted an

electronic hand search by examining the tables of contents of teacher educator journals including

Journal of Teacher Education, Reflective Practice, Teaching and Teacher Education, and

Teachers College Record. The hand search yielded an additional 10 studies that met the

inclusion criteria. The total number of qualified studies equaled 42 (See Appendix B for a

summary).

Analyzing and Synthesizing: Creating New Understandings

I approached interpretation for this review in the hermeneutic tradition (Gadamer, 1976).

I chose this approach because hermeneutics is "primarily of use where making clear to others

and making clear to oneself has become blocked" (p.92). Because the term reflection is

ubiquitous in teacher education and because it is an "ambiguous and contentious construct"

(Collin et al., 2012, p. 104), I believed an hermeneutic approach held possibilities for creating

new and fresh understandings about this body of literature. Therefore, I engaged in analysis and

synthesis in the Deweyian sense. For Dewey (1933), analysis means to place emphasis on certain

aspects of an experience rather than the traditional meaning 'to take apart.' Synthesis is

conceived of as putting into context (relating back to the whole) that on which emphasis was

placed (Dewey, 1933, p.129). In this way, I attended to both the parts (individual writings) and the whole (the collection of work) simultaneously. I entered the hermeneutic circle (Gadamer, 1977). What I understood about the parts informed my understanding of the whole which in turn colored my understanding of the parts.

To further explain my process, first, I read all of the empirical studies holistically to get a 'feel' for the body of work. Then I analyzed the data through a deductive process. I read the studies to determine how the researcher(s) defined reflection, namely to what extent reflection in the study was operationalized as a communal activity. Then I looked for what the pre-service teachers were required or asked to reflect upon (e.g., memory of field experience, video of teaching, etc.) and labeled them accordingly. Next, I reread the articles to determine what medium the pre-service teachers were asked to use as a means to aid in the process of reflection (e.g., journal, blog, etc). I then reread the articles and summarized the key findings on an article summary chart (See Appendix B). Next, I examined each article with a critical eye to determine what roles dissonance, judgment, knowledgeable others, and dialectic tension played in the studies. I made notes about these concepts as they related to each study on the front page of each article and labeled them with sticky notes accordingly. As I was reading the studies, I entered into conversation with each one and questions came to mind. As questions arose, I added them to the article summary chart in a separate column (Appendix B). In Appendix C, I gathered excerpts of selected studies which demonstrated to what extent the researcher(s) attended to the four significant aspects of reflection (dissonance, judgment, knowledgeable others, and dialectic tension). I then created a graphic representation (see Appendix D) of the categories and sub-categories I created from the empirical studies. Appendix D shows the two broad categories (reflection as a non-communal activity and reflection as a communal activity) based on how the

researcher(s) defined reflection. The sub-categories indicate how the design of the studies provided support through the mediums used during the process of reflection. For example, the left hand side of Appendix D represents those studies in which the pre-service teachers were asked or required to reflect by writing about a memory of a field experience or a video of their field experience in isolation. Some of these studies provided no support as the pre-service teachers engaged in free-topic journal writing while others provided support in the form of prompts, guiding questions, and/or video to stimulate thinking. The right hand side of the graphic organizer shows studies in which reflection was operationalized as a communal activity, in the form of dialogic interaction with others. While other researchers created asynchronous environments in which the pre-service teachers were asked or required to reflect with peers and/or instructors. Other researchers created synchronous environments such as conversations with peers and/or instructors. I use Appendix D as the guide to the presentation of my interpretations below.

Throughout this process, I continued to read theoretical articles and seminal pieces. I made note of salient ideas by underlining and marking with sticky notes. I did not summarize these pieces but rather allowed those ideas to enter into the conversation I was having with the empirical work. For example, when researchers defined reflection as writing in isolation about a memory of a field experience and then leveled the writing and reported mostly low levels of reflection (description of experience), I questioned whether or not the pre-service teachers reflected at all. So, I revisited Dewey's writings (1933, 1934, 1938). I was reminded of the distinction between thinking and reflecting. I went back to the empirical work and reread the articles with this distinction in mind and thought of the possibility that perhaps what is being leveled are the products of thinking rather than reflection. This then spawned the question in my

mind, are there levels of reflection? I revisited Dewey's writings again for clues to this question. This dialectic thought process occurred throughout this study. As new ideas and insights were created I wrote about them in the interpretation and discussion section of this paper. And the writing process helped to refine those ideas and make clear to myself and others the complexities of and possibilities for studying reflection.

Interpretations and Discussion: New Insights into Studying Reflection

I have organized the understandings I have created from this review into two broad categories based on the extent to which the researchers' viewed reflection as communal activity. The first broad category is reflection as non-communal activity. The second broad category is reflection as communal activity. A graphic representation of these categories and the additional sub-categories can be found in Appendix D. After providing brief descriptions of the studies and the primary findings, I share insights I created as a result of the dialectic tension between the researchers' definition of reflection, the design of the study, the findings of the studies, and theoretical writings about reflection. As hermeneutic interpretation is circular in nature, the reader may find it helpful to consult the graphic representation of findings (Appendix D) as she/he engages with this section of the paper.

Reflection as Non-Communal Activity

Within the literature, pre-service teachers are often required or asked to reflect in isolation on their memory of particular field experiences in the medium of writing. Some researchers require pre-service teachers to reflect in isolation with no guidance (Delandshere & Arens, 2003; Wunder, 2003) or in isolation with various support structures in place such as prompts and guiding questions (Chamoso & Caceres, 2008; Hamlin, 2004; Rodman, 2010).

In isolation without support structures. Studies in which pre-service teachers are asked to reflect in isolation without support structures show pre-service teachers primarily engaged in low levels of reflection as measured by the respective researchers. For example, Wunder (2003) analyzed 21 pre-service teachers' reflective essays which were written without the support of a prompt and found all 21 essays incorporated ideas related to 'classroom management' and 'student involvement' while only three essays included ideas about 'purposes of social studies.' Reporting similar findings, Delandshire & Arens (2003) examined three teacher education programs that use portfolios as a medium of reflection and found the reflections present in the portfolios to be "typically brief summaries of events that happened during the lesson with conclusions about the success of the lesson" (p. 67), which is commonly considered a low level of reflection.

These studies raise important issues about whether reflection occurred or not considering that a brief summary is, according to Dewey (1933), not reflection but thinking. Also, a pre-service teacher *could* reflect and create "warranted assertabilities" about classroom management and student involvement. A focus on these topics does not necessarily preclude understandings about teaching and learning. I believe understanding how a student's involvement impacts her/his learning is an important idea and is a line of thinking that could lead to the pre-service teacher forming "warranted assertabilities" about the complex relationships between their actions, management of materials and time, student involvement, and student learning. However, because the design of these studies did not attend to dissonance, judgment, knowledgeable others, or dialectic tension, it is doubtful that the pre-service teachers engaged in reflection and created "warranted assertabilities" about these dimensions of teaching.

In isolation with support structures. Comparison studies (Dawson, 2006; Tsang, 2003; Hamlin 2004) create evidence which suggests pre-service teachers engage in perceived higher levels of reflection when support structures are in place. Tsang (2003) compared the levels of reflection demonstrated by the journal entries of the pre-service teachers with whom she worked. In the free topic journal entries, pre-service teachers primarily wrote about evaluating their own teaching while the ideas expressed in the assigned topic entries were focused on theories of teaching. But does a focus on theories and learning equate to creating "warranted assertabilities" about teaching and learning that will guide the pre-service teachers' future actions? One can write about theories of teaching without engaging in the reflective process and creating a warranted assertability from their experience. Similarly, Hamlin (2004) found that the use of a structured critical incident paper supported higher levels of reflection than a free topic journal assignment which resulted in low levels of reflection. Perhaps the perceived higher levels of reflection in this study were related to the presence of dissonance within the critical incident. However, it is still unclear as to whether the critical incident paper contained thinking about the incident or the rigorous process of creating "warranted assertabilities", i.e. reflecting about the incident. Dawson (2006) conducted a comparison study of traditional reflective strategies (journal entries) vs. inquiry project as reflective strategy and the effects each had on pre-service teachers' reflection. She found that reflections in traditional, weekly journal entries were pervasively related to logistics and pre-service teachers struggled to keep a focus on curriculum and how their technology integration was influencing student learning. In contrast, the inquiry project resulted in a focus on student learning, an exploration of the complexities involved in technology integration, and attention to contextual factors. Perhaps the structure of the inquiry project attended to the aspect of knowledgeable others as the pre-service teachers were required

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to consult theories from their coursework. However, the question remains, does a focus on student learning and an exploration of complexities amount to reflection?

In addition to the comparison studies mentioned above, many researchers examined the effects support structures have on the levels of reflection pre-service teachers achieved through writing about memories of field experiences and report positive findings. Chitpin (2006) found that using a framework for knowledge building as a support structure for pre-service teachers' journal writing resulted in increased levels of reflection over time. Are levels indicative of reflection? Samuels & Betts (2007) used a self- assessment tool with pre-service teachers to help guide their journal entries and found levels of reflection increasing over time although not reaching the highest levels. Additionally, Rodman (2010) reported pre-service teachers' reflections moving along a continuum of teacher centered to student centered as pre-service teachers used a framework for writing about their field experiences. Does a focus on the student rather than the teacher imply reflection? I view creating "warrented assertabilities" about the complex relationships which exist between teacher, student, communities, etc. to be a goal toward which reflection tends.

However, not all researchers report such increased levels of reflection even when support structures are present. For example, El-Dib (2007) examined the effect action research has on levels of reflection achieved by pre-service teachers. El-Dib reported more than 95% of the participants were at the low to low-intermediate levels of reflection. Again, is this reflection if low levels are considered description and could reflection have occurred without dissonance and the assistance of a knowledgeable other? Griffin (2003) taught the pre-service teachers with whom she worked how to critically reflect and then measured their levels of reflection as evidenced in critical incident papers. She found 87% of the incidents displayed low-levels of

reflection. Chitpin, Simon and Galipeau (2008) provided a framework for pre-service teachers to use as they relied on their memory to reflect on field experiences and found 24 out of 27 teachers focused on classroom management issues and offered strategies instead of theories without providing a basis for such strategy use (content typically associated with low levels of reflection). It seems as though when left to think about their field experiences in isolation, pre-service teachers rely on naming strategies they have seen either from their own schooling or the examples provided by their collaborating teacher when they think about problems in the classroom.

Just as K12 classroom teaching occurs through interaction, it would take a knowledgeable other to create dialectic tension by asking questions that would provoke dissonance and impel reflection. To this end, Nagle (2009) analyzed the contents of the guided portfolio entries of nine pre-service teachers and found 67% engaged in factual and procedural levels of reflection and 33% engaged in justificatory and critical reflection. Liakopoulou (2012) required pre-service teachers to use a reflection tool to guide their writing about their memory of field experiences and found their reflection focused on specific topics and a reliance on technocratic views of teaching. Chamoso and Caceres (2008) document 62% of participants wrote descriptions of field experiences over 50% of the time. Likewise, Seban (2009) reports little evidence of critical thought present in reflective papers written with the support of guiding questions. I wonder if the support structure of guiding questions, although intended to focus the pre-service teachers on pertinent aspects of their experience, does not provide the dialectic tension that engagement with knowledgeable others can create to 'stay with' dissonance long enough and skillfully enough to create "warranted assertabilities".

In isolation using the mediums of video and writing. In a comparison study Rosaen, Lundenberg, Cooper, Fritzen and Terpstra (2008) demonstrated that the written reflections of pre-service teachers who watched video of their own teaching were of higher quality than those reflections written by the same teachers who relied on their memory of a teaching experience. The researchers associated quality with an increase in statements about instruction. In other words, when a preservice teacher wrote about the relation between themselves and instruction or the relation between instruction and children the researchers considered those statements as evidence of reflective thinking. I wonder though, does the presence of statements about instruction, and relationships indicate thoughts or reflection? In another comparison study (Calandra, Brantley-Dias, Lee & Fox 2009), researchers compared the reflections of two groups of pre-service teachers. The first group debriefed after they taught a lesson using the medium of conversation with their university supervisor and then wrote a critical incident paper. The other group edited the video of their teaching to demonstrate two critical incidents and then reflected on those incidents using the medium of writing. Findings show participants in the video editing group wrote longer and more "pedagogically connected reflective pieces" (p.81) than the memory based group.

With the findings of two comparative studies pointing to the potential of video to enhance reflection, other researchers have examined specific uses of video. For example, Santagata and Angelici (2010) compared the written reflections of two groups of pre-service teachers. Both groups watched a video of an experienced teacher teaching a mathematics lesson and reflected on the lesson without the aid of a framework to guide their analysis. Then, Group 1 used a Lesson Analysis Framework to guide the pre-service teacher as they watched video again. Group 2 watched the same video a second time but applied a different framework. The researchers

reported that the reflections produced in Group 1 after the application of the Lesson Analysis Framework demonstrated higher-levels than those in group 2. It seems as though the design of this study included assisting the pre-service teachers with judgment. The framework helped the pre-service teacher place emphasis on the pertinent aspects of the lesson. However, given the way perceived reflection is leveled it is unclear as to whether these pre-service teachers created "warranted assertabilites" about this teaching incident that would be helpful to them in their future actions.

In another study (Yesilbura, 2011), a group of pre-service teachers were asked to reflect in isolation on a video of themselves teaching a micro-lesson. They were required to use the medium of writing as they reflected. The researcher reports the 67.45% of the time the reflection were centered on themselves, 17.68% of the time their reflections were focused on the students and teaching partners, 9.86% of the reflections were about the task at hand and 5.01% were on both past and future experiences. These topics are traditionally associated with low levels of reflection but as I noted earlier, in theory, one can reflect on any topic. The topic of reflection does not preclude or guarantee the process.

It is concerning that a number of researchers report low levels of reflection despite the presence of support structures given the evidence provided in a mixed methods research design examining the link between levels of reflective writing and pre-service teachers' success in teaching (Cohen-Sayag & Fischl, 2012). In this study, the researchers examined the reflective statements found in two groups of pre-service teachers' journal entries and the relationship between levels of reflective statements and quality of teaching as evidenced by the university supervisors' evaluation using an evaluation tool. One group of fifteen pre-service teachers (A) worked with students who had 'multiple and profound disabilities' and the other group of nine

pre-service teachers (B) worked with students who had 'learning difficulties'. Data showed both groups' journal entires included statements primarily associated with descriptive, low-levels of reflection. The statements in the journal entries of group A increased in reflective levels over the course of the year but very few (8.94%) reached the highest, critical level of reflection. The level of reflective statements in group B also increased but few (15.4%) reached critical levels. A paired Pearson correlation test indicated that only those who increased their written levels of reflection to the critical level, increased their quality of teaching. This evidence suggests that increased levels of reflection does not necessarily equate to increased quality of teaching *unless* those levels reach the critical level. When this study is juxtaposed with Dewey's (1933) distinction between thinking and reflecting, as well as with what I understand about leveling schemes, it is not surprising that only the highest level of reflection is correlated with quality of teaching because the lower and intermediate levels as described by researchers are theoretically merely thinking, not reflecting. And reflecting is what creates "warranted assetabilities" that guide future action. Although this study was quite small (N=24), other studies seem to suggest a correlation between dispositions toward reflection and quality of teaching (Giovannelli, 2003) and provide evidence of reflective practices impacting pre-service teachers' beliefs about teaching (Rideout & Koot, 2009).

But why does it appear that pre-service teachers predominantly engage in low to moderate levels of reflection when relying on their memory of field experiences despite the presence of support structures. There is evidence which suggests that pre-service teachers present themselves in a positive light (Orland Barak, 2005), resent the feedback given to them in response journals (Otienoh, 2010) and that they engage in inauthentic reflection to please the

professor (Hobbs, 2007). But I think there is more to it than the idea that pre-service teachers are capable of reflecting on their own but choose not to out of resentment or annoyance.

Perhaps new understandings can be created if we explore more thoroughly the theoretical assumptions present in the design of these studies as a result of how the researchers operationalized reflection. First, relying on *memory* of a field experience can be problematic. It is well documented that discrepancies occur between memory and experience (Hsee & Hastle, 2006; Wirtz, Kruger, Scollon & Diener, 2003). There are many reasons that memories of experience become distorted including "an over-reliance of memory on prominent instances, thereby ignoring less noticeable events" (Miron-Shatz, Stone & Kahneman, 2009, p.886), and a tendency to recall events more favorably than they actually occurred (Wirtz et al., 2003). Which is why the addition of video as a tool to aid in the reflection process is important. Although video does not ameliorate the aspect of judgment (i.e. a knowledgeable other is still needed to assist the pre-service teacher in discerning which aspects of the experience are pertinent to the felt dissonance) it does provide a text that can be revisited throughout the reflection process.

Secondly, although journal writing is lauded as a way for pre-service teachers to "identify key aspects of their current situation" (O'Connell & Dyment, 2011) requiring a pre-service teacher to reflect in isolation runs counter to theoretical understandings about the role *judgment* plays in reflection. Even when support structures such as guiding questions and self-assessment surveys are provided, the pre-service teacher is left to her/his own novice understandings of teaching and learning in order to determine "… what to let go as of no account; what to eliminate as irrelevant; what to retain as conducive to the outcome; what to emphasize as a clew to the difficulty" (Dewey, 1933, p. 123). When left to determine importance of a field experience on their own it is commonly understood that pre-service teachers rely on their understandings about

teaching and learning largely created from their 'apprenticeship of observation' (Lortie, 1975).

These understandings could conceivably serve the purpose of concretizing their already held

beliefs about teaching and learning rather than developing professional, "warranted

assertabilities" (Dewey, 1938, p. 15) about teaching and learning. This is not a negative

condition per se, in fact, it is precisely the prejudices pre-service teachers have about teaching

and learning that are necessary for them to enter into a conversation (Gadamer, 1976) with their

field experience. Indeed,

Only the support of familiar and common understanding makes possible the venture into

the alien, the lifting up of something out of the alien, and thus the broadening and enrichment of

our own experience of the world (Gadamer, 1976, p. 15).

But relying on familiar understanding alone will not create new insights. Rodgers (2002)

points to reflection as a means of not only uncovering these preconceptions, but also analyzing

and reducing them to workable localized theories of teaching. In this way, reflection is

communal (Dewey, 1933) and takes collision with another person's horizon (Gadamer, 1976) to

bring into existence imaginative 'warranted assertabilities' about teaching and learning.

Therefore, I believe the pre-service teacher needs the guidance of a *knowledgeable other*

(Vygotsky, 1978) to assist her/him in the conversation they have with their field experiences. In

addition to attending to the "local-level" influences that affect a pre-service teachers' reflections

(Hallman, 2011), the knowledgeable other can assist by placing emphasis on pertinent aspects of

the experience on which to reflect, *if* she/he is present during the reflection process. For example,

in my work with Jenny, a preservice teacher, we had a conversation about a literate discussion

she facilitated with kindergarteners. She placed emphasis on the part of the experience in which

the children were calling out and being so excited as to pop out of their seated position on the

floor. She did *not* place emphasis on what the children were actually saying which presented strong evidence of kindergarteners thinking deeply about a text (which was something she was quite skeptical of before she engaged in facilitating this lesson). If Jenny were reflecting in isolation and writing about this experience, she could have come to the conclusion that kindergarteners are not capable of having a literate conversation because of their behavior. This conclusion would not be a warranted assertablility given the ample evidence from the experience that demonstrates otherwise. Similar to Jenny, I wonder what misunderstandings the pre-service teachers in the aforementioned studies could have had without the guidance of a knowledgeable other throughout the process of reflection.

Not only does it appear that judgment was not attended to in study designs where researchers defined reflection as writing in isolation about a field experience from memory or video, but it is also unclear as to the role *dissonance* played in the process of reflection in these studies. For example, when the design of the study requires pre-service teachers to submit weekly reflective journal entries, I believe an authentic experience of dissonance is questionable at best for reasons associated with judgment. Remember, the conditions for a person to experience dissonance include a high- choice situation in which adverse consequences occur (Zanna & Copper, 1974) and a person's sense of responsibility for those consequences (Cooper, 2007). It is unclear as to the amount of choice the pre-service teachers had in their field experience on which they were writing (Did they create the lesson they were teaching?, Were they using a pre-packaged curriculum?, Did the collaborating teacher tell them what to teach, etc.?) and whether or not they assumed responsibility for the outcomes of their actions. Without an authentic experience of dissonance, would the process of reflection even begin? Without an authentic experience of reflection is the pre-service teacher merely left to describe her or his

experience, i.e. think about it. This lack of authentic experience could account for the findings of what is considered low-levels of reflection (descriptive) present in the writing of preservice teachers. Perhaps, reflection, in the Deweyian sense did not even occur.

And what about *dialectic tension?* If, the pre-service teachers did indeed have the judgment to discern a pertinent aspect of their field experience and they did experience dissonance, how was that dissonance engaged with in a way that results in fruitful understandings about teaching and learning? How, by writing in isolation, can pre-service teachers 'stay with' the dissonance and not resort to merely justifying their actions in order to alleviate the discomfort associated with dissonance (Elliot & Devine, 1994). How do pre-service teachers 'stay with' an experience in which they feel responsible for an adverse outcome? Does the process of writing help to create the dialectic tension necessary to move thinking and create new understandings?

The previous question makes me think about writing as a medium to aid reflection. Writing is a complex process in itself and includes purpose, motivation, idea generation, awareness of audience, knowledge of genre, text structures, and working and long term memory (Torrance & Galbraith, 2006). All of these are in play when pre-service teachers are required or asked to write about a memory of a field experience. How do pre-service teachers view the purpose of writing about their field experiences? Is it to earn a good grade, to please the instructor, to 'look good' as a teacher, to transform their thinking, etc.? Does the awareness of the audience (the instructor) impact, in positive or negative ways, the topic and word choice of their writing? Do the cognitive loads of working memory (phonological, visual/spatial , semantic) and long-term memory (task schemata, topic knowledge, audience knowledge,

linguistic knowledge, genre knowledge) interfere with knowledge construction. What writing strategies do pre-service teachers engage in when writing about their field experiences?

There is evidence which suggests writing strategies can consist of both knowledge telling and/or knowledge transformation. McCutchen, Teske and Bankson (2008) discuss Bereiter and Scadamalia's use of these terms and describe knowledge telling as a strategy that involves young writers probing their memory "with a cue derived from the writing assignment's topic or genre and retrieving relevant knowledge for the text" (p.452). Knowledge transformation is a strategy which "initiates interactions between content and rhetorical knowledge, with the potential for transforming both" (p.452).

Can pre-service teachers use the strategy of knowledge transformation in their writing? It is not lost on me that I am using the strategy of knowledge transformation right now as I am staying with dissonance and creating dialectic tension in an effort to see anew. However, I differ from a pre-service teacher writing about their field experiences in that I am not a novice with either the content (reflection) or this genre of writing. And I am in conversational relation with knowledgeable others as I engage with the theoretical writings about reflection and have conversations with my colleagues. The question arises, can a pre-service teacher reflect (engage in knowledge transformation, create "warranted assertabilities") in the medium of writing if they have novice understandings of content knowledge (teaching and learning) and limited fluency with the genre of journals, critical incident papers, reflective papers, etc.? If indeed pre-service teachers have limited content knowledge of teaching and learning and limited fluency with the genres in which they are required to write, then it is not so surprising that the resulting pieces of writing rarely display evidence of knowledge transformation (Chamoso & Caceres 2008; Liakopoulou, 2012), or I would argue evidence of reflection.

When I step back and look at the whole strand of research in which reflection is operationalized as a non-communal activity of writing in isolation about a memory or video of a field experience, I get the sense of researchers attempting to look in the direction of reflection but not quite seeing it. Given theoretical considerations such as dissonance, judgment, and dialectic tension, I wonder if these studies were designed in a way to not see reflection at all. Perhaps the studies measured pre-service teachers' ability to write in a particular genre. Maybe the nature of the writing prompt and writing in isolation encouraged description of an experience because they lacked the concepts and language necessary to create any more meaning than that on their own. Maybe we do not know much about *reflection* from these studies but rather levels of *thinking* present in pre-service teachers' writing.

Reflection as Communal Activity

The second main thread I created in the literature is when pre-service teachers were asked or required to reflect with others. Researchers require pre-service teachers to reflect in dialogic relation with peers (Rhine & Bryant, 2007) and/or with university supervisors (Orland-Barak & Rachamim, 2009) in both asynchronous and synchronous environments.

In asynchronous dialogic interaction with peers. Some researchers conceptualize reflection as writing in an on-line asynchronous, dialogic environment with peers about memories of field experiences. For example, Shoffner (2009) asked pre-service teachers to voluntarily maintain a weblog for the course of the eight month study. Findings from this study indicate that the pre-service teachers liked the communal aspect of maintaining a reflective blog and appreciated the feedback they received by their peers. One participant noted "anyone who has an internet connection can just come on in and agree with you or disagree, give you advice" (p.156). However, she found pre-service teachers drastically decreasing the number of their posts

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over time and she did not make reference to the reflective quality of the posts. This study points to a significant problem that arises when thinking is confused with reflection. It is concerning to me that a participant viewed what was called reflection as enjoyable because 'anyone with an internet connection can agree of disagree and give advice.' I believe these are the experiences that can be miseducative (Dewey, 1933). For meaningful, "warranted assertabilities" to be created about teaching and learning, understandings that will positively impact the learning of young children, intelligent action and the rigorous process of reflection with a knowledgeable other is needed, not casual dialogue with 'anyone with an internet connection.'

Harland and Wondra (2011) did measure the quality of reflection present in both paper and blog entries. They compared the depth of reflection achieved by pre-service teachers who maintained free-topic blogs and those who wrote reflective papers scaffolded by guiding questions. They report that 16.7% of the papers were non-reflective while only 7% of the blog entries were non-reflective. Seventy-five percent of the papers reached a level of understanding while 62.8% of the blog entries reached understanding. Only 8.3% of the papers written demonstrated evidence of reflective thinking while 30.2% of the blog entries did. No samples provided evidence of critical reflection, which leads me to believe that reflection probably did not occur at all. Bean and Stevens (2002) required pre-service teachers to engage in weekly reflections on an Internet bulletin board. Each week a prompt was given to the pre-service teachers as a way to scaffold their thinking. The instructor provided examples of appropriate responses to entries and drew attention to those posts that were particularly reflective. Findings show students predominantly making reference to their personal beliefs and course texts. Students often used their posts to agree with the positions of their peers. Additionally, the pre-service teachers did not appear to challenge large societal Discourses about adolescents.

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Although these researchers provided support in the form of positive examples and guiding questions, it appears as though the roles of judgment, and dialectic tension were not attended to in the design of this study. Therefore, it is not surprising that pre-service teachers relied on their personal beliefs and course texts. They can only rely on what they have. This is why it is important that the process of reflection is experienced with a knowledgeable other. Bean and Stevens note that the scaffolding provided by the prompts helped to focus the posts but did not result in pre-service teachers reflecting at the deepest levels. Again, a focus on a topic does not equate with reflection and the creation of "warranted assertabilities." In line with Harland and Wondra (2011) and Bean and Stevens (2002), Ng and Tan (2009) document pre-service teachers having difficulty articulating problems of practice and engaging in insufficient reflection to solve ill-structured problems. Whipp (2003), using a design experiment, documents the depth of reflection evidenced in pre-service teachers' email conversations with one another over the course of two semesters. She reports pre-service teachers primarily relying on their personal experience and perviously held beliefs. During the first semester of the study, 44% of the pre-service teachers' email conversations were non-reflective, 43% were descriptive, 11% were dialogic and a mere 1% were critical. After adding guided questions as a scaffold to promote deeper levels of reflection, 15% of the conversations were non-reflective, 46% were descriptive, 28% were dialogic, and 11% were critical. However, considering Dewey's (1933) distinction between thinking and reflection, descriptive and dialogic levels would not qualify as reflection.

In asynchronous dialogic interaction with peers and instructors. Rocco (2010) examined the required posts pre-service teachers made to an on-line discussion board. The researcher required that the posts take the form of a letter to a critical friend and the researcher, as instructor for the course, often responded to the letters. Like Shoffner's (2001) findings,

participants expressed enjoyment from the communal aspect of the on-line space and the ability to hear from multiple perspectives. However, reference to the quality of the letters submitted to the discussion board is absent from this study. The above studies provide evidence of how reflection, as a ubiquitous term in teacher education, is often misappropriated. Singer and Zeni (2004) coded five semesters of voluntary email conversations which occurred between pre-service teachers and faculty. Findings show pre-service teachers retelling frustrations from their field experiences and offering support to one another by giving advice. The email discussions were dominated by pre-service teacher to pre-service teacher interaction as only 22% of all posts included faculty members. The authors do not report on the quality of the conversations. This study seems to have incorporated opportunities for the pre-service teachers to have an experience of authentic dissonance as entries were voluntary and the entries did include expressed frustrations. However, it is unclear the extent to which dialectic tension was created with knowledgeable others in ways that did or did not result in "warranted assertabilities."

Anderson and Matkins (2011) did level the reflective blogs of the pre-service teachers with whom they worked. The pre-service teachers in this study were required to write weekly reflective posts and respond to one of their peers' blog posting for the week. The instructors maintained their own blogs and responded to the pre-service teachers' posts with guiding questions intended to promote critical thinking. Their findings indicate 39% of the posts provided evidence of non-reflective/understanding thought. Just over 57% of the posts exhibited reflective thought while only 3.7% of the posts showed evidence of critical reflection. A secondary finding showed that higher levels of reflection occurred when the preservice teacher wrote about her/his own teaching versus writing about observations of the collaborating teachers they observed. Khourey-Bowers (2005) reported that individual postings demonstrated

satisfactory levels of reflection while threaded discussions with peers and instructors provided evidence of effective or distinguished levels of reflection suggesting that interaction with peers and instructors has a positive impact on the levels of reflection. It seems as though the researchers in this study attended to the role of judgment in reflection as they, as knowledgeable others, attempted to create dialectic tension through the questions they asked. I wonder though what is meant by reflective thought in the leveling scheme they employed.

A look across these studies provides an evidentiary base which suggests dialogic, asynchronous, on-line environments are experienced as enjoyable (Shoffner, 2001) by pre-service teachers, encourage higher-levels of reflection than mediums in which pre-service teachers are required or asked to reflect in isolation (Harland & Wondra, 2011) but still do not provide evidence of pre-service teachers' reflective entries reaching the highest level (Bean & Stevens, 2002) which are associated with increased quality of teaching (Cohen-Sayag & Fischl, 2012). However, did the authors of these studies define reflection in such a way as to confuse it with thinking?

It appears as though asynchronous on-line environments provide affordances to the writing process that pre-service teachers find enjoyable. Asynchronous environments allow users to engage in peer interaction (engage directly with their audience), read and respond at their own pace, write for a wider audience (blogs) and allow for extended time for interaction and learning (Meyer, 2003). Perhaps asynchronous environments create a sense of community which pre-service teachers find pleasant. But is a community of pre-service teachers who are novices in teaching and learning able to move beyond the writing strategy of knowledge telling to knowledge transformation (the result of reflective thinking)? Evidence provided from this set of empirical literature suggests no. Even when an instructor is present in the asynchronous space,

there is limited evidence (Khourey-Bowers, 2005) that suggests the writing demonstrated high levels of reflection. Additionally, writing as the medium of reflection in asynchronous environments still presents problems I discussed earlier, namely, can a pre-service teacher reflect (engage in knowledge transformation) in the medium of writing if they have novice understandings of content knowledge (teaching and learning) and limited fluency with the genre of blogs, emails, discussion boards?

Although it would appear an asynchronous environment could establish a space for the development of critical friends (Bambino, 2002), it is clear from these studies that the space tends to be dominated by dialogue consisting of support, personal beliefs, and description. A focus on 'feel good' or neutral interactions could be explained by Wachob's (2011) findings that peers can feel fear and/or rejection when giving and receiving critical feedback. Additionally, a focus on support, personal beliefs, and description falls short of what Bambino (2002) describes as a community of critical friends (in-service teachers) in which a knowledgeable other (a critical friends coach) facilitates the process of reflecting on one's teaching and its impact on student learning. Therefore, I believe the presence of a *knowledgeable other* is necessary. But it is more complicated than that. It is not just the *presence* of a knowledgeable other but whether the knowledgeable other has pedagogical knowledge of reflection and is able to create the *dialectic tension* required for reflection to occur.

Undergirding these studies is the assumption that the pre-service teachers involved had the *judgment* necessary to place emphasis on the pertinent aspects of their experience. In each of these designs the pre-service teachers self-selected pieces of their experience for a free topic blog entry or a given prompt. This can be problematic. For example, a preservice teacher I worked with in the past was concerned that one of the students she was working with was off-task and

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refused to participate by reading aloud a passage from an article. She attributed this behavior to the student's 'laziness.' She failed to place emphasis on the fact that the text she required the student to read was at his frustration level and so his behavior was that of avoidance so as to not be embarrassed in front of his peers. Are pre-service teachers missing opportunities to reflect and develop understandings about the relationship between teaching and student learning when they are self-selecting aspects of their experience to examine with each other and/or university supervisors?

In synchronous dialogic relation with peers and collaborating teachers. Some researchers have studied the reflective practices of pre-service teachers as they reflect on their memories of field experiences in synchronous conversations with peers, collaborating teachers and university supervisors.

Genor (2005) examined the conversations that took place within a pre-service teacher study group that met bi-monthly and talked about their field experiences. Genor proposes a framework of reflection that includes un-problematized reflection, problematized reflection, and critically problematized reflection. Within the study group, the pre-service teachers most often talked about their teaching in descriptive, general ways and did not "demonstrate any critique of their teaching" (p.54). Very few examples were found in which the pre-service teachers problematized their teaching. No examples were found in which the pre-service teachers critically problematized their teaching. Genor concluded that she found "no examples of dramatic shifts in any of the pre-service teachers' thinking" (p.58). But how would these shifts in thinking have occurred? The design of the study did not attend to the roles of judgment, knowledgable others or dialectic tension. Asking pre-service teachers to talk about their field

experiences is not the same as engaging in the careful and attentive process of reflection as described by Dewey (1933).

Ottesen (2007) analyzed the conversation that took place between pre-service teachers and their collaborating teachers as they discussed shared memories of the pre-service teachers' field experiences. Ottesen reports three types of reflection occurring in the analyzed conversations: reflection as induction (56.8%), reflection as concept development (32%) and reflection as imagined practice (11.2%). Ottensen reports that although reflection was evident in nearly every session, "it is commonly neither systematic nor extended in time" (p.36). Although the researcher reports that reflection was evident, I question if reflection occurred. It appears as though the researcher defined the quality of perceived reflation based on the topics of the conversation. And as noted earlier, the topic does not determine whether or not reflection transpired. Similarly, Stegman (2007) found the conversations which took place between pre-service teachers and their collaborating teachers to most frequently be centered on technical, clinical and personal issues while critical topics were less discussed.

Sharma, Phillion & Malewski (2011) documented the process pre-service teachers go through as they reflect on their experiences in a study abroad program. As part of the program, the researchers, who were also the participants instructors, used Dewey's (1933) steps in the reflective process to provide various kinds of support throughout the reflective cycle. To make clear the participants current frame of reference and beliefs, the instructors engaged in individual conferences. The pre-service teachers engaged in synchronous conversation as they were experiencing dissonance, it was through conversation with peers that they also interpreted and worked through the expressed dissonance, and then in journal writing, the participants worked through the ideas created through discussion and began to transform their prior beliefs. And

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finally, a last conversation with their instructors revealed their understanding that beliefs must constantly undergo revision. The researchers report the success of these supports in fostering critical reflection.

The same problems which were present in dialogic, asynchronous environments seem to apply to synchronous environments. Low levels of reflection were reported when the conversation took place between peers or between pre-service teachers and their collaborating teachers. These findings could be attributed to issues of judgment, lack of dialectic tension, content knowledge and abilities of knowledgeable others, and possible absence of authentic dissonance. There is an interesting exception in this group of studies. Sharma et al. did attend to the process of reflection and put into place different kinds of support structures for each phase of reflection. Conversation with peers during the dissonance and interpretation phases, writing during the explication of ideas phase, and conversation with instructors during the transformation of previously held beliefs phase. Although the researchers report these supports fostered critical reflection, I have more questions. Is an authentic experience of dissonance more likely to occur in settings which are foreign to the participants, what role did judgement play in their experience of dissonance, did they experience dissonance around issues of teaching and learning or about cultural differences and expectations, in what ways did the conversation with peers provide enough ideas to engage in knowledge transformation writing rather than knowledge telling writing? This study design represents possibilities for future research.

In dialogic relation using the mediums of video and conversation. Rhine & Bryant (2007) operationalized reflection as viewing video of oneself and one's peers teaching and then being in dialogic relation with each other in the asynchronous space of a discussion board. Participants in this study were required to select a two to four minute clip of a lesson and post it

to Blackboard. Peers were then required to comment on the video. They report pre-service teachers providing support and positive feedback to one another and focused on instructional and classroom management.

Another study added the additional support of the university supervisor to the dialogue about videoed instruction. In a study designed by Harford and MacRuairc (2008), pre-service teachers were required to video their teaching. In a tutorial session, each pre-service teacher was required to show their video to the group after providing the rationale for the lesson and relevant contextual information. The university supervisor was present to facilitate the conversation to " encourage debate and foster reflection" (p.1886) by posing questions. Findings from this study document the students becoming more reflective as the year progressed.

Other studies use video as a tool to aid in the reflection process. Husu, Toom and Patrikainen (2008) analyzed the conversation between pre-service teachers and their university supervisors using a video stimulated recall method. They coded for levels of reflection present in the conversations and found nearly one third of the talk to be focused on habitual reflection (description) and 33% of the talk to occur at the introspective level (how a teacher feels about the experience and how it affects them). Little evidence was provided that pre-service teachers in conversation with their university supervisors reflected at moderate to high levels. And as Dewey (1933) would note, description and feelings are not reflection. Sewall (2009) also examined the effect video-elicited dialogue between pre-service teachers and their university supervisor has on levels of reflection. In this comparison study, the participants were required to reflect in conversation with a supervisor after they had taught a lesson in which the supervisor observed. The same pre-service teachers were then required to select a 15 minute portion of video of their teaching (a different lesson). Both the supervisor and the pre-service teacher viewed the video

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and made notes. The conversation they had with each other about the videoed lesson was recorded and transcribed. Findings show the supervisor making the majority of reflective comments in the observation model while the pre-service teachers made more reflective comments in the video elicited conversations.

In a second-order action research mentoring model, Orland-Barak and Rachamim (2009), examined the reflective practices of university supervisors as they have conversations with pre-service teachers. Pre-service teachers taught a lesson while the university supervisor videoed the lesson. They engaged in a brief conversation (which was also videoed) after the observation. The pre-service teachers then viewed the video of their teaching and the university supervisor viewed the video of the conversation that took place after the lesson. They met again to have a conversation around the initial videoed lesson. Findings demonstrate the university supervisor improving in striking a balance between guidance and control in conversations with pre-service teachers. I believe this study attempts to provide insight into how a knowledgeable other can improve her/his ability to create dialectic tension throughout the reflection process.

The above collection of studies indicate that using video of one's own teaching to stimulate reflection produces positive effects. Although few of the researchers documented the specific levels of reflection demonstrated by writing about the video or having a conversation about the video, they make claims that the reflection is of higher quality when video is present than when the pre-service teachers are required to reflect upon their memory of a field experience. I think this intuitively makes sense; the presence of a video ameliorates some of the negative aspects of relying on memory. However, I do not believe the presence of video alone ameliorates the roles judgment, dissonance and dialectic tension play in the reflective process. In addition, the use of video creates the role of audience and spectator, critic and judge.

When video of themselves teaching becomes the text upon which pre-service teachers are required or asked to think about it becomes important to ask what does it mean to read such a text. Reading a text can be considered a dialectic act. Reading is conversing with the text, working through the text, and emerging transformed. Readers do this by making connections, questioning the text and author, making inferences, determining importance, and synthesizing (Duke & Pearson, 2002). The dialectic tension between the reader's thinking and the author's text (in this the video of oneself teaching) creates a change in the reader. In this way, reading a text can be viewed as a transactional and transformational process (Rosenblatt, 1978).

But are the strategies that readers use to interact with a text similar to those of writing-- namely knowledge telling and knowledge transformation? Would a pre-service teacher need to possess enough content knowledge to "initiate[s] interactions between content and rhetorical knowledge, with the potential for transforming both" (McCutchen et al., 2006, p.452). Or is a *knowledgeable other* needed to provide the *judgment* necessary to create and 'stay with' the dissonance possible by reading a video of one's own teaching?

Additionally, the literature on using video to elicit reflection seems to make unproblematic the notion of reading an experience of which a person is part author. What makes reflection on field experiences particularly challenging/awkward is that the reader is also part author of the text (video of teaching) she/he is reading. For example, the pre-service teacher is reading a text (video of her/himself teaching). The text was created in part by her/him and is now being brought into dialogue with the present version of her/himself. The pre-service teacher needs to read (enter into dialectic relation with) this text by making connections, questioning the text and the author, making inferences, determining importance, and synthesizing, in order to be

transformed. What psychological factors come into play when pre-service teachers need to question themselves and a text they created?

The above description of reading a text of which a person is part author and using dialectic strategies to question and make changes (transform) ones ideas calls to mind a revision process. In other words, through reflection, pre-service teachers are being asked to question themselves and their actions and the outcomes of their actions in an effort to revise their thinking and/or beliefs about teaching and learning. The literature on revision, in writing anyway, suggests that the revision process occurs in dialogue with a knowledgable other, most often in the form of writing conferences (Beach & Friedrich, 2006). Thinking of reflection as a revision (transformation) of one's thinking which occurs when one's horizon (Gadamer, 1976) collides with another's (in this case a knowledgeable other) opens up possibilities for future study. How do the pre-service teacher and the knowledgeable other read the text (the video of the pre-service teacher teaching) and create a space in which a 'fusion of horizons' (Gadamer, 1976) can occur?

Implications for Future Study

As stated at the beginning of this paper, there has been a recent call for increased quantity and quality of field experiences in order to prepare pre-service teachers to meet the demands of increasingly complex teaching placements (NCATE, 2010). Recognizing that more time in field placements does not necessarily equate to increased quality of those experiences (Allsopp, DeMarie, Alvarez-McHatton, & Doone, 2006; Ronfelt & Reininger, 2012), it is imperative that teacher educators seek new understandings about how pre-service teachers create "warranted assertabilities" from their field experiences, namely, how they reflect on those experiences.

In a prior review of empirical literature on reflection and pre-service teacher education, Roskos et al. (2001) point to a lack of an evidentiary base within the literature due to the varying

ways researchers define reflection. In this review, I found that not only are researchers defining

reflection in multiple ways, it appears as though the designs of their studies do not attend to

critical aspects of reflection (dissonance, judgment, knowledgeable others, dialectic tension).

Although the stated phenomenon under consideration is reflection, I wonder if the majority of

these studies examined thinking rather than reflection. Researchers seem compelled to level the

artifacts of what they define as reflection. I wonder if the pre-occupation with leveling the

artifacts of what is perceived to be reflection has created an illusion of examining reflection and

has impeded researchers' efforts to design creative, complex studies.

When reflection is defined as the

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,

1933, p.9)

is it possible or even necessary to level? If a "warranted assertability" is created as a result of

reflection then what is there to level?

What would a study design look like that attends to the process of reflection? In

whichever paradigm (quantitative, qualitative) and using whichever methodology (case study,

phenomenology, critical theory, etc.) the researcher would need to attend to the aforementioned

aspects of reflection. For example, it seems as though dissonance, being the impetus for

reflection is a part of the process about which little is understood. And if, as Cognitive

Dissonance Theory (Cooper, 2007) suggests, dissonance occurs in high-choice situations, is

experienced only if adverse consequences occur (Linder, Copper & Jones, 1967), when a person

believes they are responsible for the adverse consequences (Cooper, 2007), then it would seem

important to include these elements in the research design. To study dissonance, the pre-service teacher would be in a high-choice situation, experience an adverse consequence and feel responsible for that consequence. If those conditions were present then an analysis of the pre-service teachers' writing or conversation would be pertinent to understanding dissonance and it's role in reflection.

But what of judgment? Perhaps pre-service teachers do not experience dissonance around teaching and learning because of the limited content knowledge they posses about teaching and learning. Then maybe a video of the pre-service teacher engaged in teaching in which they had a high-level of choice in their teaching actions is discussed by both the knowledgeable other and the pre-service teacher. A study could examine how and if the knowledgeable other is able to use her/his judgment to read the text of the pre-service teacher teaching and, through questioning, point to aspects of the experience that are pertinent for analysis/synthesis -aspects of the experience that provide evidence which could be used to make 'warranted assertabilities' about teaching and its relation to learning.

And what of a knowledgeable other and their ability to create dialectic tension? What is it like to 'stay with' dissonance in relation with a pre-service teacher? How does one create dialectic tension rather than dialogic interaction?

You can see the complexity here but I believe, collectively, as researchers dedicated to understanding how pre-service teachers reflect and create "warranted assertabilities" from their field experiences we can create imaginative and complex research designs which operationalize reflection as a process including judgment, dissonance, dialectic tension, and interaction with knowledgeable others' to begin to gain fresh insights into the process of reflection.

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The work that has been forged thus far is important work. Hermeneutic engagement with this literature base has helped to create new understandings about the complexities of studying reflection for me and possibly for the readers of this paper as they use their prejudices (Gadamer, 1976) about reflection to create new insights into possibilities for studying reflection.

Chapter Three

Methodology/Methods

Introduction

In the prior review, I used Dewey's (1933) concepts of dissonance, judgment, knowledgeable others, and dialectic tension to explore parameters of reflection as a communal process of creating "warranted assertabilities" (p. Dewey, 1938, p.15) from experience. Using Roskos, Vukelich, and Risko's (2001) notion of historical continuity, I interpreted patterns in the literature on pre-service teacher reflection. Notably, I found that researchers primarily define reflection as thinking about a past experience rather than a specific mode of thought, prompted by dissonance in experience, which creates "warranted assertabilities" (Dewey, 1938, p.15) about teaching and learning. I presented that perhaps much of the empirical literature researchers have created so far in the name of reflection has pointed toward reflection but seems to not have worked with the complexities of reflection as a communal process (Branscombe & Schneider, 2013) which involves judgment, dissonance, and dialectic tension (Dewey, 1933). In other words, researchers have leveled the products (written documents, conversations) that result when pre-service teachers are required or asked to reflect but the actual process of reflection with pre-service teachers seems to remain hidden.

Given that little is known of the actual process of reflection as experienced by pre-service teachers; some exploratory work is in order. However, because reflection is ubiquitous in teacher education and is defined and operationalized in a myriad of ways (Collin, Karsenti, & Komis, 2012) by practitioners and researchers alike (see Appendix A), it is important to explore

reflection within a methodology that is sensitive enough to create data of a person's experience and rigorous enough to create the dialectic tension needed to produce 'fresh' understandings about a construct as rife (common and unchecked) as reflection is in teacher education. To me, that methodology is hermeneutic phenomenology (Gadamer, 1976; Van Manen,1990).

For this study, I engaged in an hermeneutic phenomenology as I inquired into the experience of reflection as lived by Dana, a pre-service teacher with whom I worked. This study was guided by the primary question: What is Dana's experience of dialectic reflection with a knowledgeable other? What new insights about reflection can be created by juxtaposing her described experience of reflection with multi-disciplinary theoretical writings?

Context

In Chapter Two, I made the case that in order to study reflection, it would seem that one would need to examine the entire process of reflection rather than only the artifacts created when a pre-service teacher is required or asked to reflect. I believe the researcher would also have to attend to the other aspects of reflection namely, dispositions, dissonance, judgment, dialectic tension, and interaction with knowledgeable others. In this section, I detail the contextual factors that are salient to this study. I describe the participants (Dana and myself), our interaction, and the conditions that were in place for reflection to occur.

Dana

Dana is 22 year old, Caucasian woman. She was born and raised in Massachusetts and shares fond memories of her childhood and a desire to return home after graduation. I have noticed that people either really like her or don't. She had a handful of close friends who were also enrolled in our program who she worked with and regularly spent time with outside of class. Conversely, some of her peers found her difficult to work with as she thought outside of the box

and frequently asked questions that disrupted the "let's just get it done" attitudes that some of her peers displayed when working on projects. I have also witnessed some of her collaborating teachers finding her pleasant to work with while others have had significant difficulty when she questioned some of the teaching practices she observed in her field experiences that did not align with her beliefs and/or ideas from coursework. Additionally, some of her instructors found her to be friendly and likable but challenging in that she thinks deeply about issues and pedagogy, but also creates problems stemming from her personal work habits that cause disruption and delay for others. She asks deep questions but does not work in a timely manner.

She is enthusiastic about teaching and speaks firmly about her opinions about the purposes of education and issues of equity for students. She is complicated. Although she displays this enthusiasm regularly by engaging in conversations and debates with her peers and instructors (myself included), she has another side to her personality that many would characterize as heedless. There were times in class when I wondered if she was attending to what we were doing. She has little respect for deadlines and assignments that she perceives as inauthentic. At times she has nodded off during class. Given her limited apprenticeship in teaching and her developing understandings about teaching and learning, some instructors found her actions inconsiderate. I have worked with Dana for four semesters. Over the two years I have laughed with her, cried with her, gotten frustrated with her, and celebrated with her.

I find Dana to be a highly reflective person. In my conversations with her, she seemed to think about her experiences in such a way as to create understandings about teaching and learning which informed her future action. At different times, and in various ways, Dana eventually displayed all of the dispositions about which Dewey writes! Many times she engaged wholeheartedly in the process of learning about teaching and learning by engaging in many

voluntary conversations with her peers and me about the purposes of education, her development of teaching practices, problems she saw in her practice. etc. In other words she engaged her whole self as she worked to learn about teaching and learning. She displayed a sense of directness, in the Deweyian sense, in that she trusted her experiences as being valid content for learning about teaching and learning. As such, she approached her field experiences with the belief that she could learn from her own practice with children rather than relying on copying the behaviors of her collaborating teachers. She did not worry about the judgment of others, including her peers, collaborating teachers, and instructors as she would often share her differing views with them in an attempt to debate and think through an issue. In the countless conversations I have had with her, she remained open to entertain other perspectives and question even her own deeply held beliefs. And lastly, she recognized the real-life applications of her reflection and so exhibited what Dewey calls *responsibility.* All of these dispositions, including her flaws,amalgamated into a stance of readiness to engage in reflective thought about her field experiences.

It is for these reasons that I asked Dana if she would engage in conversations with me about how she experiences reflection. And, as Dana would, she put her hand to her chest, opened her eyes wide and said "Me?...Ab...so...lute...ly." And that is how our conversations began.

My Role as Knowledgable Other

Because of the intimate and intricate connections among the researcher, the lived experience and the researcher with the participant, it is important to orient oneself to the phenomenon in question. To orient oneself in phenomenological study means to express one's "station or vantage point in life" (Van Manen, 1990, p.40).

I am a member of the community of practice (Wegner, 1998) of teaching. I orient myself as a former elementary school teacher, current teacher educator, and a person who engages in reflective thought. As a former elementary school teacher, I engaged in teaching much like the description of Ms. Smith's room in scene one of my introduction. Facilitating learning as described in that scene takes much content and pedagogical knowledge. Throughout the years, my work has been informed by many researchers and practitioners such as Cunningham and Allington (2011), Fountas and Pinnell (1996), Harvey and Goudvis (2000), Johnson (2004), Keene (2008), Miller (2008), Routman (1991), Keene and Zimmerman (1997), to name a few. My hermeneutic engagement with their work and the resulting 'fusion of horizons' (Gadamer, 1976) has led and continues to lead me to ever new understandings about literacy and teaching and learning. These understandings have colored my work with young children over the years and continues to color the ways in which I interact with students (elementary students and university students alike). The praxis I have developed in facilitating the learning of elementary students is part of my role as knowledgeable other. Because I have both content and pedagogical knowledge that has been tested and refined through practice and reflective thinking, I have at hand a wealth of ideas and anecdotes about teaching and learning.

However, ideas and anecdotes alone do not solely constitute the role of knowledgeable other. It is how I used those ideas and stories to create dialectic tension with Dana as we reflected together about her teaching that also factored into my role of knowledgeable other. I distinguish *dialectic* tension from *dialogic* interaction. I draw from the rich philosophical history of dialectics as a means by which exploring opposing concepts help to inquire into contradictions and solutions. I argue that it is the tension brought about through dialectic engagement with experience and an *other* that plays a central role in the process of reflection. Merely taking turns

talking about an experience with a knowledgeable other (dialogic interaction), will most likely not create new understandings.

As such, I approached my role as knowledgeable other as different than a sounding board for Dana to share how she thought her lesson went and what would she change if she had the opportunity to do it again. By using my content and pedagogical knowledge to ask questions that were intended to create dialectic tension, Dana and I worked to 'stay with' the tension long enough and skillfully enough to fuse our horizons.

This is not neat and clean work. In fact, I found it to be extraordinarily difficult as evidenced by my numerous journal entries that expressed my own dissonance with this process. That dissonance was an impetus to reflect and more closely examine my pedagogies through a design experiment (Gelfuso & Dennis, 2013, in review). In the design experiment, I initially found myself to engage in far too much story telling and telling of pedagogical ideas in an effort to create dialectic tension. Thus, I changed my practice to include a balance of questions intended to create dissonance and anecdotal examples from my own practice. In this way, I continued and continue to refine my role as knowledgeable other.

Another aspect of my role as knowledgeable other was to be seen by Dana as a competent teacher of elementary students. How else would she entertain any ideas and anecdotes I had about teaching and learning? How else would she feel compelled to endure the difficulty of 'staying with' the tension we created in an effort to create "warranted assertabilities" about teaching and learning? Therefore, I occasionally modeled a particular pedagogy (Guided Reading for example) with the elementary students that Dana taught. I also shared video of myself teaching in other elementary classrooms to illustrate the possibility of such pedagogies

being successful in facilitating student learning, as well as to show Dana my competence with teaching elementary students.

It is my understanding that I possess the qualities of a knowledgeable other in the community of practice of teaching. I have deep and facile content and pedagogical knowledge. I continually engaged in reflection about my own experiences with creating dialectic tension with Dana and I provided opportunities for Dana to see me as a competent model of 'teacher'. For these reasons, I believe the condition of interaction with a knowledgeable other was met for this study.

The Elementary Teacher Residency Program

Dana and I worked together within the larger setting of the Elementary Teacher Residency Program (ETRP) at a large southeastern university. The ETRP was designed in response to calls for increased quantity and quality of field experiences in teacher education programs (NCATE, 2010). The ETRP was developed in partnership with three Professional Development Schools (PDS). As described by Danielle Dennis, the associate professor who was largely responsible for the development of the program (Gelfuso & Dennis, 2013, p. 8, in review),

The focus of the program moved from understanding children's diverse needs in semester one, a literacy block focused on using data to make instructional decisions in semester two, arts integration in semester three, and then a focus on STEM in the year-long residency internship (semesters 4 and 5).

Being a member of the ETRP required Dana's presence (either in coursework or structured field experiences) Monday-Friday, 7:30am-3:30pm. Additionally, she was required to engage in a year-long, full time residency experience in the final year of the program.

At the time of this study, the ETRP was in its infancy as my colleagues and I were working with the first group of thirteen students to complete the program. Dana was one of those thirteen.

My role in the ETRP included facilitating our students' learning in coursework (Children's Literature, Creative Experiences & Linking Literacy Assessments/Reading and Learning to Read) as well as supervising the level two and final internships of our students. Because I was responsible for both facilitating coursework and supervision, I included structured field experiences as assignments that were required for the courses I taught. I also included guided reflection conferences (which came to be known as Teaching Cycles) as a requirement for these courses.

Teaching Cycles

Although the structure of the teaching cycles were modified and revised as the result of the formative design experiment (Gelfuso & Dennis, in review), the following description of a teaching cycle is accurate for the last two semesters in which Dana was a member of the ETRP.

A teaching cycle was characterized by a series of events including:

- Dana forming an hypothesis she wished to test in experience. The hypothesis was derived from course content, i.e. 'If I have the children read a lot during guided reading, then they will not comprehend the text.'

- Any lesson or series of lessons related to her hypothesis in which Dana determined the needs of the students she was teaching

- Dana planning (sometimes with my assistance, sometimes in collaboration with her collaborating teacher or peers, sometimes alone) and facilitating those lessons (all lessons were video-recorded)

- Dana determining whether the elementary students 'learned' what was 'taught'

- Dana watching the video of herself teaching

- Dana coding the video using a support structure -marking times in the video when she saw evidence of the eight pillars of effective literacy instruction (see Appendix I) provided by Cunningham and Allington (2011). The eight pillars are:

  - Balanced, Comprehensive Instruction

  - A Lot of Reading and Writing

  - Science and Social Studies Integrated

  - High-Level Thinking

  - Skills Explicitly Taught and Coached

  - Wide Variety of Materials

  - Variety of Formats for Instruction

  - Well Managed

- Dana coding for evidence that supported or refuted her hypothesis -marking times in the video that she perceived to be indicative of support or refute, providing a description of the moment, providing her rationale for choosing that segment of the lesson as support/refute

- Dana making note of any additional parts of the video she found salient/problematic

- Myself coding Dana's video- marking times when I saw evidence of the eight pillars, marking moments where the eight pillars were missing but could have been included, marking evidence of student motivation and student learning, marking the questions Dana asked, etc.

- Myself reviewing my codes and determining (based on what I knew about Dana's development and what I perceived she was ready to explore) one to two moments on which to create questions to ask Dana- for example 'What did you notice about how Samantha reacted when you asked her to read? Why do you think she reacted that way? What do we know about her instructional reading level?

- Dana and I meeting in person, each with our separate coding and the video

- Dana beginning the conversation by sharing her thinking about the eight pillars of instruction and a conversation ensuing about those pillars

- Dana and I having a conversation (focused on her hypothesis) about her teaching as evidenced in the video and its impact on student learning

- Dana confirming, modifying, changing her hypothesis (verbally and sometimes in writing)

Conditions for Reflection

I believe the above description of a teaching cycle operationalizes reflection as a process which involves judgment, dissonance, dialectic tension, and interaction with a knowledgeable other. For example, the impetus for the teaching cycle is an hypothesis about teaching and learning created by Dana with the support of ideas from our coursework. In other words to assist Dana in exercising *judgment* as she selected an idea to test in experience, she was required to

choose an idea from our course text and/or class discussions. The inclusion of an hypothesis to be tested in her own experience also attends to Dewey's description of both *directness and responsibility*. I believe it helped foster a sense of directness because it made clear the idea that her experience is valid and can be the place of learning. The fact that she tested her hypothesis with the students with whom she worked, created a sense of responsibility (the idea that the results of her reflection can be used in real-life).

The teaching cycles included the entire process (Gradual Release of Responsibility) of teaching: determining students' needs, planning, facilitating learning, determining the effects of instruction, and creating meaning from the experience). This feature of the teaching cycles attended to conditions for *dissonance*. For example, as a result of framing the teaching cycles this way, Dana was in a high-choice situation (Zanna & Copper, 1974). *She* used what she understood about diagnostic assessments to determine the needs of her students. *She* decided on the lesson content and format based on those needs. *She* planned the lessons. She facilitated the learning. *She* determined the impact her instruction had on student learning. Given that Dana was a novice, it was probable that an 'adverse' consequence would occur as the result of her practice (Linder, Copper & Jones, 1967). Given her involvement in the entire teaching process, it was possible that she would feel responsible for the 'adverse' consequences (Cooper, 2007).

Dana exercised her developing *judgment,* in the Deweyian sense, as she coded for evidence that supported or refuted her hypothesis. When Dana was coding video of herself teaching, I believe she was engaged in the first two phases of the process of reflection Dewey describes,

(1)   suggestions in which the mind leaps forward to a possible solution;

(2)   an intellectualization of the difficulty or perplexity that has been felt

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(directly experienced) into a problem to be solved, a question for which the answer must be sought..." (Dewey, 1933, p.107)

She was not left alone during these phases. She received support from *knowledgeable others* in the form of lens' through which to guide her coding. For example, she used Cunningham & Allington's (2011) eight pillars of effective literacy instruction to aid in her judgment of the pertinent aspects of the experience to emphasize.

I also watched the video of Dana's teaching, and coded it using my *judgment*. I made notes of the salient aspects of the experience and wrote questions that I might ask in an effort to create dialectic tension. For example, in one teaching cycle I made note of a child struggling with decoding a particular text. In the margin, I wrote 'What did you notice about Tammy's reading?, Why might she have been struggling?, etc. In this way I prepared to create *dissonance* for Dana around pertinent aspects of teaching and learning that are present in her video. I also attended to how 'staying with' the *dialectic tension* I created with Dana could be skillfully facilitated so as to result in a warranted assertability she could test in future experiences.

Lastly, engaging in a conversation with me, her *knowledgeable other*, provided support as we engaged in the other phases of the process of reflection outlined by Dewey:

(3)   the use of one suggestion after another as a leading idea, or hypothesis, to initiate and guide observation and other operations in collection of factual material;

(4)   the mental elaboration of the idea or supposition as an idea or supposition (reasoning, in the sense in which reasoning is a part, not the whole, of inference); and

(5)   testing the hypothesis by overt or imaginative action. (p.107).

During these conversations we consulted the video of her teaching as we each shared what we judged to be of relevance. I guided the conversation as we mentally elaborated on ideas that were pertinent to Dana's teaching and its impact on student learning. We attended to the idea that dissonance is experienced as discomfort (Elliot & Divine, 1994), by using humor at times, as well as sharing our feeling of discomfort with each other.

I believe the context in which this study occurred satisfies the call I made in my literature review for exploratory study of reflection as a process which involves judgment, dissonance, dialectic tension, and interaction with knowledgeable others. Given the conditions of reflection that were present, I believe Dana did experience reflection. The project of hermeneutic phenomenology is to understand differently a particular phenomenon. Therefore, it was important to have conversations with a person who, to the best of my understanding did experience reflection. I believe much can be understood though hermeneutic engagement with her described experience. Below I describe how I went about creating those understandings in the tradition of hermeneutic phenomenology Gadamer, 1976; Van Manen, 1990).

Methods

"The real power of hermeneutical consciousness is our ability to see what is

questionable."

Gadamer, 1976, p.13

Phenomenology is a methodology with a long and rich history (Husserl, 1859-1938; Heidegger, 1889-1976; Merleau-Ponty, 1908-1961). The project of phenomenology, as a methodology for understanding, is predicated on the notion that "human beings make sense of experience and transform experience into consciousness, both individually and as shared meaning" (Patton, 2002, p.104). Therefore, phenomenological inquiries often pose the question-

"What is the meaning, structure, and essence of the lived experience of this phenomenon for this person or this group of people (Patton, 2002, p. 104). As such, phenomenology, in its traditional sense, calls for the researcher to intend toward an everyday experience (experienced and described by the participant) by bracketing her/his presuppositions about the experience so that a linguistic representation of the essence of the experience can be created.

However, I find the notions of essence and bracketing problematic. I view essence not in an existential sense but rather to mean "what it is that renders this or that particular experience its special significance" (Van Manen, 1990, p.32). Essence, then, does not necessarily mean the ethereal quality of an experience. Instead, it may be conceptualized as,

> a linguistic construction, a description of a phenomenon... that is construed so that the structure of a lived experience is revealed to us in such a fashion that we are now able to grasp the nature and significance of this experience in a hitherto unseen way (p.39).

Despite VanManen's (1990) description of essence, the word still conjures up the image of a clear sphere floating in space: solid, unmoving, unchanging. As I believe all experience is fleeting, I prefer the metaphorical image of a 'shooting star'. The star (or more accurately the space debris) represents the phenomenon the researcher is intending toward (in this case reflection) and the streak of light forming the tail of the 'falling star' the trace of the phenomenon that is analyzed and synthesized. Therefore, I align myself with Sumara's (1996) conceptualization of trace as " a binding, a boundary, and a map" (p.60) which allows me to interact with (1) my participant, (2) the artifacts of our interaction, and (3) the conditions under which the interactions and artifacts were created with the understanding that it is my experience

of Dana's described experience of reflection that I am analyzing and from which meaning was created.

As noted earlier, bracketing is traditionally associated with phenomenology. Bracketing is a method in which the researcher sets aside his or her current understandings as he or she analyzes and interprets the phenomenon of interest (Moustakas, 1994) in an effort to preclude those understandings from shading the possible meaning to be created. To me, the traditional phrase 'bracketing presuppositions' calls to mind a lobotomy, a surgery during which the top of my skull is sliced open and the part of brain that 'knows' anything about reflection is removed. But where is that part of my brain? I identify as a reflective person. Through the course of this study I have helped the participant in the acts of reflection. I reflected with the participant as we had conversations about her experience of reflection. I reflected on our conversations and reflected on the descriptions of what it is like for her to reflect! I brought to these acts all that I know about reflection. I consulted countless theoretical writings about reflection. I replayed my own multiple and varied experiences of reflection in an effort to understand Dana's experience. I don't know how to 'bracket' those understandings.

Therefore, I align myself with Gadamer's writings on philosophical hermeneutics (1976), in particular his description of prejudices and the role they play in understanding. Prejudices for Gadamer are not "unjustified and erroneous so that they inevitably distort the truth" (p.9). Rather, prejudices are precisely what allows us to experience the world. I used my prejudices about reflection to enter into conversation with these texts about reflection (the transcribed conversations with Dana, my experiences of working with Dana, theoretical writings about reflection) with the intention of wanting to hear something new.

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My prejudices and current understandings about reflection put me in a particular place. It is from this place that I set my original horizon for this study. Gadamer (1997), writes that

to have an horizon" means not being limited to what is nearby, but to being able to see beyond it...[W]orking out of the hermeneutical situation means the achievement of the right horizon of inquiry for the questions evoked by the encounter with tradition. (p. 302)

An image comes to mind. I am standing on a cliff overlooking the ocean, in the far distance, where the water meets the sky, I imagine Dana's experience with reflection to be placed. I set my horizon, my gaze, at the onset of this study somewhere in between, say several miles from shore. In conversations with Dana about her experience of reflection and in conversations with the transcripts of those conversations, I experienced a "fusion of horizons" The cliff is my encounter with tradition (both the empirical literature discussed in my literature review and the theoretical writings about reflection). My gaze at the onset of this inquiry was set at a place slightly beyond tradition as a result of the understandings I created from hermeneutical engagement with the literature. And the "fusion of horizons" occurred through hermeneutical engagement with the texts created for this study. My "fusion of horizons" is represented in the *Understandings* section of this dissertation.

Although I make clear my current understandings about reflection later in this chapter, I understand that I can never fully know the extent to which a pre-understanding shades interpretation. Gadamer (1976) writes, "Reflection on a given pre-understanding brings before me something that otherwise happens *behind my back.* Something- but not everything" (p. 38). However, in an attempt to make as transparent as possible my pre-understandings, I describe them below.

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Pre-understandings

When I get up on this stage in front of you, I am not alone.

I am crowded by all the people from my life. These people are my rainbows.

Maya Angelou

John Dewey (1933), in his seminal work *How We Think*, articulated modes of thinking, among them, was reflection. Dewey wrote about both the dispositions conducive to engaging in reflective thought and the phases of reflective thought. Dewey believed that attitudes can either open the way to learning or block it (Rogers, 2002). The *dispositions* necessary to open the way to reflection are wholeheartedness, directness, open-mindedness, responsibility, and readiness. Wholeheartedness is characterized by a genuine enthusiasm for the matter at hand. Directness, as explained by Rogers (p.860), is "an attitude of trust in the validity of one's own experience without spending a lot of time worrying about the judgment of others." Open-mindedness is defined by a willingness to entertain different perspectives and to be open to the "possibility of error even in the beliefs that are dearest to us" (p. 30). Responsibility refers to the real-life applications of our wholeheartedness, directness, and open-mindedness. Finally, readiness is the combination of the prior four attitudes and characterizes the person who is ready to engage in reflective thought. I used my understanding of dispositions related to reflective thought as I determined who to ask to be a participant in this study.

For Dewey, there exists phases within the reflective act. In the pre-reflective phase, one has an experience in which dissonance is felt. Thinking then turns to reflection as the person experiences,

(1)   suggestions, in which the mind leaps forward to a possible solution;

(2)   an intellectualization of the difficulty or perplexity that has been felt

        (directly experienced) into a problem to be solved, a question for

        which the answer must be sought;

(3)   the use of one suggestion after another as a leading idea, or hypothesis,

        to initiate and guide observation and other operations in collection of

        factual material;

(4)   the mental elaboration of the idea or supposition as an idea or

        supposition (reasoning, in the sense in which reasoning is a part, not

        the whole, of inference); and

(5)   testing the hypothesis by overt or imaginative action. (p.107).

I believe reflection is begun by a feeling of *dissonance*. I operationalize dissonance as a

misalignment of one's beliefs, thoughts, words, and/or actions. For example, in an experience,

one would feel dissonance when what one was doing (action, words) was different than what one

believed she/he should be doing (beliefs, thoughts). My preunderstandings about dissonance are

informed by the following ideas from the literature on dissonance: (1) the idea that a lack of

choice prevents dissonance from occurring (Zanna & Copper, 1974), (2) in high-choice

situations, dissonance is experienced only if adverse consequences occur (Linder, Copper &

Jones, 1967), (3) dissonance occurs when a person believes they are responsible for the adverse

consequence (Cooper, 2007), and (4) dissonance is experienced as discomfort (Elliot & Divine,

1994), and because of this discomfort, the human tendency is to justify ones actions that resulted

in the dissonance rather than change their beliefs in a way that would 'generate fruitful and

testable hypotheses'. I used these ideas about dissonance and its role in the reflective process to

create the structure of the teaching cycles. However, I also remained open to other possibilities of how dissonance might have been experienced by Dana.

After an experience of dissonance, Dewey (1933) writes about five additional phases. In this writing, Dewey emphasizes the scientific method. However, if this description seems overly systematic, he cautions us,

It means that scientific method provides a working pattern of the way in which and the conditions under which experiences are used to lead ever onward and outward. Adaptation of the method to individuals of various degrees of maturity is a problem for the educator, and the constant factors in the problem are the formation of ideas, acting upon ideas, observation of the conditions which result, and organization of facts and ideas for future use (1938, p.111-112)."

These ideas speak of *process* over product. The phrase 'ever onward and outward' suggests to me a perpetual movement and growth. Additionally, I understand the above quote to mean that reflection cannot be taken for granted. Simply following the scientific method during thinking will not necessarily result in an organization of ideas that will inform future experience. In this way, it is important that reflection is supported based on the needs of the student. For this study, I used the above phases of reflection to help guide my interpretation of the data while simultaneously remaining open to the possibility of new insights into the reflective process and/or additional phases not yet understood.

I believe that to reflect in isolation tends to recreate and cement one's currently held beliefs rather than create new meanings and possibilities from experience. For pre-service teachers, to reflect in isolation often means relying on their 'apprenticeship of observation' (Lortie, 1975) of the numerous experiences with teaching and learning they have had as students themselves. This is not a negative condition per se, in fact, it is precisely the prejudices pre-

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service teachers have about teaching and learning that are necessary for them to enter into a conversation (Gadamer, 1976) with their field experience. However, I argue that the knowledge about teaching and learning from their 'apprenticeship of observation' is not adequate for making "warranted assertabilities" (Dewey, 1938, p.) about teaching and learning.

I believe that in order to make 'warranted assertabilities' from field experiences, interaction with a *knowledgable other* (Vygotsky, 1978) is needed to mediate the old, that which is too familiar to be the impetus for dissonance, and the new, that which is too unfamiliar to be noticed. For example, the 'old' in Dana's field experiences was a teacher centered approach where the teacher does most of the talking and presenting. When confronted with these practices during her field experiences, Dana did not initially experience any dissonance as they were so familiar to her. As her knowledgeable other, however, I placed emphasis on this aspect, primarily through questioning, so as to encourage dissonance. In this manner I attended to pointing out that which may have been to 'old' for Dana to recognize as problematic. When I was successful in creating dissonance, then thinking could turn to reflection. Likewise, the 'new' in Dana's field experiences was be the analysis of formative assessment data to make instructional decisions. This idea and practice was too new for Dana to notice when it was absent and/or mis-appropriated in their field experiences. I understood my role as knowledgeable other as one to place emphasis and encourage dissonance so as to propel reflection. I operationalized my role as knowledgable other as a member of the teaching community of practice (theory/research about teaching and learning, collaborating teacher, university supervisor) who draws from my experience and theoretical understandings to guide Dana in the reflection process as we (Dana and myself) constructed meaning from her field experiences.

The need for interaction with a knowledgable other also stems from Dewey's (1933) writings about the roles *judgment* and analysis/synthesis play in the reflective process. Part of reflecting on experiences is using previously constructed theory to select or reject the pertinent aspects of an experience. These judgments or discernment play a critical role in knowing, as Dewey writes, "… what to let go as of no account; what to eliminate as irrelevant; what to retain as conducive to the outcome; what to emphasize as a clew to the difficulty" (p. 123). In this way, I provided support and guidance as Dana reflected on her field experiences by helping to discern which aspects of her experience emphasis ought to be placed. I believe exercising judgment with a 'knowledgable other' is part of the process of reflection. For example, during our reflection conversations which took place during the teaching cycles, Dana would provide evidence that she judged to be indicative of an effective literacy practice about which she was learning. Sometimes the evidence she provided was accurate and so I was able to acknowledge her developing understandings in a positive way (i.e. 'Exactly, that is precisely an example of a comprehensive approach to literacy instruction'). Other times, the evidence she provided was inaccurate and so as I was able to clarify some of the nuances of effective literacy practice (i.e. 'What does the pillar meaning is central actually look like in a classroom?').

Intimately related to judgment is *analysis and synthesis*. For Dewey, these are not considered dichotomous concepts. Analysis means to place emphasis on certain aspects of an experience rather than the traditional meaning 'to take apart'. Synthesis is conceived of as putting into context (relating back to the whole) that which emphasis was placed (Dewey, 1933). In other words, in order to reflect on experience, we must be able to make judgments that allow us to both accept and reject, analyze and synthesize, our experiences. Again, it is the role of the knowledgeable other to assist the pre-service teacher during the process of reflection. I assisted

Dana by placing emphasis on certain aspects of her experience and helping, through the use of questioning to create dialectic tension. It is the 'staying with' this tension (both by Dana and myself) that produced new understandings and 'warranted assertabilities' about teaching and learning. I then assisted Dana, again through questioning, to place the new 'warranted assertability' back into the context of the whole.

The above writing makes as transparent as possible my pre-understandings about reflection. It is these understandings that shaped my work with Dana and were used to create the conditions for reflection present in the context within which Dana and I worked together.

Hermeneutic Phenomenology

Hermeneutic phenomenology is an interpretive and reflective methodology. The purpose of hermeneutic phenomenology is to use one's pre-understandings in dialectic tension with textual evidence in the pursuit of understanding and seeing anew a phenomenon. In this section, I detail how the pieces of textual evidence of Dana's experience of reflection were created and analyzed. I also describe how I engaged in the pursuit of understanding by navigating the heteroglossiac (Bahktin, 1981) waters of language and interpretation.

Hermeneutic Data Creation/Analysis Cycles

In this section of the paper, I have chosen to interweave information about data creation and analysis rather than separating them under different headings. I made this choice because it keeps in line with the hermeneutic, phenomenological tradition.

There is an 'art' in reading a text but there is also an 'art' of constructing a text to read. I am using the placeholder 'text' to mean the dialectic, inter-subjective, interactions and utterances that result from "the community of interpreters working together in mutually corrective and collaborative efforts to understand texts and contexts" (Slattery, Krasny, & O'Malley, 2007).

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Specifically, I mean the 'art' of engaging in dialectic, inter-subjective conversations with Dana as we came to describe and make meaning of her experience of reflection. The transcripts of these conversations about reflection produced the 'texts' that I analyzed/synthesized.

I believe both the 'art' of constructing texts and the 'art' of reading a text and constructing meaning from a text can be accomplished by approaching text creation and interpretation aesthetically. Dewey describes the 'esthetic ideal' when he writes, "when the past ceases to trouble and anticipations of the future are not perturbing is a being wholly united with his [sic] environment and therefore fully alive" (1934, p. 17). I engaged in this research aesthetically as I refined my awareness of the present moment during the conversations I had with Dana about reflection.

The above mentioned conversations are different from the conversations Dana and I had during the Teaching Cycles I described earlier. The Teaching Cycles were the context where I believe reflection occurred. I needed to detail those cycles, the context, because of the problems I noticed in the literature. I questioned whether researchers were examining reflection because the design of the studies did not attend to what I consider to be the important factors of dissonance, judgment, knowledgeable others, and dialectic tension. Therefore the description of the teaching cycles demonstrate that reflection occurred and is the phenomenon under study here. However, in a phenomenology, it is Dana's experience of reflection that I want to understand and so I needed her to describe that experience. In order to do so, we had conversations about reflection and the teaching cycles.

Data creation and analysis (see Appendix E for timeline) specifically occurred as I engaged in an initial conversation about reflection and Dana's experience of the teaching cycles during the the second semester of her final year-long residency experience. I transcribed and

analyzed the video of that conversation. During the analysis of this conversation, insights inspired new questions. These questions were asked during additional conversations I had with Dana. These conversations continued until the data reached adequacy. Charmaz (2005) quoting Janice Morse writes, "[data adequacy] is operationalized as collecting data until no new information is obtained" (p.527-528).

In this way, data collection and analysis in this study occurred in tandem. As parts of reflection became illuminated, I made possible meanings of their appearance in relation to the whole of reflection. Possible meanings were explored in subsequent conversations with Dana.

Dana and I engaged in three conversations about her experience of reflection and the teaching cycles. Each conversation lasted approximately an hour. During the first two conversations we talked about her experience of reflection and what it means for her to 'stay with' dissonance'. Another secondary data source was used to prompt our third conversation. That data source was a video of a reflective conversation I had with Dana during one of our teaching cycles. I observed the video while taking notes. Observing, in the hermeneutic, phenomenological tradition, "involves an attitude of assuming a relation that is as close as possible while retaining a hermeneutic alertness to situations that allows us to constantly step back and reflect on the meaning of those situations" (Van Manen, 1990, p.69). While observing the interactions (which were video recorded) between myself and Dana during the teaching cycle, I looked for any clue (body language, tone of voice, word choice) that would reveal an aspect of reflection as Dana and I were actually experiencing reflection. I maintained a four column log (see Appendix F for an example) indicating the teaching cycle video segment on which I placed emphasis, a description of what occurred during that segment, my initial interpretation, and the question I crafted to ask Dana about the segment. The insights made

during these viewings led to additional questions that I asked during our third conversation during which Dana and I viewed parts of the teaching cycle reflection conversation video together.

In order to make meaning from the data, I entered into 'conversational relation' (Van Manen, 1990) with both the phenomenon of reflection and Dana. I conducted thematic analysis of the three conversations I had with Dana using the selective approach throughout the study (Van Manen, 1990). After data (three transcribed conversations) were constructed, I underlined particular phrases and words that appeared to reveal something essential about the process of reflection. I "horizontalized" the data by treating all aspects of the data as equal (Patton, 2002, p.486). I then organized the data into meaningful clusters based on coherence (i.e. which phrases seemed to be representative of same/similar ideas). I eliminated "irrelevant, repetitive, or overlapping data (Patton, 2002). Next, I textually described the "main thrust of the meaning of the themes" (Van Manen, 1990, p. 93). Throughout the study I made statements about developing themes (see Appendix G for the list of initial phrases, meaningful clusters, and eliminations). I re-entered into conversations with Dana to clarify these statements. This cycle continued until, as with natural conversations, our utterances "gradually diminish [ed] into a series of more and more pauses, and finally silence, something has been fulfilled" (Van Manen, p.99).

In tandem with thematic analysis and clarification, I engaged in collaborative analysis of tentative themes (Van Manen, 1990). I started the second and third conversation with Dana by engaging in what Gadamer (1975) calls the "art of testing" (p.330). During this time, we discussed in what ways the themes did or did not resonate with our experiences of reflection and we made adjustments as necessary before we continued the conversation.

After themes which resonated were formulated, I worked to determine incidental from essential themes. Van Manen, (1990, p. 107) writes,

In determining the universal or essential quality of a theme our concern is to discover aspects or qualities that make a phenomenon what it is and without which the phenomenon could not be what it is.

I mulled over each theme and asked "Is this phenomenon still the same if we imaginatively change or delete this theme from the phenomenon? Does the phenomenon without this theme lose its fundamental meaning" (p. 107)? See Appendix H for a list of incidental and essential themes.

The Pursuit of Understanding Within the Hermeneutic Circle

The above process of analysis and synthesis is typical for a phenomenological study. What hermeneutics has to offer is engagement within the hermeneutic circle to create the dialectic tension which results in new or fresh insights. However, there is no set of rules or procedure to accomplish understanding within the hermeneutic circle. Van Manen (1990) offers practical ways in which a researcher could go about analyzing and synthesizing data from a phenomenological approach; however, this approach is presupposed by a researcher's propensity for receptivity and perception. My ability to maintain a disposition of effortless action (Slingerland, 2003), to actively receive (Dewey, 1938), to be with (Van Manen, 1990) the phenomenon, and my interpretation of its parts and whole, determined the understandings that occurred as a result of this study. My reflective abilities to bring to the fore the preunderstandings I have about the phenomenon of reflection and pre-service teacher education helped me 'be with' and 'work through' the dialectic tensions within the hermeneutic circle. As so, create a fusion of horizons (Gadamer, 1976).

The hermeneutic circle is a useful heuristic for understanding how insights are created by engaging in an hermeneutic phenomenology. The hermeneutic circle " characterises interpretation as a recursive and two-way process of considering individual pieces of text evidence in relation to the whole text" (DeLuca, 2011, p. 312). For this inquiry, I considered the whole of reflection as I currently understood it in conjunction with the individual pieces of text created (the transcribed conversations I had with Dana about reflection, the video of myself and Dana in the process of reflecting together during our teaching cycles, the conversation which occurred as we revisited that video together). The dialectic tensions that occurred as a result of interpreting the juxtapositions of parts and whole created understanding. However, within the hermeneutic circle is a double dialectic (Gadamer, 1976), a relationship between the parts and the whole and also a relationship between the data and my presuppositions. Below I describe that relationship.

Bridling Pre-understandings

Higgins (2011), writes about research as aesthetic experience,

Experience exists to the degree to which we are able to let our existing habits and past

meanings fund a new encounter. We need our existing habits to help us frame a

situation as familiar enough to be intelligible, but we also want to remain open to

those aspects of the situation that exceed, challenge, and enrich the categories and

constructs we are bringing to bear (p. 143).

I approached this study with the understanding that my understandings of reflection colored and framed my interactions with Dana and my ability to remain open to the moments that 'exceeded, challenged, and enriched' my understanding of reflection.

I detailed my pre-understandings about reflection earlier in this chapter. It is now time to describe how I worked *with* my pre-understandings throughout this inquiry. Dahlberg (2006) refers to the awareness one has of one's own pre-understandings as 'bridling'. When conducting hermeneutic, phenomenological research it is important to 'bridle' one's pre-understandings so that "we do not understand too quick, too careless, or slovenly, or in other words, that we do not make definite what is indefinite" (Dahlberg, 2006, p. 16). I kept a 'bridling' journal (Vagle, 2010, p.403) throughout the course of this study. In this journal I wrote my beginning understandings and assumptions about reflection. After each data event, I wrote burning questions or concerns and reflected on them. This journaling ritual heightened my awareness of my presuppositions and helped to keep me "actively waiting", as Dahlburg (2006, p.16) writes, the appearance of reflection rather than recklessly pursuing my presuppositions. Much like bridling a horse, the writing in which I engaged in this journal, assisted me to pull back the reins on my pre-understandings while allowing the horse to move forward. As Chris DeLucca (2013, personal communication) explained, "bridling allows for intentional movements that are both responsive yet thoughtful."

Hermeneutic Windows

The continued 'fusion of horizons' about reflection and pre-service teacher education can occur as others come into relation with the textual artifact (article) I produce as a result of this inquiry. The creation of hermeneutic windows (Sumara,1996) provides an opportunity for stakeholders to engage in joint interpretation of a phenomenon (DeLuca, 2011). Hermeneutic windows are a method of reporting what is traditionally referred to as findings. Sumara (1996) describes them as,

"an image to suggest the way in which hermeneutic inquiry can give us access

to horizons of understanding that were previously not there- that is to help us

see what we had not been previously able or willing to see" (p.128).

The hermeneutic windows I present in the next chapter were created by writing through the dialectic tension (paradox, contradictions) that resulted when the essential themes created from the data were juxtaposed with theoretical writings and mediated within the hermeneutic circle through reflection. Through the hermeneutic windows I create, the readers/stakeholders (other teacher educators) will come into contact with a new horizon and through interpretative efforts of their own set into motion their own thinking about their presuppositions about reflection and/or create a fusion of horizons which expands their current understandings about reflection and pre-service teacher education.

Chapter Four:

Understandings

Understanding sets free what is hidden from view by layers of tradition, prejudice, and even

conscious evasion.

Slattery, Krasny, & O'Malley (2007)

Introduction

In the prior review, I used Dewey's (1933) concepts of dissonance, judgment,

knowledgeable others, and dialectic tension to explore parameters of reflection as a communal

process of creating "warranted assertabilities" (Dewey, 1938, p.15) from experience. Notably, I

found that researchers primarily define reflection as thinking about a past experience rather than

a specific mode of thought, prompted by dissonance in experience, which creates "warranted

assertabilities" (Dewey, 1938, p.15) about teaching and learning. I presented that perhaps much

of the empirical literature researchers have created so far in the name of reflection has pointed

toward reflection but seems to not have worked with the complexities of reflection as a

communal process (Branscombe & Schneider, 2013) which involves judgment, dissonance, and

dialectic tension (Dewey, 1933). In other words, researchers have leveled the products (written

documents, conversations) that result when pre-service teachers are required or asked to reflect

but the actual process of reflection with pre-service teachers seems to remain hidden.

Therefore, I engaged in an hermeneutic phenomenology, a methodology that is sensitive

to the experience of a phenomenon (Van Manen, 1990) and is concerned with understanding and

seeing anew (Gadamer, 1976). I inquired into the experience of reflection as lived by Dana, a pre-service teacher with whom I worked. This study was guided by the primary question: What is Dana's experience of dialectic reflection with a knowledgeable other? What new insights about reflection can be created by juxtaposing her described experience of reflection with multi-disciplinary theoretical writings?

Hermeneutic Windows

In this chapter, I engage in dialectic writing as a way to interpret the findings of this study. It is writing through the dissonance I created when I juxtaposed Dana's described experience of reflection with theoretical writings about reflection which developed fresh insights into the phenomenon of reflection. Those insights (windows) became framed as I created titles for them. The titles of the hermeneutic windows I present in this chapter are: (1) *(Dis)positions: Tendencies Toward Temporary Places; (2) 'Staying With' Dissonance: The Roles Judgment and Knowledgeable Others Play in the Phases of Reflection;* and (3) *Writing: A Tool for Propelling Dana Into and Through Reflection*).

I believe dialectic writing is key in the creation of hermeneutic windows. Therefore, the presentation of what is traditionally termed 'findings' and 'discussion' looks quite different in this chapter. There is no distinct line between 'findings' and 'discussion'' because it is the interplay between the two which creates new understandings. Therefore, within each hermeneutic window the reader will find raw data mingling with theoretical writings and my own experiences and thinking about reflection in no concrete, distinct order. I believe the creation of hermeneutic windows in not linear. Therefore, it is my intention that the reader would read through and interact with an entire hermeneutic window before judging the adequacy of the presentation.

The creation of hermeneutic windows provides an opportunity for stakeholders to engage in joint interpretation of a phenomenon (DeLuca, 2011). The three hermeneutic windows below (1) *(Dis)positions: Tendencies Toward Temporary Places; (2) 'Staying With' Dissonance: The Roles Judgment and Knowledgeable Others Play in the Phases of Reflection;* and (3) *Writing: A Tool for Propelling Dana Into and Through Reflection*) are intended to frame traces (Sumara, 1996) of reflection as experienced by Dana and provide discussion and my interpretation of those traces. The metaphorical image of a 'shooting star' can be used to think about traces. The star (or more accurately the space debris) represents the phenomenon the researcher is intending toward (in this case reflection) and the streak of light forming the tail of the 'falling star' the trace of the phenomenon that is analyzed and synthesized. Therefore, the hermeneutic windows I present below are " a binding, a boundary, and a map" (Sumara, 1996, p.60) which allowed me to interact with (1) my participant, (2) the artifacts of our interaction, and (3) the conditions under which the interactions and artifacts were created with the understanding that it is my experience of Dana's described experience of reflection that I am analyzing and from which meaning was created. My experience with her experience is but a trace of reflection.

As such, I create three windows through which the reader can 'see' the trace of reflection. It is understood and necessary that the reader will engage in her/his own process of interpretation and create her/his own understandings about reflection as a result. In this way, ever-new understandings can occur.

(Dis)positions: Tendencies Toward Temporary Places

Dana has had many experiences, in many different contexts, with many different knowledgeable others in which her tendencies toward reflection have found a place. As revealed below, she spoke of influential relationships within which she enacted her open-mindedness,

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wholeheartedness, responsibility, and directness (Dewey, 1933). She talked about a time when her grandfather was dying of cancer and he expressed his readiness and desire to pass. However, because physician assisted suicide was illegal, he was forced to suffer through the last months of his life. Dana recalled this experience to be the impetus of many reflective conversations she had with her then high-school teacher. She recalled,

D: We would have discussions about it and he would challenge me... he would say things like what about ok so your grandfather when he was going to die he was suffering right? What about the child who is born who is going to have a terrible life? Is he going to suffer? Has a disease? Never gonna be able to do xy and z? Is never going to be... should we just kill him? What if they are in pain should we kill them then?... What if we know they are going to be in pain their whole lives should we kill them then? Should we kill them when they can't consent to being a suicide? When do we draw the line? So thinking deeply like that about my ethics and about how I felt about that issue I think that was maybe like the start and then loved that feeling of like challenging myself.

It was in relation with her high-school teacher about a topic they both wholeheartedly cared about that Dana was able to enact an open-mind as she considered new ideas and questions. She stayed in a place of responsibility as she considered her role in the consequences that would result from her thinking. In this relationship, she enacted the dispositions associated with reflective thinking.

Indeed, much is made of a person's dispositions in relation to their ability to engage in reflective thought. Dewey (1933) writes about the importance of open-mindedness, wholeheartedness, and responsibility for reflective thought to occur. Rogers (2002), adds to these

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qualities a sense of directness. She writes, directness is "an attitude of trust in the validity of one's own experience without spending a lot of time worrying about the judgment of others" (p.860). Theoretically, it seems as though these dispositions are a part of who a person is. These dispositions open the way for reflective thinking. This suggests that these dispositions pre-suppose reflection. They are there. They exist. Without them reflection does not occur.

However, Dana's experience of reflection is imbued with habits of being and habits of thinking that are fluid and continually formed/revised as a result of interactions with others. What if these (dis)positions are not positions but rather tendencies toward temporary places? She tends toward a position of open-mindedness. She tends toward a position of responsibility. She tends toward a position of whole-heartedness. She tends *toward*. This does not mean that she *is*. Her (dis)positions toward reflection shape and are shaped by her interactions with others during reflective acts. They are fluid. Dana tends toward a position of open-mindedness in relation with others. She goes toward that position but this does not mean she is guaranteed that space.

In a conversation we had as we were watching a video of one of her teaching cycles, I stopped the recording at a particular place. In the video, I was presenting Dana with my interpretation of a segment of her lesson (a guided reading lesson she was having with Kindergarteners) which ran counter to her initial judgment of the impact she was having on student learning. Below is an excerpt of the conversation we had during that that teaching cycle.

A: Let's look closely at the pillar: kids need to read and write a lot. When I viewed your video, I kept track of how many minutes the students were reading because sometimes it feels like they are reading a lot but until you really look at it you don't know. I have from 9:40 to 13:10 so that is a little over three minutes...

D: That is not much

A: Yeah so even though the lesson was designed that the students were going to do the reading when we really look at it they didn't do much

D: So what kind of like should I have gotten another book

A: Well let's look at that because I'm interested in your thoughts about this...they were able to read the script Pete's a Pizza [a reader's theater script we had used with the kindergarteners in a previous lesson that we co-taught] which is a high-level text with just a little bit of support with the echo reading but I think most of them were able to read that text easily. How did that text compare to that level four text you are using here?

D: Um..I guess that the level four text would be a lot less than Pete's a Pizza

A: And as I was watching the video something wasn't setting with me. Although their assessment data show their instructional level as four. I'm seriously doubting it. They are probably capable of reading more sophisticated text.

D: So they are not challenged enough huh? Well I talked to my collaborating teacher and she said they were at a level three at the time so I just took that and worked with it but maybe I should have given them a running record.

In this segment, Dana was clearly tending toward open- mindedness. She was open to my interpretation of the lesson segment. She was being hospitable "to new themes, facts, ideas, questions" (Dewey, 1933, p.30) but she was not necessarily taking them at face value. She was asking questions. She was wholeheartedly absorbed in intellectually exploring the questions I asked. When I stopped the video and asked her what was keeping her with me, rather than providing short affirmative responses or changing he subject she said,

D: Maybe its because I know your motive and I know my goal. See your motive is get me to be a better teacher and my goal is to be a better teacher. So I know, that no matter what, your motive is not to judge me; your motive is to get me to be a better teacher. To get me to reflect on my own.

A: Just to learn from this experience

D: And you tell people [other pre-service teachers] that. But I don't think they take it to heart. So I just think you

A: Yeah that makes sense

D: And plus I don't care at all if you think I'm a good teacher or not because I know my role as an intern is to grow. It's not to be a good teacher. It's to learn and be a better teacher.

Dana was in a place of open-mindedness during that taped reflective conversation which occurred during a teaching cycle. She attributed that openness to an alignment of our motives. Her perception of my motive was wanting her to learn from this experience to become a better teacher and it was consonant with her motive to learn from this experience to become a better teacher. Being in relation with each other, created a space for mine and Dana's tendencies toward open-mindedness, wholeheartedness, responsibility, and directness to temporarily be placed.

However, not all relationships create a space in which Dana's tendencies toward reflection find a place to be. When Dana described the typical conversations she had with her collaborating teacher about her teaching she said,

D: I hate when people accept. Like I am always asking Ms. W. for feedback. She says 'Oh that was a great lesson. I love how you did this this and this...' Thanks... I don't need that.

In the above description of being in relation with her collaborating teacher, Dana's tendency toward wholeheartedness did not find a place. Dana did not actively follow a line of thinking and engage with new ideas or questions. And reflection did not occur. I do not know Ms. W's tendencies toward reflection but I do know that being in relation with each other in that moment did not create a place for Dana's tendencies to temporarily be. Perhaps the motives of both people in this relationship were not consonant. I understand Dana's motive to be that of wanting to be a better teacher, to learn from her experience rather than to show she is a 'good' teacher. Maybe Ms. W's motive was to encourage Dana, to give her positive feedback. So although Dana tends toward wholeheartedness, she is not guaranteed a space in which she can position herself as wholeheartedly engaged in making meaning from her field experiences through reflection. So she says, "thanks" and moves on. In other words, in relation with her collaborating teacher, Dana does not engage in the process of making warranted assertabilities (reflection) about teaching and learning. She does not ask questions. Dana seems to shut off the reflection process by simply saying thanks and moving on. It appears as though, in relation with her collaborating teacher, Dana's tendency toward wholeheartedness does not find a location. Rather, Dana seems to become dismissive of the experience and does not wholeheartedly pursue trying to make warranted assertabilities from the experience.

I believe there are possibilities present here; there are certainly questions. Even when a pre-service teacher such as Dana has the (dis)positions of open-mindedness, wholeheartedness, responsibility, and directness, it does not mean that she/he will find a place for those

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(dis)positions to be enacted. Are we as teacher educators working in relation with pre-service teachers to create spaces for those tendencies to temporarily be enacted? Are researchers examining (dis)positions as they are enacted in relationships? Are the motives of those in relation to each other in these spaces consonant? And what if the motives are consonant? What if both people engaged in a dialogue enter into relation with the motive of encouraging each other and making each other feel good about their experiences? What then? Does that lead to "warranted assertabilities" (Dewey, 1938 p.) about teaching and learning that are characteristic of reflection such as 'when children spend a lot of time reading books that are at their appropriate instructional level they tend to progress in areas of literacy more quickly than those who are not reading a lot in appropriate leveled text?' A warranted assertability is not an opinion. Dewey (1933) writes,

Reflection thus implies that something is believed in (or disbelieved in), not on its own direct account, but through something else which stands as witness, evidence, proof, voucher, warrant; that is as ground of belief. (p.11)

Some researchers suggest that although pre-service teachers enjoy positive spaces where they get support and advice from others (Shoffner, 2009) they do not seem to engage in what researchers call high levels of reflection (Bean & Stevens, 2002; Harland & Wondra, 2011). I would argue, as I made the case in my literature review, that they most likely are not engaging in reflection at all. Are the two people in conversation with each other positioning themselves as wholehearted, open-minded, responsible, and direct?

This seems important. It is not only that the motives of the people in relation are consonant but also that the motives are consonant with the purposes of reflection: to create warranted assertabilities from experience so as to inform future action (Dewey, 1933). To reflect

on field experiences in relation with a knowledgable other means all parties enter into that space with the motive of learning from experience rather than the motive of proving one's 'goodness' or self-worth, or only providing encouragement. This is as true for the teacher educator as it is for the pre-service teacher.

In what ways can teacher educators understand their own motives in their relations with pre-service teachers? What can teacher educators do to make their motives clear? In one of our conversations, Dana, when describing how she perceived others' as understanding my motives said,

D: When you talk to the whole group and you say you know I'm just here to help you grow. Things like that. Maybe you should say something to the effect of you know when you are teaching, do you want your kids to be just feel like happy the whole time or do you want them to feel challenged?

A: What do you think most of your peers would say to that?

D: I hope they would say..I think our group would say they want them to feel...

disequilibrium but maybe if you phrase it like that. You know, you say I'm in the same boat. I want you guys to feel challenged. You know so if I say something that makes you feel like "ohhh that hurts" then that is a good thing. And you need to cater that like...

A: It is a sign of learning when you feel that. It is a sign that you are just about ready to learn something important. And maybe [I should] be explicit

D: But when you talk to the group you say, "I want you to feel *comfortable"* and "I don't want you to think that I am doing this for a grade."

A: I see what you are saying. So you all need to know that when I am saying things like "feel comfortable" that in my mind I'm thinking "comfortable with being uncomfortable." That is what I really mean. But it is not coming across this way. [It's coming across] like let's just be a happy family and it doesn't matter.

D: But then they think, 'oh she wants me to feel comfortable' and then when they don't feel comfortable they think, 'Oh this must be going wrong.'

I understand my motive during the reflective conversations I have with the pre-service teachers with whom I work. My motive is centered on the purpose of reflection: to create warranted assertabilities from experience to inform future action. However, understanding my own motive is not enough to be in relation with an other and create spaces for reflective (dis)positions to be enacted. Dana reminds me that I need to be explicit and clear about my motives. And also to connect with what the preservice teachers might be feeling and what their motives are.

However, simply stating one's motive does not necessarily result in an other's believing one's motive. I recognize that my actions must support my stated intention. Dana recalled the importance of this as she spoke of feeling comfortable when I presented evidence from a video of her teaching that upon further examination revealed a lack of student understanding. She said,

D: ...now if you were saying like what you did was totally wrong. And here is how you need to fix it. But you you have never done that so I don't [feel annoyed]

In the above excerpt, Dana is articulating why she felt comfortable when I created dissonance by presenting her with my interpretation (the students were not reading a lot) of her experience. She is saying that I was not judging her teaching as being wrong and telling her how

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to fix it. Rather, I was pointing toward an aspect of her experience that we could discuss in order to make a warranted assertability about teaching and learning.

Additionally, being in relation with pre-service teachers as we reflect on their field experiences is not a one-way street. Therefore, it is important to consider the following questions: In what ways can pre-service teachers understand their own motives as they relate to reflecting on their field experiences? How can they become aware of alignment/misalignment between their motives and their actions?

The above hermeneutic window showed reflection to be saturated with complex interrelations. I see all of these ideas as lines of potential inquiry into the relationships among (dis) positions (open-mindedness, wholeheartedness, responsibility, directness), reflective acts, and pre-service teacher/knowledgeable other dyads. Next, I present the second hermeneutic window through which to see a fresh view of reflection.

'Staying With' Dissonance: The Roles Judgment and Knowledgeable Others Play in the Phases of Reflection

I had an interesting experience during the third conversation I had with Dana. During this conversation Dana and I were watching a video of one of our teaching cycles. In this particular teaching cycle, we were watching a video of Dana teaching a sequence of guided reading lessons. In this teaching cycle, Dana was exploring the idea of having children read during guided reading rather than her reading the text aloud to the children. At one point during the teaching cycle I noted the amount of time the students actually spent reading and this caused Dana to experience dissonance. I stopped the video of our teaching cycle at this point and I asked Dana how it felt:

A: Ok so here I am saying that this is my attempt to create dissonance for you

D: and you did that in a heart beat

A: Ok how does that feel

D: ahh man it feels like how could I, how could I do that?

A: You are getting red right now

D: These poor children all they need to know how to do is read and I am only letting them do 3 minutes.

We watched what she did after she had an immediate physical (face blushing) reaction to the feeling of dissonance. Her actions were conducive to reflection. She stayed with the dissonance. She intellectually pursued, with me, the idea I presented. But in my experience with other pre-service teachers this is not always the case. I have seen others shut down after they experience dissonance. Indeed, in a prior study (Gelfuso & Dennis, 2013, in review), Danielle and I found pre-service teachers either changing the topic or providing short agreeable responses (yes, ok, alright) when feeling cognitive dissonance. Neither of which are actions conducive to 'staying with' the dissonance long enough and skillfully enough to intellectually pursue the creation of warranted assertabilities. I wonder what effect might occur if in the moment when dissonance seems to have shut down thinking, I point out the pre-service teachers' reaction and how that reaction runs counter to the motive of learning from experience. Or, what if we revisit a conversation, much like I did with Dana, and think about together what impact that reaction to dissonance had on her/his/our learning and brainstorm possibilities for 'staying with' dissonance in the future.

The point is, can the (dis)positions conducive to reflective thinking be cultivated by creating spaces for those tendencies to find a place and by reflecting on the way we reflect. Not which came first, the (dis)positions or the reflection but rather how do reflection and (dis)

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positions of open-mindedness, wholeheartedness, responsibility, and directness exist in interdependent relation with one another? And indeed if they [(dis) positions and reflection] do exist in interdependent relation with one another can a "fusion of horizons" (Gadamer, 1976) be created when teacher educators and pre-service teachers reflect about how they reflect. In this way, is it possible to negotiate the disparate motives people sometimes have as they engage in conversations about an experience?

During our conversations, Dana and I explored her experiences of dissonance. She experienced dissonance when she was thinking about her field experiences alone, when she was having conversations with her peers, and when she was having conversations with me during our teaching cycles. However, these experiences of dissonance were not the same. Some became the impetus for reflection as Dewey (1933) would suggest, while others seemed to lead to unwarranted assertabilities or even nowhere.

Dana talked about experiencing dissonance when she was in the moment teaching students and when she was observing her collaborating teacher teach. In both of these situations, Dana resolved the dissonance by herself. When she described a time when she felt dissonance during her own teaching she said,

D: It is like disequilibrium. It's like if I see something. If a kid is trying his hardest struggling and still doesn't get it, then I have to figure out how I can go about it in a different way to make him understand whatever it is. And just thinking about what the things that I have tried and things that other people have tried and thinking about where what step in his learning was missing compared to the other students that got it right away

A: But all of these things are going in your head while you are actually engaged with the student?

D: Yeah I think so.

In this description, I see that Dana had an experience of dissonance. A student was not responding to her instruction the way she had anticipated. It appears as though this experience of dissonance propelled her thinking into the next phases of reflection.

Dewey (1933) writes about the *phases of reflection* in which after dissonance is experienced the person uses,

(1)   suggestions, in which the mind leaps forward to a possible solution;

(2)   an intellectualization of the difficulty or perplexity that has been felt (directly experienced) into a problem to be solved, a question for which the answer must be sought;

(3)   the use of one suggestion after another as a leading idea, or hypothesis, to initiate and guide observation and other operations in collection of factual material;

(4)   the mental elaboration of the idea or supposition as an idea or supposition (reasoning, in the sense in which reasoning is a part, not the whole, of inference); and

(5)   testing the hypothesis by overt or imaginative action. (p.107).

Dana's mind did appear to leap forward to find a possible solution. She ran through her memory of things she has tried, things other people have tried, searching for a 'fix'. I do not see evidence of Dana progressing through the other phases of reflection. Was she able to intellectualize the difficulty that she 'felt'? I think she attempted to do so when she described thinking about "what step in his learning was missing compared to the other student who got it right away". She created a question, "what step in his learning was missing" but is this an intellectualization of the 'felt' problem that will lead to fruitful inquiry and '*warranted*

assertabilities' about teaching a learning? Is not "what step in his learning was missing" a deficit model of teaching and learning? Did Dana place emphasis (judgment) on the pertinent aspect of her experience? Was it a "step in his learning" that was "missing" or was there a misstep in her attempt to build upon his current abilities and understanding? Was she aware of his current abilities? What does it mean to "get it right away?"

On the surface it appears as though Dana proceeded to phase three (the use of one suggestion after another as a leading idea, or hypothesis, to initiate and guide observation and other operations in collection of factual material) as she thought about what she has tried and what others have tried in an attempt to create an hypothesis "to go about it in a different way to make him understand." But when considering the role of judgment (Dewey, 1933), I wonder what Dana was relying on to discern whether what she tried and what others have tried was even applicable to this child's learning. And the fact that something was tried does not equate with 'done with quality and intention.' I asked her about where her espoused firm beliefs about teaching came from and she said,

D: It definitely wasn't from my first two years of undergrad. I don't know part of me wants to say cause I struggled a lot in elementary. I was a terrible student um I don't know. Cause I can barely remember elementary school never mind being able to take what I saw there and apply it to my mature brain now. I mean that doesn't make any sense. And I don't have any experiences in classrooms other than these two years. Maybe I have no idea. That is kind of scary to think about that. I have these super firm beliefs and I don't even know where they came from.

That *is* scary. And well documented (Lortie,1975). Pre-service teachers often rely on their apprenticeship of observation when attempting to make sense of their field experiences

alone. On what else would they rely? It is precisely the current understandings pre-service teachers have about teaching and learning that are necessary for them to enter into a conversation (Gadamer, 1976) with their field experiences. Indeed,

Only the support of familiar and common understanding makes possible the venture into the alien, the lifting up of something out of the alien, and thus the broadening and enrichment of our own experience of the world (Gadamer, 1976, p. 15).

Pre-service teachers relying on their apprenticeship of observation (Lortie, 1975) *alone* is scary. Pre-service teachers relying on their apprenticeship of observation in relation with a knowledgeable other presents possibilities for 'fusions of horizons' (Gadamer, 1976). A 'broadening and enrichment' of experience. Understanding.

Dana experiences dissonance when she is teaching and she relies on her apprenticeship of observation to attempt to problematize the experience and search for possible solutions. She relies on her judgment and background knowledge to attempt to reflect. But she does not engage in reflection. She thinks about how to make it better but does not 'stay with' the dissonance skillfully enough to intellectually pursue and create "warranted assertabilities" about teaching and learning. How could she? She is left alone with nothing to provoke thought in new directions. It seems an experience of dissonance does not inevitably result in reflection.

Dana not only attempts to think through her felt dissonance alone. She also engages in voluntary conversations with her peers about societal issues related to school and teaching and learning. When describing her conversations with a peer she recalled,

D: Tanya and I we tutor [middle schoolers] at a very low economic school. Every day we get into my car and we just talk about what went on cause we are with different groups. We talk about what went on. We talk about what strategies we can

try next time. Um and we talk about you know why these kids are at a first grade

reading level? Why do they hate school? Why do they hate adults? Why why does the

community look like trash cause we drive right through it and that is what we see.

And why are they walking out of school at dismissal and smoking a cigarette in 6th

grade? And so we talk about a lot of these things but it is still different...like with

Tanya and I we have a really close relationship we have a lot of the same ideals so it

is very easy for me to talk to her about certain things.

A: Those are good questions. When I heard you list them they seem like those

bigger philosophical questions. So you are saying with a particular peer who you have

a relationship with you guys do reflect or have conversations about these bigger

philosophical things but then I heard you say but it is still a little bit different than this

space [the place where we have our teaching cycles] and I am wondering what comes

of this? So you have these great conversations but do you...

D: That's the difference. That's the difference. I don't have any concrete

beliefs of my own to call my own to say that I can defend them about any of that

stuff. I know that I don't. I wish I could change it but I don't have any idea about any

of it. I don't even know if I am democrat or a republican.

Dana and her friend Tanya experienced dissonance about significant societal problems.

These are the topics and concerns researchers and teacher educators view as ripe for critical

reflection. And Dana and Tanya do begin the reflection process. They experienced dissonance.

They used their judgment to intellectualize the felt dissonance and formed questions. But they

did not 'stay with' the dissonance. In relation with each other, they created a space in which their

tendencies toward wholeheartedness and openness were enacted. This allowed for the

development of questions. But it seems as though responsibility and directness did not find a place in this space. Dana said, "I don't have any concrete beliefs of my own to call my own to say that I can defend them about any of that stuff. I know that I wish I could change it but I don't have any idea about any of it." This could mean that she does not feel responsible in the Deweyian sense for the consequences of her thinking about these matters. Does she recognize that what she thinks about why the neighborhood looks like trash impacts her interactions with children who come from that neighborhood? When Dana notes that she doesn't have any concrete beliefs that she could defend, I believe she has not positioned herself in a place of directness (Rogers, 2001), in which she sees the validity of her own experience as a place for understanding to be created. Could being in relation with a knowledgeable other have helped Dana position herself as responsible and direct, and as such sustained the conversation through the reflective phases?

So even when Dana is not alone, when she is thinking with another about felt dissonance, she is not necessarily reflecting. This is also her experience as she talked about a conversation she had with a peer who asked her to give advice about a lesson she had taught that Dana observed. She recalled,

> D: ...at the end of the lesson she [Charlene] always says "Ok so how did that
> go?What can I work on?" Stuff like that. And I tell her. I look at my notes and
> I say "OK here I thought you could of done this a little differently." Here is
> why um that I guess that is reflecting? Because I am reflecting on her teaching
> and then when we talk about it and she justifies why she did whatever she did
> and then I think about that and I say "You know what that actually seems
> logical." And it makes me think more about it. I don't think that I am always

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right ever. I know that there are always better ways to do everything. But I

often think that my ways are better than other people's ways. But it is nice

when somebody will stand up for their own ways and challenge me to think

about whatever I'm thinking.

In this recollection, Dana used the term reflecting but is that what was occurring here?

When Charlene asked how did the lesson go and Dana provided a list of things she could have

done differently, I believe Charlene experienced dissonance. Perhaps what she thought was a

'good' lesson was being presented as otherwise. It seems as though Charlene then justified her

actions. This is in line with cognitive dissonance theory. Dissonance is experienced as

discomfort (Elliot & Divine, 1994), and because of this discomfort, the human tendency is to

justify one's actions that resulted in the dissonance rather than change their beliefs in a way that

would 'generate fruitful and testable hypotheses'. What I find interesting here is Dana's

interpretation of the conversation as reflective. In this space, Dana's tendencies toward open-

mindedness (she was willing to entertain Charlene's perspectives) wholeheartedness, directness

(she seems to see the validity in her own experience) and responsibility (she seems to understand

that there are consequences to her thinking) are enacted. And yet Dana and Charlene did not

'stay with' the dissonance to work through the phases of reflection. They seem to have merely

justified their opinions.

It seems as though even when the (dis)positions of reflection are enacted in the space of

relation with another, reflection does not inevitably occur. Were the motives of both Dana and

Charlene to justify their actions? This alignment could explain the creation of a space that

fostered the enactment of open-mindedness, wholeheartedness, directness, and responsibility.

But remember, not only does alignment of one another's motives seem to matter, alignment of

those motives with the *purposes* of reflection also matters. It does not seem that Dana and Charlene entered this space with the purpose of creating warranted assertabilities from this experience. And even if they did, perhaps they lacked the background knowledge and judgment to create the dialectic tension that seems to thrust reflective thinking.

Thinking about her experiences alone or with peers does not seem to propel Dana into and through reflection. In the above descriptions of her experiences of reflection she does not describe a consummatory experience that suggests something was done here (Dewey, 1934). I asked what it was like to have conversations with me during our teaching cycles. Dana described the experience as,

D: Ahhhhhh when I'm reflecting alone I am also planning for next time but when I am reflecting with you I guess I am thinking about next time. When I am reflecting alone I think a lot about literally [the] next time. Next time I see that student. But when I am reflecting with you I think about my general teaching perspective. And maybe it has more to do with who I am as a person when I am reflecting with someone else. And when I am reflecting on my own I am thinking about where I want to go next like ahhh less philosophy.

A: I was thinking that.

D: More literal when I am thinking on my own. I am more literal. What can I do to produce results? When I am with you I am thinking this is my teaching philosophy what can I do to support that so that my students learn and grow the most.

Although Dana is not using the vocabulary associated with reflection here, I think she is describing an experience of going beyond problem-solving and 'staying with' dissonance skillfully enough to create a "warranted assertability" (Dewey, 1938, p. 15) about teaching and

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learning in general. I view the creation of warranted assertabilities as not necessarily equivalent to philosophy. Philosophy entails ontology, epistemology, and the relation of the two. I think as one creates warranted assertabilities through reflecting on life's experiences, one develops their personal ontology and epistemology. In my particular interactions with Dana, I perceive us as creating warranted assertabilities about teaching and learning that are general in a sense and she experiences *that* as philosophy and different from problem solving. I think this difference occurs, in part, as a result of using my judgment to discern what aspects of her experience are pertinent to understanding teaching and learning. For example, in the video we watched together of a reflective conversation we had during one of our teaching cycles, Dana thought she designed and facilitated a series of lessons in which the children were reading and writing a lot. When I presented her with the evidence that the students actually read three minutes and 48 seconds, she experienced dissonance. Her face turned red. She felt bad.

D: These poor children all they need to know how to do is read and I am only letting them do 3 minutes.

She began to rationalize and justify (the collaborating teacher had told her to use those books) the fact that the students didn't read a lot. I then created dialectic tension as I presented related ideas. I asked her about the level of text the students were reading. Why did it seem that the students appeared to experience little challenge? Why were they finished reading so quickly? Dana stayed with me. She asked questions, she thought of possibilities. She described the experience as,

D: It's hard sure. I don't... it's hard for me to get... OK so I get uncomfortable all the time but I can just pretend I'm not long enough to get comfortable again. So I like being uncomfortable. So you asking 'are you comfortable or not.' I'm probably

not wicked comfortable cause I'm realizing that 'ok I was confident but now not so much' so obviously I am going to be uncomfortable. But I don't think that is a bad thing.

D: What I thought was a good lesson now I am kind of changing my mind. I don't think the blame is on you. I think you are presenting me with ideas that is making me change my own mind. Does that make sense?

When Dana referred to me presenting her with ideas, I believe she was speaking of the phases of reflection. By asking questions and wholeheartedly engaging with the matter at hand, Dana and I were working through the phases of reflection.

(1). suggestions, in which the mind leaps forward to a possible solution;

(2) an intellectualization of the difficulty or perplexity that has been felt (directly experienced) into a problem to be solved, a question for which the answer must be sought;

(3) the use of one suggestion after another as a leading idea, or hypothesis, to initiate and guide observation and other operations in collection of factual material;

(4) the mental elaboration of the idea or supposition as an idea or supposition (reasoning, in the sense in which reasoning is a part, not the whole, of inference); and

(5) testing the hypothesis by overt or imaginative action. (Dewey, 1933, p.107).

Dana and I intellectualized the problem that was created when I shared my observation of the students not engaged in a lot of reading. I presented leading ideas (what impact the level of the text may have had on the amount of reading, how do we know their instructional levels) to help guide our further observation of the experience in an effort to collect factual material.

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Through our conversation, we mentally elaborated on these ideas and how they were connected with one another. We imaginatively tested our hypothesis as we discussed what a series of lessons would be like when children are matched with instructional level text and reading a lot.

Despite evidence of working through the phases of reflection, when we viewed this interaction together, Dana shared,

D: ...but I would have spent more time on the time thing [noting how many minutes the children were actually reading] because I mean at the time [of the teaching cycle] I was like oh my god I can't believe I did that. And right now I have the same feeling. But I don't think I did anything about it.

So despite having a reflective conversation with a knowledgeable other, which resulted in a warranted assertability (students need to be matched with instructional level text during guided reading in order to create a challenging environment for then to engage in a lot of reading and writing) Dana reported that she didn't remember doing anything with that warranted assertability in her future overt actions.

So it appears as though even when Dana is in a space with a knowledgeable other in which she positions herself as wholehearted, open-minded, direct, and responsible, a space in which we proceed through the reflective process and create a "warranted assertability" about teaching and learning it does not result in future *overt* action. Although Dewey (1933) notes that the fruit of reflection can be imagined or overt future action, I see the absence of overt future action as problematic in teacher education. If the warranted assertabilities created from reflection do not inform the pre-service teacher's overt actions with children then what is the benefit of the challenging, time-consuming work of reflecting? Why bother? This is important. And brings me to our third hermeneutic window: the role writing might play in the reflection process.

Before I present the third hermeneutic window however, I would like to summarize my understandings of dissonance and the roles judgment and knowledgeable others play in reflection as it was experienced by Dana. First, it strikes me that dissonance persists throughout the reflection process. Dewey (1933) writes that dissonance is the *pre-reflective phase* of reflection, the *impetus* for reflective thought. It appears however, that dissonance ebbs and flows *throughout* the process. Dana and I didn't experience dissonance and then rationally, scientifically, unemotionally examine the felt dissonance. Rather, we 'stayed with' dissonance and as a result created more dissonance. As our differing ideas and interpretations of Dana's teaching experience collided, dissonance occurred. As we revisited the video of her experience it seemed as though dissonance ebbed. As I asked Dana a question about the relationship of level of text and amount of time reading dissonance flowed. As I detailed how to determine a students' instructional level dissonance ebbed. And so on. I even wonder, at the end of this particular reflection cycle, if dissonance was still not present. Were there remaining ideas that needed further exploration? Was the warranted assertability we created thoroughly understood by Dana? As Dana recalled of this experience, she wished we had spent more time on the idea of children reading more. I believe much more inquiry is necessary to understand the role dissonance plays throughout the reflection process.

Additionally, it appears as though I, as knowledgable other (one who is knowledgeable about the content being discussed and the process of reflection) was needed to help to create dissonance by pointing out (using my judgment) aspects of Dana's experience that she overlooked but that were important for understanding teaching and learning. As knowledgable other, I created dissonance with Dana as I pointed out discrepancies between what she interpreted and what evidence the video provided. As knowledgeable other, I asked questions

intended to propel us through the reflection process. For all of this to occur, I needed to rely on my judgment being a member of the community of practice (Wegner, 1998) of teaching with a deep, theoretical understanding about literacy and experience in teaching literacy to elementary students.

Writing: A Tool for Propelling Dana Into and Through Reflection

The prior hermeneutic window created a problematic aspect of reflection. It appears as though even when Dana was in space with a knowledgeable other in which she positioned herself as wholehearted, open-minded, direct, and responsible, a space in which we proceeded through the reflective process and created a "warranted assertability" about teaching and learning it did not result in future *overt* action. Although Dewey (1933) notes that the fruit of reflection can be imagined *or* overt future action, I see the absence of overt future action as troublesome in teacher education. If the "warranted assertabilities" created from reflection do not inform the pre-service teacher's overt actions with children then what is the benefit of the challenging, time-consuming work of reflecting? Why bother? This is important. And brings me to our third hermeneutic window and the role writing might play in the reflection process.

Throughout our conversations, Dana made references to writing.

D: I take a lot of notes. Always. If I am not teaching I'm writing.

A: So when you are sitting there and you are in the classroom being in the moment means what? What are you thinking about? What are you...

D: Um

A: It means for you taking notes I think you just said.

D: But do you know what is funny? I often do not look back at my notes. I literally like take them. I think the act of taking them makes me think about them.

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The idea of taking notes while one is observing is not new. It is also not without problems. Judgment plays a key role in what one attends to while they are observing. What one notices, what one places emphasis on, all impacts what gets written down. For Dana, the act of writing keeps her in the moment. But does being in the moment result in experiences of dissonance that could lead to reflective thought?

D: ...like I have a list. And I have things I will never do and things I will do in my teaching.

A: Like a literal list or in your mind?

D: Yes I have a list on my computer. Um things I will never do and I often drop a note on my phone and when I get home I put them on my computer. Like things I really believe in and things I don't ever want to see myself do as a teacher. So I think about those big ideas after school.

Dana uses the genre of note taking and list making to create teaching do's and don'ts. For Dana, writing in this genre does not seem to lead to reflective thought. Creating a 'do and don't list of teaching' in isolation could further concretize a technical rationality (Schon, 1983) view of teaching where one views teaching as a list of do's rather than contextually dependent and nuanced acts.

However, maybe note-taking as a genre is not without merit as it relates to reflection. It seems a knowledgeable other would be helpful while a pre-service teacher is taking notes while observing. For example, when watching literacy instruction, pre-service teachers could attend to the eight pillars of effective literacy instruction (Cunningham & Allington, 2011). The eight pillars might help them to place emphasis on pertinent aspects of their experience. Aspects that when engaged with during the phases of reflection could result in warranted assertabilities about

teaching and learning. It seems this would be helpful, however, in a prior study (Gelfuso &

Dennis, 2012, in review) Danielle and I found that even when the eight pillars were used as the

lens through which to code the video of their own instruction, the pre-service teachers often

misinterpreted what the eight pillars meant or did not recognize when they were or were not

present. Dana refers to the influence the eight pillars had on the coding of her video,

D: I don't think in watching the video the eight pillars really helped me but in
planning it did.

A: Ok

D: So when planning I was like Ok after I planned I was like Ok what kinds of
things am I missing here? Oh I see. the kids aren't reading a lot. Maybe I should have
them read something.

A: Yeah [watching video] so what then can you describe is helpful when you
are watching your video?

D: Um I think the first thing that naturally I look at is engagement. If I think
the kids are off the walls I'm not happy with the way the lesson went. And I think
about how I can change that. But I don't usually have too much problem with
engagement. So cause I I really work hard to make sure that the lessons are engaging.
Um so after after I see that the kids are in whatever text they are looking at...

D: ...and then I try to compare like Ok at the beginning of the lesson here is
what I know about this kid. Is he making progress to where I want him to be at? Like
I look at the the objective and I think about Ok are they working towards that? Are
they just kind of just staying still. And then I go through and I when I am coding I'm

doing what you are doing right now with the number ahh the times and I write down

if I don't like something I write down how I would fix it

Yet, Danielle and I also found that when the eight pillars were used to guide the coding of their video, our conversations were more about teaching and learning (as opposed to surface management and issues with their collaborating teachers) than when the eight pillars were absent. For Dana, the eight pillars did not seem that helpful in her coding but it was in fact our different interpretations of two of those eight pillars that propelled us into and through reflection on the video we watched together.

Dana also refers to reading from her notes as we are having our reflective conversations and writing additional notes about our conversation.

D: ...you can see me reading part of what I said and that like triggered it. And I just wanted to bring it up with you at the moment. Yeah but when I am watching videos I like to be really harsh and write whatever I think and then kind of say it to you. And see, you know, does she think that is a good idea....

A: Was that breath [referring to her exhaling on the video we were watching of one of our teaching cycle conversations] just a breath or was that a sign of like...

D: That is ahhh I got it all written down cause like I often forget so if I get it all out then I'm like ohh yes whewww I didn't forget anything.

At this point it seems that writing is a way to collect content for Dana. Writing keeps Dana in the moment, focused, albeit using her own judgment, on what her experience is presenting her. This may open the possibility for dissonance to be experienced. When she was note-taking as she observed a video of her own teaching, I believe she entered the first phase of reflection as outlined by Dewey, (1933, p. 107)

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1)   suggestions, in which the mind leaps forward to a possible solution".

Dana noticed aspects of her teaching she thought were important (engagement, student progress) and wrote down possible solutions to 'fix it' that she wished to share with me. This writing provided an artifact for her to refer to during our reflective conversations. Additionally, as we moved through the other phases of reflection together,

(2)   an intellectualization of the difficulty or perplexity that has been felt (directly experienced) into a problem to be solved, a question for which the answer must be sought;

(3)   the use of one suggestion after another as a leading idea, or hypothesis, to initiate and guide observation and other operations in collection of factual material;

(4)   the mental elaboration of the idea or supposition as an idea or supposition (reasoning, in the sense in which reasoning is a part, not the whole, of inference); and

(5)   testing the hypothesis by overt or imaginative action. (Dewey, 1933, p.107).

Dana took notes about those ideas and imagined actions. This writing act served the purpose of keeping her in the moment during our conversation but also provided an artifact that could have been used to impel Dana's overt action using the warranted assertability we created during our dialectic interaction. This, I believe was an opportunity lost in my interactions with Dana. The teaching cycles as they were designed ended with our reflective conversation and the formation of a new hypothesis to be tested out in experience during a subsequent teaching cycle. But Dana said,

D: ...but I would have spent more time on the time thing [minutes her students spent reading] because I don't think I mean at the time I was like oh my god I can't believe I did that. And right now I have the same feeling. But I don't think I did anything about it.

She doesn't think she did anything about it.

I wonder if using a knowledge transformation strategy (McCutchen, Teske & Bankson, 2008), would have made more salient our conversation which might lead to overt action. I believe the writing that Dana created during the teaching cycle helped to keep her in the moment and wholeheartedly focus on the matter at hand but it did not lead to transformative thinking. The notes created an artifact that served as a collection of content. I wonder if those notes made during our conversations could be used differently.

There is evidence which suggests writing strategies can consist of both knowledge telling and/or knowledge transformation. McCutchen et al. (2008) discuss Bereiter and Scadamalia's use of these terms and describe knowledge telling as a strategy that involves writers probing their memory "with a cue derived from the writing assignment's topic or genre and retrieving relevant knowledge for the text" (p.452). Knowledge transformation is a strategy which "initiates interactions between content and rhetorical knowledge, with the potential for transforming both" (p.452). But I wonder if knowledge transformation strategies can occur in different mediums such as drama and drawing.

Perhaps note-taking and coding video are writing genres which call for knowledge telling strategies to be employed. The writing assignment for these tasks are to use the eight pillars to locate evidence of or absence of effective literacy instruction. As such, Dana retrieved the relevant knowledge (that which she already knows) to create the texts (notes, codes). I did the

same. I took notes and coded the video using my knowledge. These texts (my notes and Dana's notes) were used to create dialectic tension and thrust us into reflection phases. We viewed these artifacts as our minds leapt forward to possible solutions. We negotiated meanings as we recognized discrepancies in our notes. We talked. As such we created a new text, our conversation. Dana used writing as a tool to remember (collect content) the ideas created in that new text.

But we did not use a knowledge transformation strategy to engage with the texts (notes) from our conversation. We could have. When Dana said she "would have spent more time on the time thing", I wonder what could have happened if Dana engaged in a knowledge transformation strategy after our conversation. Is there something more that can be done with the notes created from our conversations? Can transformative thinking strategies such as writing or tableaux (Branscombe & Schneider, 2013) provide support for making more memorable the "warranted assertabilities" formed during conversations with a knowledgeable other? Maybe knowledge telling strategies thrust us into reflection and maybe knowledge transformation strategies create the consummatory experience Dewey writes about? After having a conversation with a knowledgeable other, during which they were guided through the phases of reflection and provided opportunities to clarify content and make connections, could pre-service teachers engage in portrayals of what is possible that may serve to inform their future overt action?

This makes me think about genres and learning new genres. For writing to be meaningful throughout the reflection process, rather than a mere assignment to be completed, I think pre-service teachers need to have an understanding of the purposes/audiences of the genres they are being asked to use to make meaning from their field experiences as well as a fluency with those genres. Dana seemed fluent in the genre of note-taking and coding. She understood the purpose

of coding as a means by which to see problems and fix them. Coding was a way for her to run ideas by me. To see if I thought they were 'good'. And although I wished she understood the purpose of coding to be practicing her judgment with the eight pillars of effective literacy instruction, it didn't seem to matter. It seemed the important part of note-taking and coding was that it provided texts that were juxtaposed to create dialectic tension. Her coding and my coding coming into contact thrust us into reflection.

Conclusion

In this chapter, I engaged in dialectic writing as I juxtaposed the data created from conversations with Dana with theoretical writings about reflection. This writing resulted in three hermeneutic windows (Sumara, 1996) which were framed with the following titles: (1) *(Dis)positions: Tendencies Toward Temporary Places; (2) 'Staying With' Dissonance: The Roles Judgment and Knowledgeable Others Play in the Phases of Reflection;* and (3) *Writing: A Tool for Propelling Dana Into and Through Reflection*). I believe through these windows one can get a fresh or new glimpse of reflection. Namely, the possibility that (dis) positions occur in relation with others and can possibly be developed, the possibility that dissonance is experienced *throughout* the phases of reflection, the possibility that writing (in the genres of note-taking and coding) can create the texts, which when juxtaposed with a knowledgeable other, can create the dissonance needed to begin the reflective process. In the following the chapter, I discuss the implications these possibilities might have for teacher education.

Chapter Five

Possibilities

"The search must be ongoing; the end can never be quite known"

Maxine Greene, 1995, p.15.

Hermeneutic Phenomenology: An Ongoing Affair

I preface this chapter with the words of Maxine Greene (1995), " He [Dewey] knew well that there are no guarantees; he was talking, as I am attempting to do, about openings, about possibilities, about moving in quest and in pursuit" (p.15). I believe the hermeneutic project is a never ending affair. Insights gained, understandings formed, lead to new possibilities. This text was produced by myself, Dana, and the countless other textual influences which have colored my thinking, and re/presents one of many possibilities of reflection. I trust the reader and co-constructor of meaning of this text will further imbue meaning to the processes of reflection described and interpreted here.

The value of this research is the extent to which it has achieved referential adequacy (Eisner, 2003). If the reader has experienced the construct of reflection in a new and fresh way then this adequacy has been achieved. Additionally, the implications of this research are guided by the belief that, " generalization is possible because...the general resides in the particular and because what one learns from a particular one applies to other situations one subsequently encounters" (Eisner, 2003, p. 7). Therefore, reflection, as it was understood through the process of this particular study can be informative in a general sense to both my future practice and to

other teacher educators who work with pre-service teachers. Below, I discuss possibilities for reflection in teacher education.

What is Reflection?

Reflection has been a mainstay in teacher education since the publication of Schon's (1983) book, *The Reflective Practitioner*. Reflection has been lauded as the means by which pre-service teachers become problem-solvers and meet the intellectual challenges of the classroom (Quinn, Pultorak, Young, and McCarthy, 2010). However, reflection remains an "ambiguous and contentious construct" (Collin, Karsenti, and Komis, 2012, p. 104). It seems as though teacher educators view reflection as a way pre-service teachers create meaning from their field experiences either in isolation (Chamoso & Caceres, 2008; Hamlin, 2004; Rodman, 2010) or in relation with others (Anderson & Matkins, 2011; Khourey-Bowers, 2005). However, I believe the spirit behind the phrase 'create meaning' can lead to a relativism that is not present in Dewey's writings (1933, 1938) about the reflective mode of thought. In other words, when asked to write about a field experience, a pre-service teacher can create *any* meaning rather than a warranted assertability. For example, in the Children's Literature class I am currently teaching, a pre-service teacher who experienced a group of second graders 'building stamina' by all reading from the same text during independent reading time for 20 minutes, shared with me that that was a 'good' practice because the students were 'reading'. Her *thinking* about this experience left her with the assertability that children develop stamina by requiring them to read for 20 minutes in an assigned text. I argue this assertability is not warranted. Dewey (1933) writes,

Reflection thus implies that something is believed in (or disbelieved in), not on its own direct account, but through something else which stands as witness, evidence, proof, voucher, warrant; that is as *ground of belief*. (p.11)

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For this pre-service teacher the evidence for this statement was her seeing children 'reading' for 20 min. When I engaged in a conversation with her, I asked 'How do you know the children were reading'? Due to her novice understandings about literacy and independent reading, she confused looking at a book and turning pages with 'reading'. However, when looking at this experience "through something else which stands witness" (Dewey, 1933, p.11), such as theories about independent reading levels, student choice and its relation to motivation, and purposes of reading, it is highly unlikely that these students were building 'stamina' by 'reading' text that most likely was not a good match for their independent reading levels, their interests, or their purposes for reading. Therefore, her assertability, her belief, that children develop 'stamina' by requiring them to read for 20 minutes in an assigned text is *unwarranted.* But she does not know her idea is unwarranted. I believe she experiences this assertability as true. It would seem true to her because of her limited judgment. I asked her to take turns sitting down with three or four of the children next time they were building 'stamina' and ask them to share with her what they were reading and to read a little bit of the text aloud to her. My intention of asking her this was to possibly provide her with an experience that most likely will create evidence that some of the students are not understanding what they are reading, some of the students may not be able to decode many of the words in the text, and/or some students being bored with a text that is not challenging or interesting for them. Then, with this experience, I may be able to create dissonance with her as I ask her if all of the students were actually reading.

The above example is to make the point that one can *think* about a field experience in isolation but in order to *reflect* on a field experience in an attempt to create "warranted assertabilities" (Dewey, 1938, p.15) about teaching and learning, one needs to engage in the communal activity of interacting with knowledgeable others, be it theories about teaching and

learning and/or people within the community of practice (Wenger, 1998) of teaching. Is the purpose of reflection to create unwarranted assertabilities, opinions, beliefs? I wonder if many teacher educators have confused reflection with thinking. Reflection is different from thinking.

Dewey (1933) makes an important distinction between thinking and reflecting. Although they are often used interchangeably, there are significant differences between the two. Thinking is aligned with thoughts and feelings, impulses. Dewey (1933) writes,

Hence it is that he [sic] who offers 'a penny for your thoughts' does not expect to drive any great bargain if his offer is taken; he will only find out what happens to be 'going through the mind' and what 'goes' in this fashion rarely leaves much that is worthwhile behind. (p.4)

Thinking is comprised of the myriad of images and "uncontrolled coursing of ideas" (Dewey, 1933, p.4) that populate our minds. Reflection is different. Reflection is the

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, 1933, p.9)

Pre-service teachers can *think* about their field experiences and create their own meaning from those experiences but I do not believe that this results in "warranted assertabilities" (Dewey, 1938, p.15) about teaching and learning?

In this study, I have made the shift from reflection as 'creating meaning' to reflection as creating warranted assertabilities about teaching and learning. When this shift is made, it is no longer adventitious to level the products of reflection. There are no levels. One either reflects, going through the phases of reflection

(1)   suggestions, in which the mind leaps forward to a possible solution;

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(2)   an intellectualization of the difficulty or perplexity that has been felt

(directly experienced) into a problem to be solved, a question for

which the answer must be sought;

(3)   the use of one suggestion after another as a leading idea, or hypothesis,

to initiate and guide observation and other operations in collection of

factual material;

(4)   the mental elaboration of the idea or supposition as an idea or

supposition (reasoning, in the sense in which reasoning is a part, not

the whole, of inference); and

(5)   testing the hypothesis by overt or imaginative action. (Dewey, 1933,

p.107).

and creating a warranted assertability, or one does not. The question for me is 'Does a pre-service teacher now understand something about teaching and learning, that is warranted, as a result of engaging in reflection?' She/he may have an idea or thought about teaching and learning but is it warranted, supported by both theory and experiential data?

This is a subtle but important shift. Our pre-service teachers must develop understandings about teaching and learning that are warranted. If field experiences, which pre-service teachers are now engaged in more of (Zeichner, 2010) are to be useful in preparing future teachers who can positively impact student learning, then what meaning is made from those experiences is critical. Not just any meaning. Rather, warranted assertabilities about teaching and learning.

I believe the idea 'warranted assertabilities about teaching and learning' needs to be considered carefully by teacher educators. One might be tempted to think that a list of warranted assertabilities could be made about teaching and learning and then it is those assertabilities that

pre-service teachers would need to know. I do not think this is the case. I think it is the process of reflection that is experienced by the pre-service teacher and knowledgeable other that creates warranted assertabilities for an individual. In other words, I can not simply tell a pre-service teacher a warranted assertability about teaching and learning. Or rather I could tell her/him a warranted assertability but it would not be her/his warranted assertability because the pre-service did not engage with her/his experience to co-create understanding. It would be my warranted assertability that I have created by the dialectic tension of theory and experience in my teaching practice. The pre-service teacher could choose to believe or not believe what I say as they wish. She/he could believe or not believe but she/he would not understand. I do not mean the phrases 'my warranted assertability' and 'her/his warranted assertability' to be taken as relativistic. Rather, I think a person needs to engage with her/his experience and reflection with a knowledgeable other to create a warranted assertability that is understood by her/him. And so understood will be used by the person to make context specific decisions about teaching and learning in the future. In my mind, it is possible that many people through engaging in reflection with a knowledgeable other would come to many of the same warranted assertabilities about teaching and learning. However, this is different than telling a pre-service teacher a warranted assertability. It is through her/his own experience of dissonance and reflection, through the time and effort of reflecting, that she/he understands. I think it is the understanding that is the assertability. It is the belief. It is warranted because the formation of the assertability has been guided by a knowledgeable other who used her/his judgment to provide the "something else which stands as witness, evidence, proof, voucher, warrant; that is as *ground of belief* (Dewey, 1933, p.11).

If the creation of warranted assertabilities about teaching and learning as I described above is desirable, then teacher educators need to reengage with the idea of reflection and consider the conditions necessary for reflection to occur. If the sought after outcome of more time in the field is the preparation of future teachers who understand teaching and learning and therefore can be responsive to the needs of their future students, then I believe teacher educators would need to provide the conditions for reflection to take place.

Conditions for Reflection

If the purpose of reflection is to create meaning from an experience then all that is needed is an experience and a mode (i.e. writing, blogging, conversation) of getting down one's thoughts. However, when reflection is viewed as the process which results in the creation of warranted assertabilities about teaching and learning, then the conditions for reflection need to be carefully considered. In order for a warranted assertability to be created from reflecting about an experience, judgment needs to be exercised about on what in the experience emphasis ought to be placed. Therefore, it seems as though the experience on which one is reflecting needs to be captured in a way that can be referred to throughout the reflection process.

Capturing Experience

In this study, video was an important condition in place for reflection to occur. Both the pre-service teacher and the knowledgeable other can exercise her/his judgment by coding moments of an experience [video recorded]. These moments are selected because each participant deems them to be important clues which might support or refute a given hypothesis about teaching and learning.

The use of video is different from the common practice of a university supervisor observing a pre-service teacher in real time. In the observation model, the university supervisor

typically takes notes about the teaching and learning she/he observed in one lesson. The university supervisor and pre-service teacher then engage in a conversation about the lesson. It has been my experience, that under these conditions, the pre-service teacher is primarily concerned with whether the lesson was 'good' and if she/he did a 'good' job. Additionally, the university supervisor seems content if the pre-service teacher can identify what she/he believes went well in the lesson, what did not go so well, and what she/he might do differently in the future. Occasionally the university supervisor will then offer an opinion about how to 'make it better.' This interaction and the focus on 'making it better' is often referred to as reflecting. Yet it is unlikely that a warranted assertability, or an understanding about teaching and learning that has grounds for belief is created from this type of interaction for several reasons.

First, the pre-service teacher is relying on her/his memory of an experience which just occurred. Because the experience was not captured in a way that could be visually, aurally, and mutually revisited, the pre-service teacher is unable to examine the experience in an effort to collect factual data which may serve to support or refute an hypothesis about teaching and learning. Secondly, although the university supervisor typically takes notes while observing, she/he may have missed important subtleties within the interactions between the pre-service teacher and the K-12 students within the lesson which may also provide experiential evidence that supports or refutes an hypothesis. Additionally, the pre-service teacher and the university supervisor have nothing to which they can refer if/when they have differing views about a given aspect of the experience. For these reasons, capturing the experience upon which the pre-service teacher and university supervisor are reflecting seems to be an important condition for judgment to be exercised and the collection of factual evidence to occur. And, yet, to further challenge this notion, I do not believe one can capture experience per se. There will always be more to an

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experience than can be captured by video but the traces of the experience can be more carefully examined when video is present.

Experience captured seems to be important to the reflection process. Therefore, I believe it is critical for teacher educators to attend to how the experience upon which they are reflecting is captured in an manner that allows it to be referred to throughout the reflection process.

Gathering Evidence/Juxtaposing Ideas/Creating Dissonance

In addition to capturing experience, another consideration must be the act of analyzing the experience. In my study, the genres of note-taking and coding were a means to create the texts that were juxtaposed during the reflection conversations. It seems as though it is necessary for both people to enter the reflective conversation space with initial ideas and evidence (in my case, from the video) because it is the juxtaposition of the different ideas which creates dissonance and spawns reflection. Coding, note-taking and writing are genres which seem to be conduits for gathering evidence, juxtaposing ideas, and creating dissonance. For example, when the pre-service teacher and university supervisor sit down to reflect on a field experience, they have gathered, using their respective judgment, evidence (in the form of coding) from the experience which supports or refutes an hypothesis about teaching and learning. The pre-service teacher shares her/his evidence by referring to her/his notes and explaining how she/he thinks the evidence is related to the hypothesis. The university supervisor listens. It is important that as the supervisor is listening she/he is exercising her/his judgment to determine if the evidence the pre-service teacher has deemed relevant is indeed related to the hypothesis. At the same time, the supervisor is looking at, reading her/his notes to see if she/he gathered evidence which could be juxtaposed with a piece of evidence the pre-service teacher cited in an attempt to create dissonance.

To further elaborate I will use the example of a reflection conversation which could have occurred between a former student of mine and myself during a teaching cycle. I write *could have* occurred because at the time of this teaching cycle I had not yet developed my current understandings about reflection, juxtaposition, and dialectic tension. However, given my current understandings, I imagine the following possibility. In this cycle, Jenny was testing the hypothesis 'If I facilitate a literate conversation then kindergarteners will be able to understand beyond the literal level of the text.' When she came to our conversation she referred to her coding notes and cited the evidence that the students were 'antsy' and that one student was shouting out answers as moments that refuted her hypothesis. As she was citing her evidence, I was reading my evidence and looking for a piece that could be used to juxtapose with her evidence. I found, in my notes, evidence that the students who were 'antsy' were asking thoughtful questions about the text and the student who was calling out answers was demonstrating thinking beyond the literal meaning of the text. In reality, I believe at this point I shared my evidence with her and stated my warranted assertability that kindergarteners are capable of considering the deeper meaning in text when they are engaged in a literate conversation. I did not present Jenny an opportunity to reflect, by using my coding to pose a question that would create dissonance.

But I wonder if our conversation could have continued like this: I then posed a question to Jenny 'What was the kid saying who was calling out?'. To which she responded that she did not remember. We revisited the video tape to listen. I asked, 'Given what he just said, what does that say about his understanding of the text?' To which she responded 'I guess that he really did understand a lot'. At this point in the conversation, two pieces of evidence (the student shouting out with what the student is saying) are juxtaposed. And yet I do not believe Jenny is

experiencing dissonance yet. So I ask, 'What does that make you think about student behavior and learning? In other words, does 'antsy' behavior and calling out mean learning isn't happening?'. 'I guess not' Jenny said. 'So when you are teaching, what do you think is important to pay attention to in order to determine if students are learning?' I asked. 'What they are saying?' she asks. 'Yes, I think so. Based on what these children were saying, do you think we have evidence which suggests kindergarteners can think beyond the literal meaning of text when they are engaged in a literate conversation?' I asked. Jenny replied 'I guess so, I guess I didn't see it like that'. 'OK so based on our evidence from the video and our conversation today, what do you understand about teaching and learning. What will you take away from this time together?' I asked. Jenny responded, 'As a teacher I need to pay close attention to what the students are saying and not be completely distracted by what their bodies are doing if I want to see if they are learning. And I guess kindergarteners can understand the text beyond a literal level if they are engaged in a literate conversation.' 'Those are important things to understand. Why don't you write them down.'

The above example appears glossy and squeaky clean to me. The questions seem to have created dissonance and Jenny seemed to be able to stay with the dissonance and create two warranted assertabilities about teaching and learning. However, I know from my practice, that this conversation would most likely not be so neat and clean. There would be many twists and turns in the conversation. And yet, I wonder, if, with further study and refinement of my practice, I will be able to facilitate reflection that resembles the above imagined interaction.

Indeed, I believe far more study within the field of teacher education is needed to understand how one goes about creating dissonance and dialectic tension in relation with pre-service teachers. By interpreting actual transcripts of conversations during which reflection did

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occur, I wonder if patterns of interactions could be noticed that seem to create dissonance and dialectic tension. In other words, I wonder if pedagogies of facilitating reflection could be created and understood through the careful examination of reflective conversations. If so, I think being able to name and describe pedagogies which seem to impel reflection all the way through to the formation of warranted assertabilities would be greatly beneficial to teacher educators.

The third hermeneutic window (*Writing: A Tool for Propelling Dana Into and Through Reflection*) also presented the possibility that knowledge transformation strategies (writing, tableaux, drawing, etc.) may be helpful in making more memorable the warranted assertabilities that are created as a result of reflecting with a knowledgeable other. In the above example of Jenny's teaching cycle, I wonder if a knowledge transformation strategy could make more memorable the two warranted assertabilities she created by reflecting:

As a teacher I need to pay close attention to what the students are saying and not be completely distracted by what their bodies are doing if I want to see if they are learning. And I guess kindergarteners can understand the text beyond a literal level if they are engaged in a literate conversation.

I wonder what could happen if she was asked to create a short skit with her peers which demonstrated one of these warranted assertabilities. Would the act of determining how to portray a group of students who were 'antsy' and calling out but at the same time demonstrating an understanding of the text make more memorable her warranted assertability? Would the process of 'acting it out' make more concrete her warranted assertability? Would these arts-based experiences transform her prior knowledge that students are not learning if they are 'antsy?'

I believe the thinking strategy 'knowledge transformation' is likely to be unfamiliar to many pre-service teachers. Therefore, this needs further exploration. How can pre-service

teachers engage with the warranted assertabilities we create during our reflective conversations? What types of prompts and or experiences might help them to do this? Who is the audience for such thinking, in other words what happens to the artifacts created from engaging with the texts (notes of the warranted assertabilities) made from reflective conversations with knowledgeable others? All of these questions seem worthy of inquiry.

Staying With Dissonance

In addition to having the experience captured in a way that can be referred to throughout the reflection process and using writing to create texts to be juxtaposed during the reflective process, it seems that both the pre-service teacher and the university supervisor need to have aligned understandings about the purposes of reflection. A reflective conversation is a genre with which many pre-service teachers and/or university supervisors are unfamiliar. Therefore, I think it is important to make explicit the purposes and audiences of this genre. The purpose of a reflective conversation is to develop understandings from experience about teaching and learning. It is to 'stay with' dissonance to create warranted assertabilities about teaching and learning. It is characterized by challenge and a certain level of discomfort. It is a space where wholeheartedness, openness, responsibility, and directness can find temporary places to be. It is a genre that needs intellectual stamina to enact. Dana recommended sharing some video segments of our reflective conversations with my future students. She thought others seeing her physical reaction to experiencing dissonance and then seeing how she 'stayed with' the dissonance would be helpful for them as they begin to practice this genre. I agree.

The Role of the Knowledgeable Other: Implications for Teacher Educators

Reflection as envisioned by Dewey is communal (Campbell, DaWaal, Hart, et al. 2008, p. 192)). And it is in the interaction with others that knowledge can be created. However,

reflection neither occurs with just *any* other, nor just within *any* interaction. I believe the two hermeneutic windows (1) *(Dis)positions: Tendencies Toward Temporary Places and (2) 'Staying With' Dissonance: The Roles Judgment and Knowledgeable Others Play in the Phases of Reflection,* provide a view of the knowledgeable other and the interactions which occur throughout the reflection process.

The first window framed (dis)positions differently. Although Dewey (1933) and Rodgers (2001) point to the primacy of dispositions (openness, wholeheartedness, directness, and responsibility) in relation to a person's ability to enact reflection, I view them now as tendencies toward temporary places. The relational view of (dis)positions I created presents possibilities for teacher educators to create spaces and moments in which pre-service teachers can enact these (dis)positions that may, over time develop into tendencies.

If this is a warranted assertability, then the teacher educator must know *how* to create spaces and moments for pre-service teachers to enact the dispositions of openness, wholeheartedness, directness, and responsibility. Given that pre-service teachers and teacher educators come from a myriad of backgrounds with varying degrees of experiences with these (dis)positions, the work would be highly contextualized and nuanced, much like teaching. So then, how can teacher educators learn about cultivating the above (dis)positions? Could reflecting with a knowledgeable other create warranted assertabilities about facilitating reflection? Could a teacher educator video her/his interactions with pre-service teachers as they are facilitating the reflection process and code for experiential evidence that supports or refutes an hypothesis about cultivating (dis)positions? Could a teacher educator then engage in a conversation with a knowledgeable other (one who already has developed warranted assertabilities about facilitating reflection) in order to create dialectic tension which would spawn

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reflection? Could the teacher educator develop warranted assertabilities about facilitating reflection by engaging in supported reflection?

Does the above described teaching cycle occur in teacher education institutions? How often and how skillfully do teacher educators reflect, with knowledgeable others, on their own practice in an effort to create warranted assertabilities about facilitating pre-service teacher reflection? Given recent calls for increased field experiences (NCATE, 2010), I think it is imperative that teacher educators develop their own pedagogies for facilitating reflection. I believe these pedagogies can be developed from reflecting on their own practice with a knowledgeable other and creating warranted assertabilities about the teaching and learning of pre-service teachers.

The second hermeneutic window shows dissonance to be present throughout the reflection process. It appears to be created by the juxtaposition of the pre-service teacher's interpretations of her/his experience and the knowledgeable other's interpretations. In this way, dissonance is not left to happen by chance but rather is created in relation with a knowledgeable other who uses her/his content knowledge and knowledge about reflection to create dialectic tension with a pre-service teacher. Staying with the dissonance created seems to play an important role in the reflection process.

Staying with dissonance throughout the reflection process requires facile and deep content knowledge. For example, when preparing for a reflection conversation with a pre-service teacher, the knowledgeable other has time to visit the video of the teaching and craft questions designed to maintain dissonance and push the pre-service teacher through the phases of reflection. However, during the actual interaction, the pre-service teacher may present, through her/his own coding and judgment of the experience, significant misunderstandings. A

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knowledgeable other must be able to immediately draw from her/his content knowledge to pose a question, provide an anecdote which may maintain dissonance and propel reflection. This is not easy. I believe it is a necessity for the knowledgeable other to have facile and deep content (literacy, math, social studies, science, etc.) knowledge if they are to successfully guide the reflection process to the end of creating a warranted assertability.

Therefore, I believe it is important that the teacher educator who is responsible for 'supervising' field experiences be a person who has deep and facile content knowledge. This idea runs counter to how many teacher education programs view supervision. The role of university supervisor is often given to graduate assistants who may or may not have deep and facile knowledge of content. Moreover, supervision is often operationalized in general terms. For example, a university supervisor is responsible for all of the pre-service teacher's field experiences. Typically, the university supervisor is expected to be able to observe any lesson (literacy, math, science, etc.) and be able to facilitate the reflection of the experience. I do not believe any one person has the content knowledge in all of these areas to skillfully interact throughout the reflection process. Could supervision be re-imagined as content specific? Could a teacher educator who is a content expert be responsible for the supervision of field experiences that relate to that content? For example, a pre-service teacher would interact with a Literacy Content Coach as she/he reflects on a literacy experience, a Math Content Coach as she/he reflects on a math experience, etc.

However, as demonstrated above, it is not enough to have content knowledge, the knowledgeable other must also have developed pedagogies of facilitating reflection. I believe engaging in reflection with knowledgeable others themselves could help develop these pedagogies. All of this takes time. Time and money. It is unreasonable to think that a university

supervisor can prepare for and skillfully facilitate one on one reflection with large numbers of pre-service teachers. Therefore, consideration must be giving to teaching loads and assignments which ultimately impact budgets and personnel decisions. I know this is a common refrain: 'It all comes down to money'. But I believe it rings true in teacher education. There can be calls for improved teacher education and increased quantity and quality of field experiences but in my opinion, those calls are hollow and aimless without serious consideration of increased funding and budgets. Yet, I believe all is not hopeless. I believe individual teacher educators in specific contexts can have a positive impact on the education of a relatively small number of pre-service teachers. If money is not available, then I need to consider how facilitating reflection could be enacted within the current institutional structures.

In my own practice, I have found it challenging but possible to engage in three teaching cycles a semester with six to seven pre-service teachers while teaching one content course. I am currently attempting to engage in one teaching cycle this semester with each of 32 students as I am teaching one content course. Engaging in this teaching cycle is proving to be quite difficult. I have scheduled 32 pre-conferences each lasting 45 minutes to provide support as each pre-service teacher plans a literate conversation lesson they will facilitate with K-12 students. This will take 24 total hours. I am anticipating technical issues as 32 pre-service teachers attempt to upload the video of their teaching to my external hard drive in the time frame of two weeks. I will then view each video (likely 16 hours worth) and code them. I will then need to schedule 32 post-conferences (24 hours total) in order to engage in reflection with each pre-service teacher. These hours and this effort will not be monetarily reimbursed. And I am unsure about my ability to facilitate reflection and cultivate (dis)positions with 32 pre-service teachers who I do not know that well. I will see. I am keeping a journal throughout this process and I will write more

thoroughly about the possibilities and limitations of facilitating reflection under current

institutional structures.

And so I wonder, is it possible for each teacher educator who is teaching a content course

to pre-service teachers to engage in one teaching cycle per semester? The pre-service teachers

would then engage in three to four content specific teaching cycles per semester. Could teacher

education institutions include, as part of teacher educator work loads, reflective teaching cycles

in which teacher educators examine their own practice in facilitating reflection with a

knowledgable other? Could the expertise of graduate assistants be more carefully matched with

teaching assignments and 'supervision' roles? I believe all of the above questions warrant

considerable thought if teacher education institutions are going to attempt to answer the call of

increased quantity and quality of field experiences.

It is obvious here that I am focusing on the university supervisor as knowledgeable other

in the reflection process. Absent from my writing so far is mention of the classroom teacher who

could conceivably serve as a knowledgeable other to the pre-service teacher. This absence is

intentional. It is beyond the scope of this dissertation to carefully write about some of the

challenges which I have experienced while working in elementary schools both as a Reading

Coach and university supervisor. However, I will mention briefly that significant challenges and

possibilities exist. For example, I believe there is a reason for the calls of reform in K-12

education. Based on my considerable experiences observing in-service teachers in many different

contexts and talking with in-service teachers about literacy instruction, I believe there is limited

understanding about teaching and learning within the current teaching workforce. The prior

sentence is difficult to write. I wish this was not the case but I believe it is. Perhaps, many of the

current inservice teachers I have worked with are not at fault for their limited understandings

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about teaching and learning. Perhaps their teacher education experiences did not provide them opportunities to reflect and create warranted assertabilities about teaching and learning. Perhaps the current high-stakes testing and accountability environment has limited their ability to learn from their teaching experiences by reflecting with a knowledgeable other. Whatever the reasons, it becomes problematic when pre-service teachers are spending considerable amounts of time watching and listening to in-service teachers who may have limited content knowledge. It becomes problematic to ask in-service teachers to be the knowledgeable others to pre-service teachers and facilitate the reflection process. It seems problematic and unfair to both the in-service teacher and the pre-service teacher. To me, the above line of thinking moves directly toward the field of professional development with in-service teachers. And this *is* beyond the scope of this dissertation. But one can imagine that the Teaching Cycles described in this dissertation could present a possibility for in-service teachers to reflect on their own practice and create warranted assertabilities about teaching and learning. And in so doing become knowledgeable about literacy content over time. Until then, however, I believe it is critical that current pre-service teachers are afforded the conditions which seem necessary for reflection to occur, one of which is being in relation with a knowledgeable other who has both deep and facile content knowledge and warranted pedagogies for facilitating reflection.

Fusion of Horizons: A Heuristic for Facilitating Reflection

Within this dissertation is a double hermeneutic. What makes hermeneutic phenomenology an organic fit for an inquiry into the phenomenon of reflection is that it itself is a reflective methodology. My engagement with this phenomenon, my reflective work on bringing to the fore my presuppositions, my staying with the tension created in the hermeneutic circle, my fusion of horizons, all mirror in a way reflection for pre-service teachers. The pre-service

teachers with whom I work are asked to engage with the phenomenon of teaching and learning. They are asked to do reflective work to bring to the fore their presuppositions about teaching and learning. They are asked to 'stay with' the tension created in the hermeneutic circle. They are asked to play with parts (individual teaching moments) and whole (teaching and learning) to create new understandings about the phenomenon of teaching and learning. And so, it seems a double hermeneutic was created. Two phenomena, reflection and teaching and learning, intricately related to one another came into contact with each other through the methodology of hermeneutic phenomenology.

A phenomenon as ubiquitous as reflection is in teacher education, needed to be engaged with a methodology that "sets free what is hidden from view by layers of tradition, prejudice, and even conscious evasion (Slattery, Krasny, & O'Malley, 2007). I believe my hermeneutic engagement with Dana's experience of reflection has resulted in new understandings about reflection. I understand the possibilities/limitations that being in relation with a knowledgeable other has on creating spaces for (dis)positions conducive to reflection to be enacted. I understand differently, the possibilities/limitations of writing as a tool to propel one into reflection, to keep one engaged through reflection, and to make more memorable the warranted assertabilities after reflection.

These insights have caused me to think about reflection differently. As such, I think it is useful for a new metaphor for reflection in teacher education. Maybe reflecting on field experiences can be seen as a fusion of horizons. Fusion of horizons is a phrase used to describe the occurrence of understanding that expands one's current presuppositions of a phenomenon. Gadamer (1997, p. 302) writes,

to have an horizon" means not being limited to what is nearby, but to being

able to see beyond it...[W]orking out of the hermeneutical situation means the

achievement of the right horizon of inquiry for the questions evoked by the

encounter with tradition.

The concept, 'fusion of horizons' acknowledges each person's (pre-service teacher,

university supervisor) individual horizon at the beginning of their relationship. It makes less

problematic the idea of apprenticeship of observation (Lortie, 1975). Both people at the

beginning of the inquiry (reflection on field experiences) set their horizons. They discuss what it

means to be not limited to what is nearby but rather to be imaginative and set one's goals as

creating possibilities. The setting of horizons could open the possibility for understanding

teaching and learning anew. It could certainly attend to the findings I presented in the first

hermeneutic window (aligning motives with the purposes of reflection). Through conversation

around common texts (video of field experiences, notes, coding of video) dialectic tension could

be created by the juxtaposition of each person's judgment. That tension could possibly result in a

fusion of horizons. An experience in which both people's understandings about teaching and

learning have been expanded. Those understandings could be explored through knowledge

transformation strategies so that the result of reflection, of a fusion of horizons, really does

impact future overt actions.

I believe the metaphor of fusion of horizons presents a possibility for breaking the bounds

of tradition which seems to keep teaching and learning in the category of technical rationality.

This metaphor allows us to use tradition as well as imagination to set our horizons, to create

dialectic tension, to expand our understandings about teaching and learning and so to teach and

learn differently.

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Appendix A

Levels of Reflection

Van Manen (1977)	Deliberative Rationality technical- "technical application of educational knowledge" p.226
	practical-"analyzing and clarifying individual and cultural experiences" p. 226.
	critical- "worth of knowledge and to the nature of the social conditions necessary for raising the question of worthwhileness" p. 227
Kitchner & King (1981)	*Stage 1*:"beliefs simply exist; they are not derived and need not be explained" p.93
	Stage 2: "beliefs either exist or are based on the absolute knowledge of a legitimate authority" p.93
	Stage 3: "beliefs either exist or are based on an accumulation of evidence that leads to absolute knowledge" p.95
	Stage 4: "beliefs are justified with idiosyncratic knowledge claims" p.96
	Stage 5: "beliefs are justified with appropriate decision rules for a particular perspective or context" p.97
	Stage 6: "beliefs are justified for a particular issue by using generalized rules of evidence and inquiry" p.98
	Stage 7: "beliefs reflect solutions that can be justified as most reasonable using generalized rules of inquiry and evaluation" p. 100.

Zeichner & Liston (1987)	Factual Discourse · descriptive · informational · hermeneutic · explanatory/Hypothetical Prudential Discourse · instruction · advice/opinion · evaluation · support Justificatory Discourse · pragmatic · intrinsic · extrinsic Critical Discourse · pragmatic · intrinsic · extrinsic · hidden curriculum
Sparks-Langer, Simmons, Pasch, Colton & Starko (1990)	· No descriptive language · Simple, layperson description · Events labeled with appropriate terms · Explanation with tradition or personal preference given as rationale · Explanation with principle of theory given as rationale · Explanation with principle. theory and consideration of context factors · Explanation with consideration of ethical, moral, political issues
Ellwein, Graue & Comfort (1990)	Self-referencing Ego-enhancing Self-effacing

Appendix A (continued)

Mezirow (1991)	Content Reflection
	    · reflection on what we perceive, think, feel or act upon (p.107)
	    Process Reflection
	    · examination of how one performs the functions of perceiving, thinking, feeling, acting and an assessment of the efficacy of them (p.107-108)
	    Premise Reflection
	    · becoming aware of why we perceive, think, feel or act as we do (p.108)

Hatton & Smith (1995)	Descriptive writing Descriptive reflection Dialogic reflection Critical reflection
Bain (1999)	Reporting Responding Relating Reasoning Reconstructing
Kember (1999)	Non-reflective –Habitual Action Non-reflective-Introspection/ thoughtful action Reflective-Content/process Reflective- Premise

Bean & Stevens (2002)	Categories Found
	    · Text References
	    · Personal Beliefs
	    · Individual Pedagogical Decisions

Basile, Olson, Flo & Nathenson-MejLa (2003)	Micro-reflection Self-reflection Macro-reflection

Appendix A (continued)

Ward & McCotter (2004)	Routine Technical Dialogic Critical
Ottesen (2007)	Reflection as Induction · the 'how's of teaching Reflection as Concept Development Reflection as Imagined Practice
Husu, Toom & Patrikainen, (2008)	Habituation Introspection Association Integration Validation Appropriation Transformation
Larrivee (2008)	Pre-Reflection Surface Reflection Pedagogical Reflection Critical Reflection
Lundeberg, Cooper, Fritzen & Terpestra (2008)	Focus on Self-Management Focus on Self- Instruction Focus on Children-Management Focus on Children-Instruction Student Achievement Teacher Move-Listening Teacher Move-Probing
Nagle (2009)	Factual Procedural Justificatory Critical

Appendix B

Summary of Empirical Studies

Reflection as Non-Communal Activity

Writing as Medium of Reflection
Memory or Video Stimulated

Dialogic Interaction as Medium of
Reflection
Memory or Video Stimulated

Without
Support

free topic
journal
entries

With Support

prompts
guiding
questions
video

Asynchronous
Environments
(blogs, bulletin
boards, email)

Synchronous
Environments

Writing
as
medium
of for
dialogue
with
peers

Writing as
medium of
dialogue
with peers
and
instructors

Conversation
with
peers/univers
ity
supervisors
as medium of
reflection

Appendix B (continued)

	Methodology/ Participants	Medium of Text	Medium of Reflection	Findings	Thoughts/questions
Anderson & Matkin, 2011	10 PST's descriptive statistics provided scaffolding prompts to write to different questions for whether they were teaching or they were observing leveled reflection using Kember's 4 levels	observing classroom teacher and memory of own teaching experience	required weekly blogs required to respond to a least one entry of a peer	39% non reflection 61% reflection or critical reflection 3.7% critical reflection entires about own teaching were higher than those about observing the classroom teacher low level of interactivity averaging less than one comment per week	According to Dewey's writing a person would think more deeply about their own experience. How did these pre-service teachers select the parts of their experience they wrote about? Did they have the judgment to discern pertinent aspects of their experience? How can pre-service teachers create dialectic tension when responding to eachothers entires?

Appendix B (continued)

	Methodology/ Participants	Medium of Text	Medium of Reflection	Findings	Thoughts/questions
Canandra, Brantley-Dias, & Fox, 2009	Modified Case study deductive analysis	video of field experience	critical incident paper	Video editing enhances reflection when compared with non-video editing	How did the pre-service teachers judge the important aspects to focus on in their video?
Chamoso & Ca'ceres, 2009	33 Pst's	variety: field experience coursewor k	Portfolio	62% of the PST's wrote only descriptions 50% of the time the activity that inspired the greatest amount of reflection were those in which the PST felt personally involved	The finding that PST's experience inspired the greatest amount of reflection is aligned with Dewey's writing about experience.

Appendix B (continued)

	Methodology/ Participants	Medium of Text	Medium of Reflection	Findings	Thoughts/questions
Chitpin, 2006		memory of field experiences	required journal entries	when pre-service teachers are taught the Popperian method of reflection they produce journal entries which demonstrate a high level of reflection	What role did judgment play here?
Chitpin, Simon, & Galipeau, 2008	24 PSTs testing to see how PST's use the objective knowledge framework for reflection	memory of field experience	written description of the objective knowledge framework cycles	24/27 PST's focused of management issues use quick strategies rather than theories to guide their problem solving	Does a focus on a particular topic (management) preclude reflection? Could one create a warranted assertability about management from experience and reflective thought?

Appendix B (continued)

	Methodology/ Participants	Medium of Text	Medium of Reflection	Findings	Thoughts/questions
Cohen-Sayag & Fischl, 2012	qualitative content analysis and a priori levels: descriptive, comparative, critical quantitative ANOVA 24 special education pre-service teachers	memory of field experience	required structured monthly reflection journal entries some feedback from supervisor but not a dialogue	mostly low level (descriptive) reflection focus on classroom management levels of reflection improved over the year even when levels of reflection improved their teaching quality did not improve except in cases where the critical level was achieved	What about judgment? Is it 'good enough' that their teaching did not improve? Must we then strive for critical reflection or as I think walking away with a warranted assertability?

Appendix B (continued)

Dawson, 2006	PSTs over 4 years:first 2 years journals last 2 years inquiry projects	memory of field experience	journals and inquiry projects with assistance from collaborating teacher and university supervisor	journal entries exhibited mostly low levels of reflection centered around logistics...PSTs struggles to put learning objectives at the forefront of their planning...did not reflect on the impact on student learning inquiry projects...all but 2 focused on student learning	It makes sense that the guided inquiry resulted in greater reflection than writing in isolation because of knowledgeable others. Without creating warranted assertabilites about student learning, is this helpful?
Delandshire & Arens, 2003	3 teacher ed programs	memory of field experiences	portfolio entries	Reflections in portfolios were actually brief summaries	There was no dialectic tension present.

Appendix B (continued)

El-Dib, 2007	50 randomly selected action research projects trying to test the validity of the tool he created to level reflection in action research projects analyzed reflective units in the PST's writing in each stage of action research :planning	memory of field experiences	action research	planning: 86% of the students were at the low to low medium levels acting: 73% were at the low or low medium levels reviewing: 59% were at the low-medium low levels overall 95% of participants showed low to low-medium levels of reflection action research done in isolation does not seem to promote reflection	How might a knowledgeable other supported throughout this process?

Genor, 2005	7 PST's bi-monthly study group meetings about field experiences	memory field experience	study group discussion with peers	most conversations were un-problematized reflection very few problematized reflection examples	How might a knowledgeable other help to problematize the PSTs experience? Does this amount to creating dissonance with the pre-service teacher?
Giovannelli, 2003	55 PST's quantitative	N/A	N/A	reflective dispositions are correlated with effective teaching	
Griffin, 2003	N=135 entries from 28 participants deductive analysis	memory of field experience	critical incident paper	87% of incidents we written at the lower two levels	No dialectic tension when writing in isolation
Hamlin, 2004	comparison study	memory of field experience	structured critical incident papers	Participants write about the ethical and political consequences of education using structured paper not high levels in free topic situation	Could this be merely writing to the prompt rather than engaging in the reflective process?

Appendix B (continued)

Harford & MacRuairc, 2008	PST's evaluated the practice of their peers 1 played a 10 minute video chunk and the facilitator facilitated the conversation about the clip with peers 10 PST's	self selected 10 minute video clip of their own teaching field experience	discussion with peers and a facilitator	reflections deepened over time starting with peers commenting on the positive aspects of the video with the aide of facilitator prompts ...led to more critical analysis	The presence of a knowledgeable other faciltated the reflection process. Did the PST's leave with warranted assertabilities about teaching and learning?
Harland & Wondra, 2011	comparative study on depth of reflection on end of semester papers vs. blogs used modified Kembers typology to level reflection (non-reflective, understanding, reflection, levels, critical descriptive statistics 67 PSTs	memory of field experiences	paper-structured by prompts or blog -no structure	Paper: 16.7% no reflection 75% understanding 8.3% reflection 0% critical reflection Bogs: 7% nonreflection 62.8% understanding 30.2% reflection 0% critical blog entries were shorter than the paper reflections	Maybe some interaction is helpful with peers but we are still not engaging in reflection that results in warranted assertabilites that can be used to inform future action.

Appendix B (continued)

Hobbs, 2007	Ethnography 12 PST's	memory of field experience	journals	Inauthentic reflection, negative attitudes towards journals	Are pre-service teachers able to reflect in isolation but just choose not to?
Husu, Toom, & Patrikainen, 2008	Mixed Methods 8 PST's	video of field experience	conversation	Video stimulated discussions resulted in low levels of reflection but meet the needs of preservice teachers	Is it enough to 'meet the needs' of the pre-service teacher? At what point does thinking about their field experiences result in warranted assertabilities about teaching and learning?

Appendix B (continued)

Khourey-Bowers (2005)	guiding question provided each week by instructor analyzed threads using Pathwise levels of reflection 22 middle childhood PST's	field experience observing classroom teacher	required/graded on-line dialogues with peers and instructor	dialogic interaction with peers and moderate support from instructor in the form of questions resulted in reflective threads	What about judgement? I have a problem with the leveling system...a satisfactory is characterized by the PST being able to note the strengths and weaknesses of an experience in relation to learning goals-is noting the strength or weakness of a particular lesson reflecting?
Liakopoulou, 2012	content analysis a priori- forms of reflection: technocratic, interpretive, critical 68 secondary pre-service teachers	field experience and micr-teaching experience	reflection reports	most reflected in the technocratic form most did not receive feedback from supervisors well	Was any of it reflection? They wrote what they did and why it does not seem that any new understanding of teaching and learning came about.

Appendix B (continued)

Nagle, 2009	descriptive statistics	memory of field experience	portfolio	Due to specific topics for entries the portfolio hinders opportunities for critical reflection	What role did dissonance play?
Ng & Tan, ?	21 post graduate pre-service teachers

qualitative thematic content analysis | field experience | asynchronous online discussion with peers about ill-structured problems encountered during field experiences | 24% articulated the problem space 77% relied on person experience the "worked for them" 16% consider alternative solutions 0% implemented and monitored the solution | It seems that judgement and background knowledge of teaching is needed for problem setting. |
| Otienoh, 2010 | phenomenology | memory of field experience | journals | Feedback on reflective journals is perceived as negative | What do PST's think the purpose of reflection is? |

Appendix B (continued)

Orland-Barak, 2005		memory of field experience	journal entries	preservice teachers tend to show themselves in a positive light	Isn't this human nature? How do we make explicit the purposes of reflection for PST's?
Orland-Barak & Yinon, 2007	14 PST's methods course on discourse in the classroom grounded theory procedures present three exemplary cases	field experience transcription of a lesson	respond to guiding questions in writing...end of year paper	the meetings between theory and practice are idiosyncratic although each made connections they did so in different ways : children's learning, practical issues, grounded understanding of theory and practice pre-service teachers can reflect beyond survival skills, articulate multiple concerns about their practice, and think about them in an integrative manner	What about judgement? Is 3 out of 14 PSTs enough? Does one time doing this help to develop dispositions of reflection??

				examining their own teaching induced reflection	
Orland-Barak & Rachamim, 2009	Action Research 1 PST and mentor	video of field experience and mentoring conversation	conversation	Video combined with a mentoring model enhances reflection of mentor	
Rhine & Bryant, 2007	deductive analysis	video of field experience	discussion board	Video stimulated peer online discussions resulted in low levels of reflection but met the preservice teachers' needs peers provide support and positive feedback	Does this meet the needs of the elementary student?
Samuel & Betts, 2007		memory of field experience	required journal entries	levels of reflection get higher over the course of one academic year	Or do the PSTs get better at writing what the professor wants to hear?

Appendix B (continued)

Santagata & Angelici, 2010	comparative analysis of variance between LAF and the TRF 38 pre-service teachers	video of others teaching mathe-matics	Lesson analysis framework to answer reflective questions	participants in the LAF group improved their ability to analyze over time considered more alternative instructional strategies become more critical over time both groups did not change their ratings for effectiveness of lessons over time.	What about reflection coming from one's own experience?
Seban, 2009	271 entries from 24 participants inductive analysis descriptive stats	memory of field experience	reflective paper	Little evidence of critical thought	Can writing in isolation create dialectic tension? How can new understandings be formed when writing in isolation?

Appendix B (continued)

Sewall, 2008	8 secondary preservice teachers each PST engaged in one traditional post conference and one video elicited post conference 15 minute videos supervisor watching the video at the same time with the PST content analysis of conversations	memory of field experience and video of field experience	dialogue with supervisor	the video elicited reflection resulted in more reflective comments by the PST the traditional post conferences showed more reflective statements from the supervisor PST's say they like both modes	If the supervisor is watching the video for the first time how is she attending to balance (too new/too old)? What does this do to the quality of the conversation? Does the video enhance the quality of the conversation or is it just there?
Sharma, Phillion, & Malewski, 2011	49 PST's 5 week study abroad qualitative thematic analysis	memory of experience	journal entries	PST's changed their beliefs about Honduras and the people there	So maybe study abroad is just right...not too old and not too new to create an authentic experience of dissonance?

Appendix B (continued)

				6 themes: pre-conceived notions, identified experiences that create conflict between self and other, interpret the experience to connect to broader construction of meaning, examine one's own belief, transformation of beliefs, recognition that perceptions must undergo constant transformation critical reflection can transform and develop multicultural competencies in PST's	

Appendix B (continued)

Shoffner, 2009	9 PST's inductive analysis	memory of field experience	blogs	Reflective practice can benefit from use of technology	Reports positive findings but is it really positive for anyone to comment and give their opinion?
Tsang, 2003	case study	memory of field experiences	journal entries	Levels of reflection increased over 1 year period	Or did the PSTs get better at writing what the professor wanted to hear? Did any of this result in warranted assertabilities?
Ottesen, 2007	case study 4 PST's	memory of field experience	conversation	3 modes of reflection: reflection as induction, concept development, imagined practice- mostly low levels of reflection but meet the needs of preservice teachers	But does it meet the needs of the elementary student?

Appendix B (continued)

Rideout & Koot, 2009	comparative study of two programs P1-369, P2 27 one taking questionnaires quantitative	N/A	N/A	reflective, humanistic approaches to teacher ed results in humanistic, student centered beliefs in pre-service teachers reflective practices included: written journals, research assignments, practicum supervision to make theory to practice connections, ample time in the field, embracing cognitive dissonance,meaningful collaboration in triads (PST, collaborating teacher, and university faculty, peer collaboration)	What are the pedagogies of facilitating reflection with PSTs?

Rosaen, Lundenburg, Cooper, Fritzen, & Terpstra, 2008	Case study3 PST's	video of field experience	written reflections	Engaging in video editing enhances reflection more than relying on memory	What role did judgment play here?
Rocco, 2010	?	memory of field experience	critical letters on-line discussion board	Use of discussion board engages students with one another to imagine future possibilities	Are possibilities warranted?
Rodman, 2010	120 PST's over 6 sections of a theory course with a field component at the end of 80 hour field experience were asked to respond to reflective questions grounded theory	memory of field experience	written responses to questions	content focused on : learner characteristics , classroom management. teaching strategies reflections moved from teacher centered to student centered focused on organization and applying specific strategies	What did they learn? What do they now understand about teaching and learning?

Singer & Zeni, 2004	61 PST's action research	memory of field experience	Listserv	retell frustrations and give each other advice	Do PST's have the content knowledge to give advice about teaching and learning?
Stegman, 2007	Case Study6 PST's	memory of field experience	conversation	Preserv ice teachers engage in low levels of reflection	Could they do more if the knowledgeable other created dialogic tension?
Whipp, 2003	deductive analysis	memory of field experience	email	Levels of reflection evidenced by emails increased when scaffolding was provided	This makes sense. What role did judgment play when the PSTs relied on self-selected aspects of their experience?
Wunder, 2003	21 PST's deductive	Memory of field experience	written essays	Participants displayed 3 levels of reflection: management, student involvement, purposes. Participants displayed the two lower levels most	Is reflection topic specific? Could one reflect and create a warranted assertabilty about management and its relation to student learning?

Appendix B (continued)

| Yesilbursa, 2011 | 28 PST'S enrolled in a methods class then the following year in a field based setting thematic analysis using a priori self generated rubric mixed methods | video of them in a micro-teaching situation (a 40 min lesson teaching their peers) | written journal entry | 28.64% were negative reflections 27.81% were positive reflections 19.87% neutral description 13.15% reflection on reasons 6.58% reflection on solutions

on what do they reflect 67.45% on themselves as teachers 17.68% the actions of the students and their teaching partners 9.86% the task they were involved in 5.01% their past and future experiences | Is teaching peers the same as K12 students?

What warranted assertabilities could be created about teaching one's peers and do those warranted assertabilties work in experiences with K12 students? |

Appendix C

Locating Dissonance, Judgment, Knowledgeable Others, and Dialectic Tension

Author, Date	Dissonance	Judgment	Knowledge-able Others	Dialectic Tension
Husu et al., 2008	"the focus of the reflective discussion is the critical incident that the teacher has chosen from among other incidents in the video-taped lesson" (p. 41)	"the teacher has chosen from among other incidents in the video-taped lesson" (p. 41)	"Reflection needs to happen in interaction with other people. This is crucial because expressing one's ideas or thoughts to others with sufficient clarity for them to understand, reveals both the strengths and weaknesses in one's thinking" (p.38)	"reflective discussions...the aim here is to consider its meanings in a wider context, and explore the possibilities for changing the teacher's actions" (p.41)

Appendix C (continued)

Author, Date	Dissonance	Judgment	Knowledge-able Others	Dialectic Tension
Rhine & Bryant, 2007	unclear	"depending on the lesson and teaching segment pre-service teachers selected to share" (p.351)	"the digital video assignment provided a means for pre-service teachers to solicit and offer support and positive feedback" (p. 351)	"discussion among their peers helped our pre-service teachers gain the kind of immediate and specific nurturing that was an essential part of developing their confidence" (p.351)
Rosaen et al., 2008	unclear	"interns explained their reasoning for selecting particular video excerpts" (p. 350)	"the reflections based on memory were typically written in paragraph form where interns described what happened, shared impressions, and made comments about what stood out to them in the lesson" (p.351)	"the reflections based on memory were typically written in paragraph form where interns described what happened, shared impressions, and made comments about what stood out to them in the lesson" (p.351)

Appendix C (continued)

Author, Date	Dissonance	Judgment	Knowledge-able Others	Dialectic Tension
Shoffner, 2009	unclear	"Each preservice teacher determined the content and frequency of weblog postings" (p.148) "anyone who has an internet connections can just come on in and agree with you or disagree, give you advice (p.156)	"comment on fellow preservice teachers' weblogs" (p.148)	"you can get other people's feedback" (p.156)

Appendix D: Graphic Organizer of Created Patterns

Reflection as Non-Communal Activity	Reflection as Communal Activity

Writing as Medium of Reflection	Dialogic Interaction as Medium of Reflection Memory or Video Stimulated

	Asynchronous Environments (blogs, bulletin boards,	Synchronous | Environments

Without Support free topic	With Support prompts		Writing as medium of for dialogue with peers		Writing as medium of dialogue with peers

		Conversation with peers as medium of reflection		Conversation with peers as medium of reflection

Appendix E: Data Creation Timeline

Time	Primary Sources	Secondary Sources
Fall 2012, Spring 2013		Six videos of Dana and I engaging in teaching cycles These videos represent where reflection occurred between her and I We used one of these videos to guide our third conversation
February 2013	First conversation with Dana about her experience of reflection	
February 2013-April 2013	Analysis of first conversation	
April 2013	Testing of initial themes/ideas with Dana Second conversation with Dana about reflection	
April 2013 -May 2013	Analysis of second conversation	
May 2013	Testing of initial themes/ideas from second conversation and revisiting ideas from first conversation Third conversation with Dana about reflection	
July 2013	Brief conversation about final themes	

Appendix F: Post-Conference Video Viewing Log

Video Segment	Description	Interpretation	Question
4:51	hypothesis she appears confused	not if/then format more of a casual experience	How role did the hypothesis play in your thinking?
6:11	Dana describing lesson did a good job she appears confident and in a telling mode rathe than a making meaning mode	comfortable	How would you describe your comfort level right now?
7:04	reading from notes in a list form matter of factly..like a check list	8 pillars not much help in viewing video but yes in planning look for engagement first is the child making progress mark what you don't like about your teaching and how you can fix it	What role did the 8 pillars play when you were coding your video?
8:22	I am going on and on clarifying a providing the rationale Dana is staring at me and nodding her head she is taking some notes	good thing like to hear..	What is this like for you?

Video Segment	Description	Interpretation	Question
8:58		teaching me how to talk about these things	
10:41	I create dissonance Dana's face turning red	Dana felt uncomfortable because of the consequences for the children in the moment " I can't believe I did that to the children	What does this feel like? What is your comfort level here?
13:00	create dissonance about level of text Dana staying with the dissonance by explaining	I was uncomfortable slightly.....what you thought was a good lesson now im im changing my mind stay with ...know my motive and her goal	Why do you think you don't shut down- you ask me questions, you agree or disagree with me, etc.
18:09ish	you leap to another thought by yourself of dissonance and thought it ..this idea was already coded by Dana	N/A	

Appendix G: Initial Phrases, Clusters, Themes

Initial Phrases	Clusters	Themes
Conversation 1		
I have grown	the ability to reflect is inherent	role of knowledgeable other in reflection: challenge, respect, bounce ideas off of
when I first started I thought...and now I can't believe I thought that	things that have developed her ability to reflect	the ability to reflect was developed
I am one of those people	reflecting alone: what, how, the impetus for reflecting	dispositions matter
I think a lot about my teaching then (at work)	watching video of her teaching	dissonance is experienced throughout the reflection process not only as an impetus
how I would change instruction	teaching cycles: what, how, effects of	writing plays a role in being in the moment when observing others teach and when in conferences
I think about myself when I was in elementary school	reflecting with peers: what. when, characteristics of, impetus for	reflecting alone is operationalized as problem-solving
I feel like I am having a lot of trouble	effects of reflection...outcomes	interaction with others is essential to create tension (challenge) thinking deeply with another

Initial Phrases	Clusters	Themes
I think I do more in the moment	disposition	dissonance feels bad because she feels responsible for the children's learning
problems...causes me to start thinking	difficulty	understanding the motive of the person you are reflecting with affects how open she is
being in the moment [how she notices problems]	what reflection feels like when it is done	having firm beliefs about something and experiencing or seeing the opposite creates dissonance
reflecting in the moment is like double thinking	reflecting with others [not me or peers]	beliefs about teaching come from trying things out to see if they work
like big ideas	interaction with others [what its like]	reflecting with peers is different from reflecting with knowledgeable others
I have a list of things I will do	dissonance	
think about specific things I do throughout the day	Challenge	
[watching video} different than in the moment of teaching	role of writing	
[in the moment] I'm thinking about...concepts they need to understand	beliefs and their relationship to challenge	
[watching video] I think about what I say	motives	
think about different ways I could do it		

Appendix G (continued)

Initial Phrases	Clusters	Themes
this is really hard		
some people just find the benefits of reflecting		
I have benefitted from reflecting		
went through a really hardship...I changed a lot it was due to reflecting		
to create change		
I want change		
you want ideas [describing the relationship with ct's]		
when I reflect alone I am planning for next time...literally next time		
reflect with you I think about my general teaching perspective		
it has more to do with who I am a as a person		
more literal when I am thinking alone		
with you I am thinking about my teaching philosophy		
deeper reflection on my teaching [reflecting with me]		

Initial Phrases	Clusters	Themes
I use that to influence my literal each little thing		
something that you just do are		
it felt really good to figure that out		
something that is like intrinsic		
feel like you accomplished something		
it is hard for us because these is so much going on		
a beginning of an idea may be formed		
tiny little bits of sparks		
you helped me ///guided me		
it is hard for me...it is hard for me to respect their ideas [knowledgeable other]		
we just talk about what went on [talking with peers]		
what strategies we can try		
why these kids are at a first grade level		

Initial Phrases	Clusters	Themes
why do they hate adults		
we have a really close relationship [peer]		
we have a lot of the same ideals		
easy for me to talk		
I don't have concrete beliefs of my own [the difference of talking with those big things with Tiffany]		
I don't have any idea about any of it		
I expect to be challenged [teaching cycles]		
my beliefs to be challenged		
me to think critically about my beliefs		
sharing ideas throwing stuff out there [peers]		
don't expect a deeper level of challenge [peers]		
if you don't have somebody to think critically with then you can't grow		
you don't have anything to be your rock		

Appendix G (continued)

Initial Phrases	Clusters	Themes
just not deep thinkers		
haven't found the right person to be a deep thinker with		
I feel safe		
my education was far better than what my peers have had		
I have really connected		
I have been able to grow		
I have experienced deep thinking		
I feel comfortable [teaching cycles]		
I feel excited		
I get excited		
you respect my ideas		
as a deep thinker you get deeper		
I can have a deep conversation with you no problem		
I am not a worrier		
it has to do with what I went through		

Appendix G (continued)

Conversation 2		
Initial Phrases	**Clusters**	**Themes**
like a snowball effect		
I got a little taste of it		
with those two people		
I took that		
I really liked that feeling		
I tried to have it with other people		
if I could get there it kept snowballing		
I could get there even more		
I enjoyed that feeling		
I learned from it		
I could get there with more people		
feel like it was a worthy way to spend time		
I just experienced it		
I enjoyed it		
I kept doing it		
more reflective with time		
in different ways		
for different reasons		

Initial Phrases	Clusters	Themes
different purposes		
something that could be taught		
something that could be developed		
maybe it can't be taught		
if you have those kinds of experiences		
you watch other people have those kinds of experiences		
if you feel you want to have those kinds of experiences		
you might try to get there too		
I used to reflect on more philosophical things like life		
especially when i was sick		
I was always thinking about death		
that was more just me on my own		
I still keep in touch with those two humans that i think deeply with		

Initial Phrases	Clusters	Themes
we have all of these conversations		
the ones we have recently are all about teaching		
they are like teachers		
they can relate to that kind of reflection		
one was a high school teacher		
the other my 5th grade teacher		
I take that back my fifth grade teacher I wouldn't say we think deeply together		
she is a surgeon		
my youth group leader in highschool		
she is the deepest		
she was a philosophy major		
she will just challenge to no end		
especially with ethics		
I am very passionate about assisted suicide		
she is a surgeon		

Initial Phrases	Clusters	Themes
we always have intense conversations		
I saw him once in this state		
it crushed me		
to see him decrepit was painful		
knowing he was in pain		
knowing he was going to die		
especially knowing he was ready to die		
he wanted to die		
physical assisted suicide is illegal		
that started me being upset		
we would have conversations		
he would challenge me		
thinking deeply		
about my ethics		
loved that feeling		
like challenging myself		

Initial Phrases	Clusters	Themes
to really pick a side		
you have to say where do you draw the line		
I take a lot of notes		
if I am not teaching i am writing		
I often do not look back at my notes		
I literally take them		
I think the act of taking them makes me think about them		
it is like disequilibrium		
if a see something		
if a kid is trying his hardest struggling and still doesn't get it		
then I have to figure out how I can go about it		
in a different way to make him understand		
thinking about what things I have tried		
what things other people have tried		

Initial Phrases	Clusters	Themes
thinking about what step in his learning was missing compared to other students		
I catch myself not paying attention to what the kids are saying		
not being in the moment		
not taking in what my environment says		
applying it to what i already know so i can change it for the future		
that is another reason why i write		
because writing keeps me focused on what i need to be doing		
cause even if i don't even look back at the notes		
I wrote them down		
they are kind of like somewhere in my brain		
I am looking for them [problems]		
when a kid clearly gets it		

Initial Phrases	Clusters	Themes
I want him to get to the next level		
I want them to feel the struggle		
so they can get to the next level		
I actively look for signs if he is close		
I am so obnoxiously picky about how i feel teaching should be		
it is a constant line of disequilibrium to me		
I am constantly thinking about how i would change my instruction so that it wouldnt look like that		
what it would look like		
will be teaching		
she is always asking me for advice		
how she can improve her teaching		
she's very receptive		
when I give her advice		
I'm writing writing writing		

Initial Phrases	Clusters	Themes
I'm writing things she's doing that i dont like		
i look at my notes		
you could have done this a little differently		
when we talk about it she justifies why she did whatever she did		
then I think about that and you know what it actually seems logical		
it is nice when somebody will stand up for their own ways		
challenge me to think about whatever I'm thinking		
challenging my views that I was passionate about		
completely dedicated to		
challenging those		
I think challenge is a piece of it		
it takes courage to say I didn't like that		
if I don't know you well enough		
I am very open		
I will challenge anybody		

Appendix G (continued)

Initial Phrases	Clusters	Themes
I'm gonna stick up for whatever I believe		
I have such firm beliefs		
when I see something that doesn't agree with my beliefs I want to challenge it		
I want you to defend why you didn't do what I believe		
it has to do with control I know I will have control over my future classroom		
I know that I need to be firm in whatever I believe		
we went tutoring we were talking about racism		
she was saying that the things I was saying were racist		
I don't think of myself as racist		
she was saying that was racist		
I was trying to defend myself		

Appendix G (continued)

Initial Phrases	Clusters	Themes
because I don't have firm beliefs about that kind of thing I don't know enough about it		
I can't really defend myself because I don't know anything		
I just see it think about it but I don't have firm beliefs		
I don't have any experiences in classrooms other than these two years		
I have no idea		
that is kind of scary		
that I have these super firm beliefs and I don't even know where they came from		
when i am challenged i feel excited about learning i think that applies for every student		
the conversations that we had in our coursework were beneficial to me		
I would have to see the conversations then see teaching literacy to be able to compare if they didn't match up		

Appendix G (continued)

Initial Phrases	Clusters	Themes
this doesn't work, this is supposed to work but I don't see it anywhere		
then I got to teach		
I tried these thing that we learned		
I saw them work compared to the other things that were not working		
because I tried it and saw it work		
I personally benefit a lot more from this kind of interaction		
maybe it is the challenge piece		
reading tells you facts it doesn't challenge me		
its educating me but I don't know if it is true		
I actually go try it and i can say this aspect of this worked		
I'd rather be challenged		
Conversation 3		
when we first started doing the hypothesis		
I didn't really get what we were doing		

Initial Phrases	Clusters	Themes
I was able to actually have a purpose for the hypothesis		
not in an if/then format		
I saw what was going on		
we discussed it		
I'm gonna try this other thing that i think will work better		
maybe it wasn't as formal as writing it out		
I definitely did the process		
but later I saw the benefits		
it was comfortable		
if I wasn't comfortable teaching it then I wouldn't be comfortable talking about it		
I don't think in watching the video the 8 pillars really helped		
but in planning it did		
after I planned I was like Ok what kinds of things am I missing		
the first thing I look for is engagement if the kids are off the walls I am not happy		

Appendix G (continued)

Initial Phrases	Clusters	Themes
I think about how I can change		
after I see that the kids are in whatever text they are looking at		
then I try to compare		
at the beginning of the lesson here is what I know about this kid		
is he making progress to where I want him to be at		
or is he just staying still		
I write down if I don't like something		
I write down how I would fix it		
I don't think it is annoying		
you are taking what I am saying and justifying it		
if you were saying what I did was totally wrong here is how you need to fix it		
but you have never done that		
you were saying that is ok here is why		

Appendix G (continued)

Initial Phrases	Clusters	Themes
I wasn't coming up with it on my own		
I needed someone else to say what the rationale was		
I wasn't getting it		
you were teaching me how to talk		
you did that in a heartbeat [create dissonance]		
it feels like how could I do that...these poor children		
all they need to know how to do is read and I am only letting them read 3 min.		
its about kids		
in the moment you don't think about the future		
you are just thinking about now		
both of these things are crucial you can't not say them		

Appendix G (continued)

Initial Phrases	Clusters	Themes
but if they were littler things maybe you could go ahead		
but I would have spent more time on the time thing		
at the time was like oh my god I can't believe I did that		
right now I have the same feeling		
I don't think I did anything about it		
its hard sure		
its a challenge		
you have to figure out what I did what i am doing now		
its hard for me to get uncomfortable		
I just pretend I'm not long enough to get comfortable again		
I like being uncomfortable		
I'm probably not wicked comfortable		
I'm realizing that I was confident but now not so much		

Initial Phrases	Clusters	Themes
so obviously you are going to be uncomfortable		
but I don't think it is a bad thing		
what I thought was a good lesson I am now changing my mind		
I don't think the blame is on you		
you are presenting me with ideas that is making me change my own mind		
I know your motive		
I know my goal		
your motive it is to get me to be a better teacher		
my goal is to be a better teacher		
I know no matter what your motive is it is not to judge me		
your motive is to really get me to be a better teacher		
to get me to reflect on my own		

Appendix G (continued)

Initial Phrases	Clusters	Themes
I don't care if you think I am a good teacher		
because I know my role as an intern is to grow its not be a good teacher		
its to learn and be a better teacher		
it is just it wasn't from you it was from me		
I just wanted to bring up with you at the moment		
like when I am watching the videos		
I really have to be harsh and write whatever i think		
then kind of say it to you		
you know does she think that is a good idea		
I got it all written down cause like I forget I get it all out		
want them to feel challenged		
she wants me to be comfortable		
when they don't feel comfortable they think Oh this must be going wrong		

Appendix H: Essential Themes Related to the Experience of Reflection

Themes	My Thinking	Incidental or Essential
role of knowledgeable other in reflection: challenge, teaching her how to talk, bounce ideas off of	this is how she experiences the knowledgable other but there is a theme below that captures this better	Incidental
the ability to reflect was developed	an important idea but if this ability was developed or inherent I don't think it would change her experience of reflecting	Incidental
dispositions matter	important but is related to the other theme about the relationship between motives of knowledgeable others and dispositions	Incidental
dissonance is experienced throughout the reflection process not only as an impetus	without the experience of dissonance throughout the process I don't think she would have experienced reflection	Essential
writing plays a role in being in the moment when observing others teach and when in conferences	without writing she would not experience being in the moment to read her experience	Essential
reflecting alone is operationalized as problem-solving	I think this is incidental because as she describes this process it is not necessarily producing warranted assertabilities so is it really reflection then?	Incidental

Appendix H (continued)

Themes	My Thinking	Incidental or Essential
interaction with knowledgeable others is essential to create tension (challenge) thinking deeply with another	this is what she describes about the feeling of thinking deeply with another and how they challenge her to reconsider her beliefs	Essential
dissonance feels bad because she feels responsible for the children's learning	I think this is important but can be placed with dissonance throughout the reflection process	Incidental
understanding the motive of the person you are reflecting with affects how open she is	this has implications for cultivating dispositions this can be under the theme of interaction with knowledgeable others	Essential
having firm beliefs about something and experiencing or seeing the opposite creates dissonance	without firm beliefs about teaching she would not experience dissonance but this can be included in the dissonance throughout the process theme	Essential
beliefs about teaching come from trying things out to see if they work	regardless of how these beliefs were formed she has them and they are experienced in reflection as described in the above theme	Incidental
reflecting with peers is different from reflecting with knowledgeable others	again although she associates talking with peers as reflection as she describes it it does not really lead to warranted assertabilities	Incidental

Appendix I: Eight Pillars of Effective Literacy Instruction

Balanced, Comprehensive Instruction
A Lot of Reading and Writing
Science and Social Studies Integrated
High-Level Thinking
Skills Explicitly Taught and Coached
Wide Variety of Materials
Variety of Formats for Instruction
Well Managed
      (Cunningham & Allington, 2011)