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The Relationship of Formative Assessment to the Professional Development and Perspective Transformation of Teachers

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The Relationship of Formative Assessment to the Professional Development and
Perspective Transformation of Teachers

Kimberly K. Snyder

A DISSERTATION

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The Relationship of Formative Assessment to the Professional Development and
Perspective Transformation of Teachers

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University of Nebraska, 2016

Adviser: Edmund Hamann

This study uses practitioner research to explore teacher perspectives about formative assessment. The researcher engaged in a four-month-long series of professional development sessions with one middle school and two high school English-Language Arts teachers from the Capital View School District. Understanding formative assessment as a process to monitor student learning and then customizing instruction based on the data gathered from the formative assessment is a complex skill in which teachers need practice and even coaching to become adroit. The sessions were intended to help early-career teachers better understand formative assessment and incorporate it as a strategy in their teaching praxis. Using notes from interviews and observation of the six professional development sessions, this study provides insight into the thought processes of teachers as they navigate through new information about formative assessment and attempt to fuse their new knowledge with district policies. This study also provides insight into the relationship between professional development and perspective change in teachers, which in turn informs the relationship between the researcher in this study and the districts with which she supports in the area of formative assessment. A detailed review of how teachers work through new information provides valuable information for teachers and administrators to consider when seeking to maximize professional development efficiency and teacher success.

Dedication

I dedicate this work to my family, especially my wonderful husband Eric, and our two amazing sons Jacob and Mitchell, who have provided constant support throughout this entire journey. Thank you to all for your love and understanding.

Acknowledgements

I wish to extend my gratitude to the University of Nebraska-Lincoln (UNL). Specifically, I acknowledge Dr. Edmund Hamann, Dr. Kathleen M. Wilson, Dr. Guy Trainin and Dr. Deborah Minter. Without their guidance, this project would not have been possible. I would also like to express my gratitude to all UNL personnel involved with the Carnegie Project on the Education Doctorate (CPED) program. A special acknowledgement goes to two very special people—my cohort members and dear friends, Dr. Cindy Marolf and Dr. Marissa Jorgenson—for their unending support.

I also wish to acknowledge my appreciation for permission to conduct this study at the Capitol View School District. The district and school personnel were more than accommodating and I sincerely appreciate the help they provided.

Finally, I wish to acknowledge the participants of this study. These women are outstanding educators. I am forever indebted to them for their honesty and commitment to their profession.

Thank you to all!

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CHAPTER 1: INTRODUCTION

The widespread discontent with *No Child Left Behind* (NCLB) spurred

educational reform efforts. Assessment reform followed with the creation of groups,

such as Smarter Balanced Assessment Consortium (SBAC) and Partnership for

Assessment of Readiness for College and Careers (PARCC), charged with developing

more rigorous standardized assessments than previously employed. Because of these

reform efforts and others, school districts and policy makers are using district, school,

and individual student data to make more educational decisions than ever before.

   Teacher accountability, which is increasingly being linked to student data, has

been thrown to the forefront, bringing with it a greater focus on teacher classroom

assessment practices. Unfortunately, most classroom teachers have not learned the basics

of sound assessment practice, which has resulted in inaccurate representations of student

achievement and a lack of quality student feedback (Stiggins, 2001). In addition,

historically, most teacher preparation programs have provided little guidance in grading

practices at the classroom level (Otero, 2006; Stiggins, 2007). Because teacher

accountability was not at the forefront throughout most of my teaching career, I gave

little attention to my grading practices. My students suffered due to my lack of

assessment expertise, and it was only when I was in the midst of my graduate studies that

my teaching experiences and my new academic knowledge came together to frame my

assessment beliefs to the benefit of my students.

My Own Assessment Journey

   Inexperience. My own preservice teacher education program in the early 1980s

reflects the absence of a major emphasis on assessment or teaching teachers about

assessment. A course in effective grading and utilizing classroom data did not exist when I prepared to become a teacher. The day before I taught my first class as a novice teacher, all new teachers in the district were instructed to go to the office to collect new gradebooks. We were given no direction in how to use them, but were told the gradebooks would be collected from all teachers at the end of the year to be safely stored in a box in the school safe.

During the years that I used a paper gradebook, my gradebook was a thing of beauty; I had a routine for organizing it each year. Every fall, the day before classes began, I would go to the office and collect my new class rosters and a new gradebook. I would go back to my classroom and carefully section off each class with paperclips, making sure to fold three extra pages for each class along with the first page so each quarter, I could start anew on a blank page. I would write my students' names in the gradebook, alphabetically, last names first, in pencil. Once I had the students' names filled in, it was just a matter of entering the grades I collected throughout the year.

But how did I know which grades to enter and how much weight to assign each grade if I had had no training in grading? It was easy. I just graded the same way my own high school English teachers had graded me. I entered homework grades, quiz and test grades, and "personal grades", those points students received for activities such as returning their parent-signed Classroom Expectations Sheet by the deadline, or putting their names in the correct place on their homework, or remembering to bring their personal reading books on Tuesdays. By the end of each quarter, the gradebook pages were filled with countless numbers that supposedly represented the levels at which my students had learned the information in my classes. No administrator or department chair

questioned my grading practices or my assessments; to my knowledge, no conversations occurred in my department or my school about anything related to grading at all. All teachers devised their own grading practices, which meant students had to adapt to 7-8 distinct grading practices per day, every semester or every year, depending on the structure of their classes.

Early in my teaching career, I would speak to parents at parent-teacher conferences twice throughout the school year about their child's progress in terms of a grade thus far and the child's behavior in class, not in terms of the skills the student had learned in order to earn the grade. The conversations at these conferences were usually fairly quick because parents typically did not ask specific questions about what their children were learning in class, or what I was using to assess the students. The parents assumed I was grading their child in a similar way they, themselves, had been graded while in school. If a child's grade happened to be lower than what I thought it should be, I would tell the parents the child needed to work harder at learning the material. But they rarely asked me what skills were involved in the learning of the material, or what the material was.

Disorienting Dilemma. I remember one incident well, however, in which a parent did question my grading practices. At that time, I had a grading policy in which 50% was deducted from any assignment submitted more than 24 hours late. Why did I have this policy? Because that is how one of my English teachers had graded me when I was in high school. I was under the incorrect assumption this policy would motivate all students, as it had me when I was their age, to turn the homework in on time. One of my very capable students handed in a project more than 24 hours after the deadline. The

project was worth enough points that the subsequent 50% deduction in his project grade resulted in a drop of his overall English grade from an A to a C. This event occurred on the day of parent-teacher conferences and all day I worried about what his parents would say to me that evening. Sure enough, his parents were the first ones in line at conferences and the father immediately questioned his son's C. I did not back down from my position of deducting 50% from his son's project grade, which angered the father even more. When the father realized he was gaining no ground with me and stood up to leave, I thought the exchange was over; however, before he walked away, he leaned down close and said, "Do you think my son is a C student?" and before I even thought about it, I answered, "Well, of course not!" The father slammed his hand on the desk and said, "That's exactly what I thought!" and stormed off. I did not immediately understand what point the father felt he had made, but after reflecting on the conversation, I realized I had just admitted to him that the grades in my gradebook were arbitrary and meant nothing as far as actual student learning.

Epiphany. Although the student grade in question was a summative grade, meant to show where the student stood at that point in the semester, my interaction with that father prompted me to analyze my grading practices, question the purpose of grading, and think deeply about who the grades were really for—thus the beginning of my journey to understanding the formative process—an understanding that has continued to develop over the course of my career. From that point on, even though I did not change my grading policies until a few years later, I did enough informal evaluation in my classes to know where my students were in terms of knowledge acquisition. This was not true formative assessment because my purpose for gathering the informal assessment data was

not to guide my instruction and to help my students control their own learning, but at this time I began to pay more attention to the scores in the gradebook to assess student progress.

Time to Adjust. When NCLB arrived on the scene, administrators needed data and lots of it, not necessarily because of the time, means, or understanding of how to use the collected data, but because of the new external reporting requirements; therefore, they needed to ensure teachers knew how to collect it. This is the time when I was introduced to the terms *formative* and *summative assessment*. I spent multiple hours along with other teachers attending inservice meetings as experts explained the differences between formative and summative assessment --PowerPoint slide after PowerPoint slide of definitions, charts, and examples of each type of assessment. I dutifully attended these inservices, listened intently and memorized the basic information, collected the copies of the slides and notes, and promptly went back to my classroom, resuming my usual way of teaching and assessing without giving the matter much further thought.

My district brought in assessment experts who endured countless questions from irate teachers who felt threatened by this seeming intrusion on their right to decide what grading practices to use in their own classrooms. I was not outspoken enough to challenge any presenters, but all this new information about assessment made me uncomfortable because I did not know how to apply it in my classroom, nor the value of applying it in my classroom. Ironically, with each new presented piece of assessment knowledge, I felt more "unexpert" (Wiliam, 2011) in assessment, which made me extremely defensive when administrators started inquiring as to my grading practices.

Assessment knowledge was something that articulate (and well-compensated) expert consultants had, not something teachers supposedly knew much about.

Those inservice sessions are why, at that time, I was one of those teachers who could define *formative assessment*, but did not understand the purpose of using it consistently in my classroom. My professional learning did not occur beyond the provided definitions and examples in these sessions. This style of inservice is reminiscent of how I taught before I really knew how to teach. I provided my students with the information, tested them over it, and then moved on to the next topic. My question was whether they could repeat my previously offered answer, not whether this new knowledge changed their capabilities or habits.

Transformational Learning. My ability to analyze my students' progress slowly evolved. Over the years of attending required district one-shot workshops, I had gathered an ample amount of strategies, and I became adept at using those strategies to gauge my students' progress. However, not until I started classes for my Masters Degree and Reading Specialist Endorsement did I learn how to involve the students in conversations so they could gauge their own progress. In these Master's classes, I learned how to work with students who struggled and this is when I realized students needed to actively participate in their own learning opportunities. It was up to me as their teacher not only to provide them with these opportunities, but also to actively engage them in learning through my various instructional strategies. Most students who struggle do not monitor their own learning but they have a very direct way of teaching their teachers about how their needs can be met. I had to learn how to be more explicit about

my expectations. When I learned how to communicate with my students about our learning objectives, I learned the true purpose for assessing students.

My Master's Degree program provided me with the insight I needed to help my students. My epiphany was that what I was already doing in the classroom actually could be formative in nature. Formative assessment was not as big and scary as I thought it was. I was already using it, but needed to learn how to use it more efficiently for the instructional benefit of my students, to consciously collect data and then help my students verbalize where they were and what supports they needed so we could use their performance information together to benefit their learning.

After I experienced this epiphany, collecting the data and using it to guide my instruction became almost instinctive. I just knew what to do. All my experiences with assessment, the good and the bad, all came together to provide the foundation needed for developing my professional maturity in my classroom and in the world of practitioner research. Now that I have left the classroom and am working at the state level, I am adding another level of assessment knowledge to the layers already there.

One aspect I have learned is that the root word for assessment is *assidere*, which means *to sit beside* (Joe Bower, blog, December 17, 2015). Since my second epiphany, I have learned that assessment as a whole is less about data to put into a gradebook, and more about working alongside my students, for it is in those interactions that the learning becomes explicit.

My assessment journey was filled with epiphanical moments when my experiences melded together with new knowledge in a way that I could understand, allowing me to be open to adjusting to that new learning. At the time, I was not aware

that these epiphanies were broadening my perspective and that there were actual terms to describe these processes. An understanding of these terms is central to this dissertation.

Inquiry Stance. What did this more recent epiphany mean for my professional maturity? I think it indexed my emergence as a purposeful practitioner researcher. Researchers Cochran-Smith & Lytle (2010) explain that a worldview and a critical habit of mind are necessary for practitioner researchers to develop. They suggest that an inquiry stance develops from those multiple invaluable epiphanies which effective teachers use to better their practice. Their explanation raises many questions. How many epiphanies must occur for a teacher to develop into a practitioner researcher? At what career stage and through what activities do effective educators achieve that perspective transformation, where they evaluate their "criteria for valuing" and purposefully consider what ensuing actions to take following the evaluation (Mezirow, 1978, p. 100), tasks associated with a critical habit of mind (Cochran-Smith & Lytle, 2010)? What kinds of experiences contribute to having an inquiry stance? Is there an overlap between an inquiry stance and the use of formative assessment in one's classroom? If the teachers had approached their experiences differently or if they had had certain support systems in place, could they have developed as a classroom-serving inquiry stance more quickly? If so, what would those support systems be?

Perspective Transformation

These questions fit into a larger critical reflection of my 26 years of teaching, with an emphasis on the times in which I had achieved "perspective transformation" (Mezirow, 1978) —when experiences I encountered required me to reflect on and ultimately change my way of handling a situation, thus providing me with a new view or

perspective. I have examined my years as an education professional by focusing on the schools in which I taught, the experiences I believe impacted my career the most, and my immediate teaching environment at the time of those experiences. This reflection revealed four common elements related to the formation of new perspective frames or lenses within my professional maturity--my own critical habit of mind: a disorienting dilemma (Mezirow, 2000), reflection, collaboration, and a holding environment (Drago-Severson, 2012).

Disorienting Dilemma. Growth through epiphanies starts with disorienting dilemmas (Why was my student's father angry? Why was the district endlessly pushing one-shot workshops on assessment?). The TLT (Mezirow, 2000) labels these times in people's lives when they realize their current way of handling an issue is not effective *disorienting dilemmas*. These dilemmas instigate a way of knowing (Cochran-Smith & Lytle, 2009). The growth people experience occurs when dilemmas cause them to reflect on their current perspectives and adjust their views to react more effectively to the issue at hand (Mezirow, 1978).

An example of a disorienting dilemma is described by Heaton (2000). After several years of teaching, Heaton's practitioner research led her to launch her students into the realm of critical thinking by stepping away from the prescribed curricula and allowing her students' learning to lead the direction of her class. This deviation from the established curricula caused Heaton to experience a disorienting dilemma because it forced her to leave her comfort zone and teach from a different perspective. She likened this new classroom experience to improvisational dancing. Heaton could not make an instructional change until her students' responses to current instruction indicated what her

next move should be. This realization placed her in uncertain territory and required her to listen more closely to her students as they followed their own learning paths. In doing so, she realized adhering to an already set path, while more comfortable for her, had kept her from recognizing learning opportunities for her students. Leaving the set path forced her to teach more formatively, focusing on her students' needs and creating learning opportunities based on those needs. Her change began as disorientation.

Similarly, at several times during my career, I have experienced times of disorienting dilemmas that forced me to reevaluate my responses to learning issues. Usually these dilemmas were caused not by my own volition (as Heaton's choice to veer from her prescribed curricula had been), but by district or school building mandates at odds with my perspective of effective teaching practice.

My journey towards understanding formative assessment in my classroom and taking on the dilemma of how to promote its use by others are just two examples of a disorienting dilemma I experienced. Although these dilemmas caused some of the most angst-ridden moments of my teaching career, they were also moments that launched my most important professional growth; however, it was not the disorientation on its own that led to growth, rather it was my reflection on the disorientation that led to further growth.

Reflection. According to the TLT, critical reflection can be stimulated by disorienting dilemmas because these incidents of cognitive dissonance lead people to question their current thinking. Through critical reflection people can become aware of and begin to reframe their own personal viewpoints, thus leading to a possible perspective transformation and a broadening of their views (Cranton, 2006). Teachers'

professional growth accompanies perspective transformation that, in turn, results when they first realize they are in a transitional phase (MacKeracher, 2012). It is during this transition phase that teachers begin to reflect on and react to the answers to those difficult questions they have asked of themselves and others. They adapt their modes of operation to address the answers, and reflect on the results of those adaptations, eventually realizing how the experiences fit into the big picture (Johnson-Bailey, 2012).

The process leading teachers to a perspective transformation is multi-stepped. Because Heaton (2000) entered into a disorienting dilemma by venturing into unknown territory away from her prescribed curricula, her experiences caused her to reflect on her current practices and how they fit into her epistemology. These reflections were systematic, purposeful, and in-depth. They were also generative. Heaton's realizations brought her to a deeper understanding that a teacher's growth process can be endless. Not unlike me, Heaton also had the epiphany that it was not until she devised her own purpose that she felt her students' true learning began (2000). My own critical reflection did not start until an angry parent caused me to question my grading practices, but even then that anger only simmered in my mind until I figured out a way to think about it systematically. My reflection, over time, led to an epiphany, which opened my mind to new concepts regarding assessment in my classroom, thus creating my inquiry stance.

This formative epiphanic process may not seem complicated in theory, but it is largely ignored or even unknown to many educators today. Many teachers do not reflect deeply on their experiences or follow through with the entire iterative process, thus ending the transformative process (MacKeracher, 2012). Mandatory, one-shot workshops (even if the information is prospectively quite important) do not precipitate

the needed disorientation and reflection, which partially explains the ineffectiveness of many professional development programs and raises the question: What kind, if any, professional development opportunities, might allow for and even expedite educators' epiphanic experiences to enhance perspective transformation by engaging them in what Cruickshank, et al. (2003) call "restructuring of their world?"

   Collaboration. Ample evidence exists that educators benefit from the ability to communicate with others in genuine, uncontrived settings (Hamann & Wunder (2014); Shulman & Shulman, 2004; Tillema & van der Westhuizen, 2006; Zeichner, 2006). The opportunity to engage in discourse in a supportive environment allows educators to share their experiences, to become "living textbooks" (Rohlwing & Spelman, 2014, p. 233). The TLT sees this dialogue as a necessary step of the perspective transformation process because it allows for the breakdown of assumptions that accompany long-held beliefs. This breakdown then leads to development of common understandings and broader views.

   Teachers need "collegial forums" because this is where "a refining of practice that strengthens both the individual and the group" occurs (O'Connell Rust, 2009, p. 1890). Communication, together with reflection (Tillema & van der Westhuizen, 2006), is central to teachers' metacognitive processing, thus essential for their learning.

   As mentioned above, some of the most frustrating moments in my teaching career resulted when mandates contrary to my beliefs on teaching and learning came from my authority figures. Ironically, some of those mandates involved group work and dialogue; unfortunately, the mandated dialogue did not usually accomplish the intended effect because it was decontextualized and thus lacked meaning and sustainability. Sarason

describes these mandated teacher "sharing" (p. 85) sessions as about as effective as elementary students' show and tell sessions (Fried, 2003).

Based on the TLT, the core component of effective dialogue for adult learners is not mandatory discourse about topics handed down from the top, but rather a natural conversation allowing educators to share similar experiences and common problems. In the perspective transformation process, these conversations continue the iterative process when educators not only share their common problems and experiences, but also create new knowledge by delving into the problems to develop solutions and new courses of action, very similar to the formative assessment process my students and I employed in my classroom. Throughout my career, I have experienced disorienting dilemmas which forced me to ask myself and others difficult questions regarding my longstanding beliefs about my classroom, my students, my curricula, and my impact on all these areas of my teaching. It was in the conversations with others regarding these difficult questions that pushed me into a state of inquiry.

Holding Environment. The TLT model also describes a fourth element. All learners need a "holding environment" (Drago-Severson, 2012, p. 46). A "held" environment is established when learners experience problems or dilemmas, but feel safe to engage in the learning process and examine those problems because appropriate supports, such as mentors and collegial inquiry opportunities, are in place. A held environment recognizes educators have different "ways of knowing" (Drago-Severson, 2012, p. 19), or perspectives, from which they address issues. Recognition of these different perspectives allows for effective collaboration to occur, which could lead to

more powerful personal growth as well as more opportunities for collectively improving

learning (Drago-Severson, 2012).

In my own experience, my holding environment was provided by my higher

education instructors and classmates. My masters and doctoral classes gave me the

opportunity to express my opinions and questions in a safe environment, free from

repercussions or judgment. In my experience, rarely were classroom teachers provided

with opportunities within their schools to develop "vision, motivation, understanding,

practice, reflection, and community," all features of accomplished teacher development

(Shulman & Shulman, 2004, p. 258).

Components of Effective Professional Development for Teachers

What types of professional development opportunities, which include the four

common elements of my own professional growth, a disorienting dilemma, reflection and

collaboration opportunities, and a holding environment, are available for educators

today? The answer to this question is elusive. Ample research, which I will further

consider in the next chapter, exists regarding the professional development of teachers

(e.g., Bakkenes, et al., 2010; Clark & Hollingsworth, 2002; Cobb, Wood & Yackel, 1990;

Cranton & King, 2003; Desimone, 2009; Drago-Severson, 2007; Guskey, 2002;

Hargreaves, 2014; Hodkinson & Hodkinson, 2007; Lieberman & Miller, 2014; Little,

2007; Meijer, et. al., 2013; Raphael, et al., 2014; Shepard, et al., 2005; Shulman, 1998;

Walpole & McKenna, 2015).

Based on my own critical reflections and current research, I maintain any type of

professional development opportunities for educators will be effective only if they

include a disorienting dilemma, critical reflection time, sustained collaboration with

peers, and a holding environment, with an emphasis on both the teachers' content areas,

and on pedagogical content knowledge (PCK) (Shulman, 1986). PCK, that knowledge

that enables educators to confront the complex instructional decisions that present

themselves as learning occurs in their classrooms, is equally important for educators to

acquire. Although content knowledge and PCK are integral parts of any professional

development program, educators must be allowed time and support to enter the unknown,

to become disoriented for a time, and to grapple with the new understandings that these

times bring. As a further point (clarified in the next segment), PCK includes the capacity

to use assessment formatively for classroom improvement. In other words, PCK, teacher

learning, inquiry as stance, and formative assessment all overlap as undergirding

elements to the inquiry shared here.

The Formative Nature of Professional Learning

When teachers use the formative process efficiently in their classroom, they

engage students in activities, glean data (formal or informal) from individual student

responses, and adapt their instruction based on that data. Skilled teachers do this almost

instinctively. Through this process, teachers and their students are capable of monitoring

each student's individual strengths and needs. Effective teachers provide an environment

that encourages students to develop a learning process based on these three questions of a

formative assessment model: "Where are you trying to go? Where are you now? How

can you get there?" (Coffey, Black, & Atkin, 2001, p. 14). The ability to verbalize the

answers to these questions requires a higher level of understanding and allows individual

students a scaffolded approach to support learning that meets students where they are at

the time (Shepard, Hammerness, Darling-Hammond, & Rust (with Snowden, Gordon, Gutierrez, & Pacheco), 2005).

Effective professional development should also be built around each educator's needs, much in the same way as effective teachers structure their instruction around the different learning needs of their individual students during the formative assessment process. Effective professional development should encourage educators to verbalize the answers to the three questions *Where are you trying to go? Where are you now? How can you get there?* for themselves, just as effective educators ask their students to verbalize the answers to these questions in the classroom. During professional development, answering these questions would provide educators with the same scaffolded support as it does their students during the formative assessment process in the classroom. Educators need opportunities to develop their *own* paths of understanding, based on where they are in their *own* understanding *at the time*. Teachers need to have the opportunity to be themselves, while following a path of improvement based on what is best for their own classrooms (Wiliam, 2011).

Figure 1.1

Pedagogical Content Knowledge - Teacher
Content Knowledge - Teacher/Student

Holding Environment

Healthy Tension

Curriculum

Instruction

Formative Assessment

Where are you going?
Where are you now?
How can you get there?

Collaboration

Reflection

Theory - Teacher
Purpose - Student
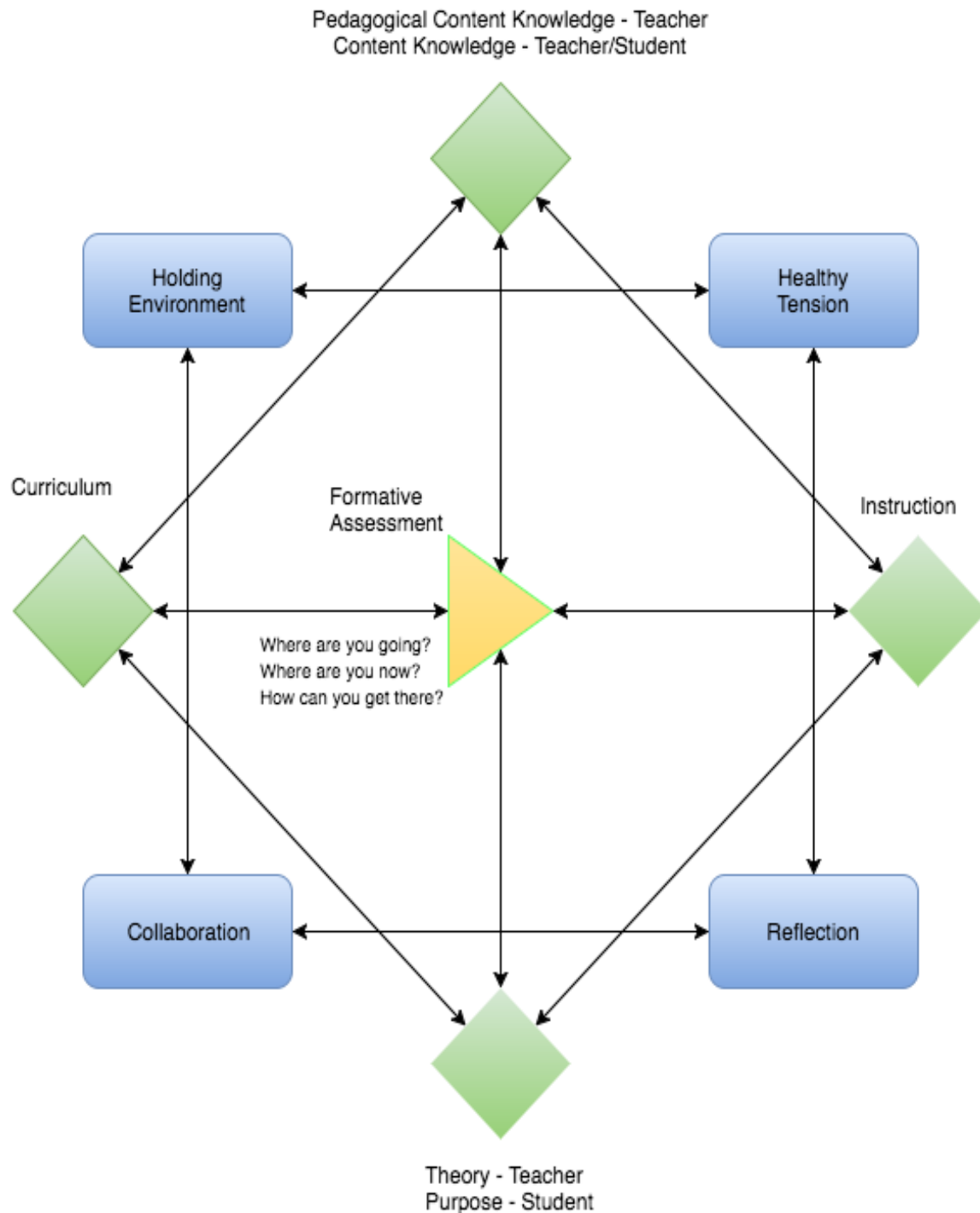
*Adapted from Nichols, P. & Pascale, C. (2013). Defining systems for learning. R. W. Lissitz (Ed.), *Informing the practice of teaching using formative and interim assessment: A systems approach* (pp. 3-33). San Francisco: Jossey-Bass.

The flowchart in Figure 1.1 shows how the processes for both effective classroom formative assessment and effective professional development of teachers are similar.

Because it helps explain why I designed the formative assessment teacher learning

intervention that forms the bulk of this dissertation, let us dissect this chart from the

viewpoint of effective classroom formative assessment and then from that of effective

professional development of teachers.

   Working Through the Flowchart from Effective Classroom Formative

Assessment Perspective. At the beginning of my teaching career, my students and I had

three of the four elements in green diamonds at our disposal. Students had their *content*

knowledge and I had my *content knowledge* plus a limited *pedagogical content*

knowledge. The students and I both had the *curriculum* and my *instruction* to go with it.

I did not, however, have an understanding of the *theory* underlying my instructional

choices, nor did I help my students understand the *purpose* of their learning.

Unfortunately, as an inexperienced teacher and as students of an inexperienced teacher,

my students and I did not connect any of these elements, except perhaps serendipitously.

At times I would connect *Knowledge* with *Instruction* when I learned and implemented

new teaching strategies. But rarely did I follow the flowchart and connect those new

instructional strategies to any *Theory* behind them or to the *Curriculum* as a whole. My

students were the same in their learning. Rarely did they connect their learning to a

purpose or to the curriculum as a whole (because I did not teach them how.) My students

and I lacked the ability to make the connections between the green diamonds so we were

unable to reach the center yellow triangle of *Formative Assessment*, where we could ask

ourselves *Where am I trying to go? Where am I now? How can I get there?* Because we

could not reach the inner triangle, we also lacked the ability to work *outward* from the

center triangle in any direction. Therefore, nothing in my instruction or in my students'

learning was formative in nature.

However, as my career advanced, the blue rectangles were added to my own experience. *Healthy tension* and *Reflection* were added because of my encounter with the angry father and by mandated grading practices. Once I started my graduate classes, the additional blue rectangles of *Collaboration* and *Holding Environment* were incorporated into the model. The addition of the elements in blue to my own experiences provided me the scaffolding I needed to work in and out and around all the elements in the flowchart while teaching. As I experienced this iterative process in my own learning, I finally understood that my students needed the same logic in their own learning processes. This epiphany led me to a perspective transformation regarding the formative assessment process: I realized formative assessment was not just an instructional strategy, but a process. I needed to teach my students how to navigate in, and out, and around the green elements *along with me* to increase their own learning. And I could accomplish this by helping them see/develop the elements in the blue rectangles.

Working Through the Flowchart from Effective Professional Development Perspective. Now that I work with the state department of education and my 'students' are more typically teachers in professional development settings rather than high schoolers, I have come to see that the same logic may be applied to professional development opportunities for teachers. Teachers need to be provided ways to make connections between the green diamonds, knowledge, instruction, theory, and curriculum, through professional development opportunities. Most of my professional development opportunities allowed me to navigate between one or two of the green diamonds, but not all of them, and never in, out, and around the entire flowchart at the same time. Yet for

professional development to be effective, the blue elements of *Healthy Tension, Reflection, Collaboration*, and *Holding Environment* must be in place because then teachers can work their way into a formative assessment process of their own, where they can ask themselves *Where am I trying to go? Where am I now? How can I get there?* about their own teaching.

Purpose of this Study

We all have frameworks within which we operate that tell us what problems to address and what the effects of our chosen actions might be (Schoenfeld, 2011, p. 4). As teachers, we develop these frameworks through our day-to-day experiences with students, fellow faculty members, parents, administrators, etc. These frameworks are how we define ourselves as teachers, and they come from the various epiphanies we experience as we grow in our knowledge of teaching.

As we mature as educators, we develop more frames from which to pull as resources as we make instructional decisions throughout the day. The more frames we develop through our experiences, the more we broaden our ways of "framing reality" (Schon, p. 310), thus developing more resources on which to rely in future situations. Once teachers become aware of their various frames, they can critically reflect on how these frameworks may be adapted. Developing these frameworks is a stressful, yet exciting time in the lives of teachers because we develop frames when dilemmas, both big and small, present themselves in our everyday experiences.

Problem of Practice

There is a need for more research about state departments of education and their interaction with local schools and districts (Hamann & Lane, 2002). My experiences

throughout my educational career led me to the problem of practice serving as the impetus for this research study, which in part focuses on my position as an employee of the state department of education and my need to understand teachers' struggle to enact mandated policies, specifically assessment policies.

An environment that supports teacher learning is vital to teachers' abilities to provide an effective learning environment for their students. Unfortunately, in many schools, this supportive culture is missing (Fried, 2003). Teachers need support—the kind of support that allows for those epiphanies that push them to the height of their professional maturity. I know from my 27 years of teaching experience and from my interactions with teachers from across the state that many teachers are welcoming of new ideas as long as they have time to grapple with the concepts and how the concepts fit into their frames.

In this study, I observed teachers as they wrestled with new concepts centered around formative assessment because it is in these challenges that they develop new frames or lenses for themselves. It is important for researchers to observe these frames as they develop to better understand how professional development might better serve teachers. It should be noted that the collaborative sessions during which the data was collected for this study were not Professional Learning Communities (PLC's). All sessions were held outside of the school day and no documents or artifacts were required of the participants by the Capitol View School District, in which all the participants taught.

CHAPTER 2: A REVIEW OF LITERATURE

Introduction

Acquisition of Expertise. The word *expertise* is derived from the old English word *scele*, which means *discernment* (Oxford Dictionaries Online, September 23, 2014). The word *discernment* means *the ability to judge well* (Oxford Dictionaries Online, September 23, 2014). Consequently, according to the Oxford Dictionary, in order to demonstrate expertise in any endeavor, one must possess the ability to judge well. Of course, the most common definition of *expertise* is along the lines of conquering a skill well, not in the judging of something; however, it is in the word's origin and its relationship to *the ability to judge well* that links it to the basis of my beliefs regarding professional learning opportunities for educators.

Expertise requires the acquisition of new knowledge. During this process, people gather all of what they already know, and connect that knowledge with their own experiences in order to problem solve or reach a goal, thus building new individual knowledge. However, this process does not guarantee that the new individual knowledge is accurate (Schoenfeld, 2011, p. 25). At this point the discernment aspect of expertise enters the picture, an important aspect for teachers and administrators to know. Educators need to acquire the ability to understand that new knowledge does not necessarily equate with accurate knowledge, and they need effective professional development that provides ample opportunities for this understanding to develop. It is in the development of this understanding that educators can develop a discerning eye.

Theoretical Base. However, in order to develop a discerning eye, which leads to expertise, teachers must examine their experiences *in conjunction with* an overarching

theoretical basis in order to see the entire picture. To base one's knowledge solely on experiences is ill-advised as it is the theory that can show how all of those experiences fit together (Schoenfeld, 2011). These conjoined examinations provide learners with opportunities to determine if their knowledge is situationally rational. Schon (1983) explains that these opportunities are when learners hold themselves "open to the situation's back-talk" (p. 164). He further explains that this is when learners enter the world of uncertainty, which coincides with teachers becoming "unexpert", that which Wiliam (2011) attributes to teachers' unwillingness to change.

Although the development of my own discerning eye began with my Master's program, I was still basing any newly acquired knowledge on my experiences with little regard to any theoretical bases at that time in my career. In fact, a few years ago, after I had finished conducting five professional development sessions with several Nebraska educators, a Nebraska Department of Education colleague of mine observed that I had intertwined no theoretical bases within my strategy instruction during my sessions. Upon reflecting on her observation, I remember thinking, "Why bore my participants with theories when the strategies are the purpose for why they are here?" I was oblivious to the fact that giving teachers strategies without providing them with solid grounding for them, such as an opportunity to connect their own understandings (or lack thereof) of theory in conjunction with the strategies, and also support in implementing the strategies, is similar to placing a seed on a slab of cement in a hot July sun and expecting it to grow unaided. Brookfield (1995) stated it best when he said, "One of the hardest things teachers have to learn is that the sincerity of their intentions does not guarantee the purity of their practice…" (pp. 1-2). In my attempt to help teachers, I did not see that my

professional development practices were not as effective as they could have been, had I conducted a little research ahead of time.

      Epiphany. It was not until I entered my doctoral program, associated with The Carnegie Project on the Education Doctorate (CPED), that I gained a deep enough understanding of my discerning eye to apply it to my learning. The CPED program, located in more than 80 universities and colleges of education across the nation, requires demanding practitioner research, while providing supports similar to the supports mentioned in Chapter 1. The healthy tension created in the coursework is offset by the collaborative and reflective opportunities and the holding environment provided by the professors and other doctoral students in the cohort. Because of this program, my expertise in several areas has grown exponentially. My experiences and my stance of discernment placed me in a unique position to provide opportunities similar to my own experiences and understandings from the CPED program to participants in this study to observe as they attempted to "break open" (Schon, p. 164) their own "beliefs, dispositions, values, tastes, and preferences" (Schoenfeld, 2011, p. 15). The goal of my study was to help teachers theorize their own individual practices just as I had done through the CPED program (Loughran, 2006).

Transformational Learning Theory

      One element of the theoretical framework for this study is the TLT (TLT) (Mezirow, 1978). The primary focus of the TLT is the importance of learning to understand our belief systems, both cultural and psychological, that affect how we live and how we handle relationships with others. In 1978, Mezirow developed his theory into a theory of adult development and called it *perspective transformation*. It was

Mezirow's 1991 book *Transformative Dimensions of Adult Learning* that launched his

theory into the adult education world (Cranton, 2006). The name *Transformational*

Learning Theory suggests that while learning occurs, so, too, can some sort of

transformation. The word *transformation* refers to the process of "reformulating reified

structures of meaning" by restructuring basic assumptions and understandings (Mezirow,

2000, p. 19). The word *learning* is the process of creating a "new or revised

interpretation" of an experience's significance, which leads to an "understanding,

appreciation, and action" (Mezirow, 1990, p. 1). One could infer from the definitions of

transformation and *learning* that Mezirow's theory is aptly named, and that through the

process of learning, or making new interpretations, transformation can be expected to

occur through a reconstruction process.

Mezirow (1994) defines *transformative learning* as "the social process of

construing and appropriating a new or revised interpretation of the meaning of one's

experience as a guide to action" (p. 222-3). It is noted that in both his definition of

learning in 1990 and his definition of *transformative learning* in 1994, he emphasizes

new or revised interpretations. Without the creation of a new or revised interpretation,

neither learning nor transformation can occur. This belief about maturity in thought

closely aligns with the findings of Piaget (1954), who determined that how children

organize their belief systems depends on their internal organizational processes and their

ability to change their perceptions from *subject* (that perspective knowledge of which

they are not yet aware—similar to Eisner's (1992) secondary ignorance) to *object*

knowledge (that perspective knowledge of which they are aware and understand).

Mezirow (1978) identifies several different types of learning, most of which are

obvious and not the subject of his focus. For example, he notes we can learn how to accomplish tasks, or how to understand how and/or why things work. We can also learn how to get along with others and how to form a personal value system. However, the primary focus of the TLT, especially its focus on adult development, is the importance of learning to understand our belief systems well enough to change them if and when necessary.

Frames of Reference. A basic tenet of the TLT is that as long as our learning aligns with our current frame of reference, the assumptions that provide the lens through which we view and understand our experiences (Mezirow, 1997), the learning that is occurring will not affect transformational change. These frames of reference determine how we make sense of our world. Examples of commonly employed frames of reference are "personality traits and dispositions, genealogy, power allocation, worldviews, religious doctrine, aesthetic values, social movements, psychological schema or scripts, learning styles, and preference" (Mezirow, 2009, p. 22). These frames are things we have acquired through experience, so we are predisposed to them. As we move through our experiences, we automatically filter any new experiences through our already established, predisposed frames of reference.

Habits of Mind (Meaning Perspectives). How we interpret any new experiences through which we move is with our specific *habits of mind* or *meaning perspectives*. These meaning perspectives, used as filters within our frames of reference, help us interpret the meaning of our experiences. Examples of our habits of mind might include our political orientations, or our tendency to be drawn to certain types of people. Other examples might include how confidently we handle certain situations or whether

we are introverted or extroverted (Mezirow, 2000). We develop these meaning perspectives during our childhood years through social, emotionally connected experiences. The more emotional these experiences are, the more deeply entrenched the meaning perspective filters become (Mezirow, 1990). Over time, these meaning perspectives become more ingrained and we come to depend on them to rationalize the world around us (Taylor, 1998).

Points of View. These meaning perspectives, or our filters through which we interpret our experiences, become visible as our *points of view* which are the habits or rules we have taught ourselves to follow when we are working through situations (Cranton, 2006). According to the TLT, our points of view create automaticity in our responses to experiences. Unfortunately, these automatic responses can limit our perspectives, leading to a narrow, subjective interpretation of experiences. Our automatic actions do not come into question unless we critically examine our responses to experiences (Taylor, 1998). It is through this critical examination that transformation can occur.

According to the TLT, our frames of reference can only transform when we critically examine them and reorganize them by working through a problem. Typically, we are not conscious of these frames. In addition, we are not always conscious of the reframing process while in the moment, which is why an explanation of how and when transformational learning occurs can be elusive (Merriam & Kim, 2012).

Secondary Ignorance. Many times, as typical adults, we are resistant to the transformational process, even though we are not conscious we are resisting transformation as it occurs. Because our frames of reference are embedded deeply within

our belief systems, we have the tendency to fall back on our current frames of reference (biases) because they are viewed as dependable. Eisner (1992) refers to two types of ignorance: primary and secondary ignorance. He describes primary ignorance as when people do not know something, but they are aware they do not know it. Secondary ignorance is when people do not know something, but they are not aware they are supposed to know it. Secondary ignorance is quite possibly caused by our propensity to fall back on our already established frames of reference that have proven to work so far in our lives.

Psychologist R. D Laing (1970, http://www.oikos.org/knotsen1.htm) aptly described adult educators in the following poem:

He does not think there is anything the matter with him

>   because
>   one of the things that is
>   the matter with him
>   is that he does not think that there is anything
>   the matter with him
> therefore
>   we have to help him realize that,
>   the fact that he does not think there is anything
>   the matter with him
>   is one of the things that is
>   the matter with him

As an educator, I wanted to be safe. Sticking with my current frames of reference allowed me to be safe within my own self-concepts. Because frames of reference are so deeply embedded, any attempt to change my perspective was viewed as a threat or an attack. Thus, very strong emotions were experienced as I attempted to find a balance between maintaining the status quo in my life and experiencing events that caused me to question my fixed perspectives. Many times, to feel in control of situations, I blocked out

any modifications to my meaning systems and avoided any type of self-assessment that might have led to a change in my underlying values.

      Critical Reflection. We transform as we respond to our experiences; with each successive transformation we move to new perspectives, which are more global and which give us a better sense of who we are and where we are going. During a transformation, with each experience and our response to it, we reflect on our past experiences and based on those critical reflections, we broaden our lenses or filters as we move from one perspective to the next. However, to engage in this developmental process, we have to engage in critical reflection with a willingness to change our meaning perspectives. Mezirow (1990) explains that critical reflection occurs when we deeply reflect upon the presuppositions we have used to support our beliefs. Being reflective requires us to pause and assess a situation to determine whether the belief systems on which our actions are based are accurate or whether a fundamental shift in our embedded frames of reference is needed (Mezirow, 1990).

      Merriam (2004) outlines three types of reflection on experience upon which the TLT is based: content, process, and premise reflection, the latter of which is the only type that can lead to transformative learning. Premise reflection is critical reflection on assumptions; we question the bases upon which our decisions and actions are built. As adults we are continually responsible for dealing with issues. This type of reflection not only requires us to reflect on the experience at hand and how to handle it, like content and process reflection, but also to delve deeper into the *why* of the experience. Critical reflection on the perspectives of others and our own guiding assumptions are both key

aspects of successfully handling the myriad issues with which we are constantly presented both in our personal lives and within society (Kreber, 2012).

One of the influences of Mezirow's ideas about premise reflection is found in Schön's (1983) reflection-in/on action. Schön discusses what jazz musicians experience when improvising with other jazz musicians. These musicians' skills are developed through the practice that they do prior to the performance. They must understand *how* or *why* the music fits together and have a goal as to where they want the music to go. However, when improvising within a group, successful jazz musicians listen to the direction that the group is taking the music, re-evaluate that direction in the midst of their performance, and adjust their performance based on their evaluation of the situation, thus demonstrating their ability to reflect on their own assumptions and on the perspective of others while engaging in the action of their practice to transform the music (Schön, 1983).

Mezirow's Transformation Process in Adult Learning. According to the TLT, as first posed in 1975, the process of transformation includes the following steps with variances in the order they present themselves:

1. A disorienting dilemma
2. Self-examination with feelings of fear, anger, guilt, or shame
3. A critical assessment of assumptions
4. Recognition that one's discontent and the process of transformation are shared
5. Exploration of options for new roles, relationships, and actions
6. Planning a course of action
7. Acquiring knowledge and skills for implementing one's plans

8. Provisionally trying new roles

9. Building competence and self-confidence in new roles and relationships

10. A reintegration into one's life on the basis of conditions dictated by one's new perspective (Taylor & Cranton, 2012, p. 86; Mezirow, 2009, p. 19).

Disorienting Dilemma. Events that do not fit into the pattern of our lives inevitably occur. Mezirow (2012) designates these events as *disorienting dilemmas*. This chapter emphasizes disorienting dilemmas because they are the basis for transformational learning. These dilemmas cause us to become disoriented or confused. The word *confused* can take on several different meanings. For example, we may be puzzled as to which direction to take when dealing with the event; we may be bewildered about the emotions the event invokes; we may question where we stand with others because of the event; or we may become disorganized in how we think or act because of the event. Heaton (2000) described many of these disorienting or confusing reactions in her educational journey with her math students. A fortunate person might only experience one of these types of disorientation or confusion at any one given time and can handle them in the usual way—they experience the event, learn from it by adeptly integrating new skills within the current perspective and move on with life in incremental stages. However, Mezirow calls this a *dilemma* for a reason. In the transformation process, a person experiences disorientation in a very deep way—all-encompassing of the different disorientations or confusions at the same time. Heaton wrestled with her own confusions when deciding whether to break away from the prescribed curriculum. She realized the prescribed curriculum was not working; however, her training did not include breaking away from it. She wondered if her students would learn less if she decided to

forge a new path. When she finally decided to forge ahead with a new way of teaching, her confusions grew even greater as she wrestled with how to deal with the new way of teaching. When these confusions converge all at once, a dilemma ensues, and the usual way of handling events is no longer effective.   Thus, a critical analysis of the situation, along with a critical reflection of perspective, is necessary. Because humans envelop their belief systems in a strong layer of emotion, they experience tension and a level of anxiety during these dilemmas, which enables a perspective change (Mezirow, 1978). Cranton (2006) provides examples of such incidences: discovering knowledge that goes against what we have always believed to be true, being confronted with social norms that contradict what we believe, experiencing world-changing societal or political events such as wars, or experiencing any life crises such as divorce, illness or a death in the family. Self-examination at times such as these is not unusual.

Formative Assessment

What is Formative Assessment? Another crucial part of this study is the examination of formative assessment practices of less-experienced teachers. The term *formative assessment* has myriad definitions. In their seminal *Black Box* article in 1998, Black and Wiliam define formative assessment as "those activities undertaken by teachers—and by their students in assessing themselves—that provide information to be used as feedback to modify teaching and learning activities" (p. 140). They further emphasize that the gathered information must be used to adjust the instruction to fit the need at the time for the assessments to be called formative. Popham (2008) defines what he calls "transformative assessment" as "a planned process in which assessment-elicited evidence of students' status is used by teachers to adjust their ongoing instructional

procedures or by students to adjust their current learning tactics" (p. 6). Formative assessment, or real-time data as Heritage (2013) calls it, has five main features. It must: a) be intertwined with the learning that is happening; b) include individualized learning; c) show how the student is actually processing the information; d) reveal enough valuable information that teachers can use it to adjust their instruction; and e) eliciting evidence through real-time data must be continuous throughout the learning process.

If asked to define formative assessment, I would predict, based on my own early struggles with the formative assessment process, that many teachers could at least provide a general meaning for the term. Because of the amount of attention given to the assessment arena over the last several years, many teachers could probably provide a very explicit definition of *formative assessment* and differentiate it from *summative assessment*. However, of those same teachers who could explicitly define *formative assessment* and distinguish it from *summative assessment,* what would they say if asked to provide evidence of the use of formative assessment in their classrooms? How many teachers really know how to use formative assessment correctly? Of those who *know* how to use it, how many are actually *implementing* the formative assessment process in their classrooms by consistently collecting and utilizing the data to adapt instruction for and with their students?

Uncertainty Surrounding Formative Assessment Use. Prior to this study, for another project, I surveyed 25 high school teachers about formative assessment and 21 of them indicated they desire more help with formative assessment in their classrooms. In addition, all of the respondents agreed they would benefit from collaborative discussions with their colleagues regarding formative assessment. These survey results, along with

ample research on the topic (Black & Wiliam, Brookhart, Moss, & Long, 2008; Brown & Hattie, 2009; Coffey, Black, & Atkin, 2001; Pellegrino & Chudowsky, 2003; Stiggins, 2012; Wiliam, 2011), support my belief that many growth opportunities exist for teachers in this area.

Text Content Used for Study. The participants of this study collaborated on the topic of formative assessment using the text *Embedded Formative Assessment* (Wiliam, 2011), who organizes his book around the following key strategies of formative assessment. (I provide a summary of each of the five areas below).

1. Clarifying, sharing, and understanding learning intentions and criteria for success

2. Engineering effective classroom discussions, activities, and learning tasks that elicit evidence of learning

3. Providing feedback that moves learning forward

4. Activating learners as instructional resources for one another

5. Activating learners as the owners of their own learning (Leahy, Lyon, Thompson, & Wiliam, 2005, p. 46).

Clarifying, Sharing, and Understanding Learning Intentions and Criteria for Success. I have been guilty of "wallpaper objectives" (Wiliam, 2011, p. 56), where the teacher writes the learning objective on the whiteboard at the beginning of class, the students write it down in their notebooks, and the objective is never mentioned again by either the teacher or the students. This practice failed in its attempt to help my students know what to do. Wiliam argues that the "wallpaper objective" is a bad idea for two reasons: 1) students do not learn simply by seeing a statement that tells them what

they should learn, and 2) telling students where they are going can "completely spoil the journey!" (p. 57). In Heaton's (2000) journey with her students she allowed the students to be co-owners in the development of the learning outcomes by providing them with an opportunity to collaborate about those outcomes within context—a vital part of learning.

The difference between learning intentions (or outcomes) and success criteria can be confusing. Teachers many times believe learning intentions are the activities their students will be doing in class on any given day. But learning intentions go deeper than that. They are described as what students are *expected* to learn (Wiliam, 2011). In my early teaching experience, I planned ample activities for my students but rarely did I make explicit, in my own mind or to my students, the actual learning my students would have to do. This omission is why I was not able to appropriately explain to my students' parents what their children actually knew. Wiliam (2011, p. 48) provided a joke that is a perfect example of this problem:

> Amy: I taught my dog to whistle.
> Betty: Let's hear it then.
> Amy: He can't whistle.
> Betty: I thought you said you taught him to whistle.
> Amy: I did. He just didn't learn it.

The success criterion is described as the process used by the teacher to determine if the student has met the learning outcome (Wiliam, 2011). A rubric, for example, is a common tool used in this process. As a teacher who did not understand how to formatively assess my students, I would rely on a rubric to assign grades for my students, which is an appropriate use of a rubric. Another benefit to rubrics is they provide students with a roadmap for where they need to go to succeed. However, a rubric does not show what *learning* needs to take place for students to get to where they want to be at

the end of the process. Formative assessment is in the gauging of learning throughout the process. A grade on a rubric represents whether or not the student learned something, but teachers need to be able to say what it is students actually learned.

Stiggins (2012) clarifies the distinction between assessment *of* learning and assessment *for* learning by suggesting four questions teachers need to ask of themselves when planning instruction: a) What do my students need to know and understand to be ready to meet this standard? b) What patterns of reasoning must they master to meet the standard? c) What performance skills, if any, must they have mastered to be ready to meet the standard? and d) What product development capabilities must be mastered in order to meet the standard? The answers to these questions provide an explicit understanding of what learning needs to happen for students to meet the success criteria. Answering these questions was not something I knew to do as an inexperienced teacher, nor would it have been an easy task, even if I had known to ask myself the questions. Another layer of difficulty is that students do not all learn alike, so teachers need to identify the different stages of each student's learning to address the needs of each student. If teachers do not understand how their students learn, they will struggle with understanding their students' current levels of knowledge (Heritage, 2013).

Eliciting Evidence of Learners' Achievement. The formative process of gathering data is not an easy task as is evidenced by Heritage's five requirements for effective real-time data above. Adjoin the complexity of this process to the fact that many teachers either have not been trained in how to do it, or are resistant because they are inexpert, and the reasons for why formative assessment is a struggle become apparent. Teachers need expertise in data-gathering strategies, which entails more than

just knowing how to question students. Teachers also need to understand at what points in the lesson the data gathering would be best situated. Data gathering is planned and instinctive at the same time. Teachers should plan for when they will formatively assess which students at which times, with the understanding that other unscheduled moments to assess learning will most likely appear (Heritage, 2013). Learning how to listen to and evaluate student answers during the formative assessment is instrumental in being able to juggle all that effective formative assessment entails. All these components, done badly, could make formative assessment "dangerous" (Schafer, 2013, p.138) because inaccurate information could be gathered, leading to misconceptions.

>>>***Providing Feedback that Moves Learning Forward***. According to Wiliam (2011), students do not benefit from most of the feedback they receive from their teachers. In fact, some teacher feedback can even hinder student learning. For formative assessment to be effective, the feedback provided needs to be utilized by the students to progress their learning. "Feedback should cause thinking" (William, 2011, p. 127). Unfortunately, much feedback focuses on how the student did *on* the work, not on *what is next* in the learning process. Wiliam's simple solution to this problem is to advise teachers to give feedback only when there is time for students to grapple with how they can use that feedback to advance their learning.

Knowing how to effectively gather the data and provide feedback related to learning outcomes is dependent not only on teachers' content knowledge but also on their pedagogical content knowledge (PCK) (Shulman, 1986). Along with teachers' content knowledge and PCK, teacher assessment knowledge and self-concept, in addition to their districts' specific mandated grading policies and teachers' attitudes towards those

mandates, need to be considered. In my own experience, I was strong in my content

knowledge and my PCK; however, my lack of confidence in my assessment knowledge

and my resentment towards the district grading policies affected my formative

assessment use. Not until I had reflected on the mandated policies and considered how

they would fit into my frame of reference was I open to learning about and using

formative assessment effectively with my students.

    Another aspect to be considered when providing feedback to students is the

importance of understanding how to deal with learning errors (Leighton, Chu, & Seitz,

2013). This component is applicable to both students and teachers. From a very young

age, students are trained to think learning errors are unacceptable. This belief affects

student engagement (learned helplessness, Dweck, 1975), and student attitude (growth vs.

fixed mindset) (Dweck, 2010). Heaton (2000) struggled to allow students to make

learning errors during their collaboration. However, she realized that making those

learning errors was an invaluable part of the learning process, not only for the student

making the learning error, but also for all the students who were listening to him and

contributing their own understandings as they processed through his learning error aloud.

    Activating Students as Instructional Resources for One Another. During

my first year of teaching, I mentioned to my principal that I envied a veteran teacher

down the hall because that teacher had her entire year of instructional units all filed in a

neatly organized filing cabinet ready to photocopy. She had used the same instructional

units, most of them packets for students to work on individually, every year, so the only

planning she had to do at the beginning of the year was decide which unit to photocopy

first. I told my principal I could not wait until I had my entire year planned before the

year started and my instructional units filed and ready to photocopy. The principal did

not say anything at the time, but the next day, she came to my classroom and told me she

had signed me up for Cooperative Learning (Johnson & Johnson, 1994) training at our

district's educational service unit.

This professional development was the most effective in my 27 years of teaching

because it showed me the social aspect of learning—a truly epiphanic moment for me. I

used Cooperative Learning strategies for the rest of my teaching career. Wiliam (2011)

laments, however, that even though ample research exists to support this social aspect of

learning, very little collaboration is happening in classrooms. Fortunately, I had a

principal who knew I needed to broaden my educational world by learning more about

the cooperative learning. (I have never asked her, but I like to think that she felt

confident I would benefit from the Cooperative Learning sessions because I had a growth

mindset and would use the new information learned in the sessions.) Sadly, many of

today's teachers are not knowledgeable about the theoretical underpinnings of their

teaching practices and this limits their knowledge about how discovery and growth occur,

which causes them to teach the same way they themselves were once taught (Fried, p.

106).

Activating Students as Owners of Their Own Learning. When one

considers the factors of student motivation, the connection to formative assessment

becomes apparent. When students are asked to engage in learning, they base their

decision to participate on three sources: a) their own opinion of the activity within the

context, b) the level of challenge to be successful at the activity, c) their beliefs as to

whether they can accomplish the activity, and d) their personal interest in the activity

(Wiliam, 2011). Students make decisions based on these three things on a continual

basis. Effective formative assessment plays an integral part in helping students with

these decisions because students who are actively engaged in their own learning already

know where they are and what will be a challenge for them.

Wiliam (2011) shares five strategies teachers can utilize to increase student

engagement, which in turn can impact student motivation: a) allow students to gauge

their own progress by sharing the learning outcomes with them (This requires the

teachers themselves to know the learning outcomes!); b) lower student anxiety by

emphasizing that learning happens in stages; c) reduce opportunities for students to

compare scores with each other; d) give feedback that emphasizes steps that can be taken

for improvement as opposed to feedback that indicates what they did wrong without an

opportunity to improve; and e) encourage students to be in charge of their own learning.

Professional Development

My Professional Development History. The final area of research for this study

is the professional development of educators. Throughout my teaching career, I was

required to attend a certain number of teacher in-service or professional development

sessions provided by my school each year. These sessions varied in content, length, and

format. Some were attended by all staff members regardless of content areas. Because I

was usually thinking about how I should be grading papers or planning for the next day

during these all-staff required sessions, my memory is a little foggy as to the topics of

every all-staff professional development session I have attended over the years.

However, I do recall a few doozies to which I was subjected. I am dating myself by

mentioning some of these but I recall attending a session about Madeline Hunter, a

session about Jim Fay's Love and Logic, a session about Writing Across the Curriculum, a session in which a local school board member provided a lengthy description of several different investment options and then encouraged us to invest our money through his own investment firm, and an especially riveting session in which a former college football player showed us pictures of his kids for 90 minutes. (I still do not know the purpose of that in-service!)

Notice I prefaced all these topics with the words "a session". That is because these meetings were indeed just *one* session each. No follow-up sessions were provided. After each session, I gathered any provided handouts, threw them in a file folder, and went on with my day. These sessions were extremely ineffective in their attempt to impact my teaching, and highly effective in squelching any hopes I had held, especially when a novice but also as an experienced teacher, that anything good could come out of all-staff in-services.

Some sessions were specific to my content area. I will not list the topics of these sessions, but most of them were equally ineffective in their attempt to improve my abilities as an educator. I usually entered these content area sessions with hope that I would leave with useful information, and sometimes I did learn new teaching strategies. However, very few sessions were more than one-hit wonders and inevitably, the useful information was usually filed in a filing cabinet or stored somewhere in my brain and soon forgotten.

The delivery format of these in-services varied as well. Some were delivered by the sage-on-the-stage, in the early days with an overhead projector and transparencies, and in later years with PowerPoints or dizzying Prezis. Some were videos of sages-on-

the-stage, and some required us to meet as a whole group first, then break into small groups for some "contrived collegiality" (Hodkinson & Hodkinson, 2007, p.122), and then come back together again to process as a whole group. Regardless of format, many missed their mark and evaporated as soon as I left the building. I struggled, not for lack of trying, to reach the point of "high-road transfer"—that point where I took what I learned in the professional development session and transferred it to my classroom (Walpole & McKenna, 2015, p. 418.) But why did I struggle? What was missing?

What is Effective Professional Development? The professional development of public school teachers has been the subject of research for many years. With as much scrutiny as this topic has received, one might expect that the secret to the one most effective professional development program for teachers would have been discovered long ago. Why has this simple key to an effective professional development program eluded researchers for so long? It is likely no simple program exists as to the best way to help educators grow in their professional learning because of the ever-evolving nature of professional development itself. Look, for instance, at how definitions of professional development have changed over the years. Griffin defines professional development as the aim "to alter the professional practices, beliefs, and understanding of school persons toward an articulated end" (1983, p. 2). A few years later, Little described professional development as "any activity that is intended partly or primarily to prepare paid staff members for improved performance in present or future roles in the school districts" (1987, p. 491). Swan Dagen & Bean (2014) altered the name of professional *development* to professional *learning* and defined it as "those experiences that take place within a collaborative culture of shared leadership, that increase educators' knowledge

about content and pedagogy and enable them to use that knowledge to improve classroom and school practices that improve student learning" (p. 44).

Professional Development and Teacher Learning. In comparing the three definitions of professional development above, a shift is evident from the 1980's to 2014. The first two definitions focused on the end goal of changing the teaching practices of the teacher for the better. In the 2014 definition, the use of the term professional *learning* as opposed to professional *development* highlights the shift of focus from the teacher's performance to that of quality learning for the teacher for the betterment of the teacher's students. Of course one can infer from the first two definitions that improved student outcomes was the end goal. However, the 2014 definition makes that end goal much more explicit as well as providing more specific information about teacher learning that contributes to the end goal of improved student outcomes.

Professional *development* implies that staff members need to add new knowledge to their repertoire whereas professional *learning* implies that teachers are expanding their current knowledge to understand it on a deeper level through metacognition. Lieberman and Miller (2014) provide a wonderful comparison of in-service/staff development to professional learning (p. 9), which I am including here in table format.

Staff Development	Professional Learning
Primarily technical, skills-based work that promotes the application of prescribed skills and occurs in fragmented pieces.	Steady, intellectual work that promotes meaningful engagement with ideas and with colleagues over time.
Involves teachers most often in knowledge consumption through the transfer of knowledge by way of direct instruction.	Involves teachers in knowledge creation through collaborative inquiry into practice.
Relies on outside expert knowledge.	Relies on both inside teacher knowledge and outside expert knowledge.

Focuses on general problems of implementation of new programs and policies and tends toward a one-size-fits-all approach.	Focuses on specific problems of practice and takes into account the experience and knowledge of teachers.
Assumes that teachers will passively comply with the delivery of the content.	Assumes that teachers will actively engage in reflection, analysis, and critique.

Understanding Teachers for Professional Development. Most public schools mandate that their teachers attend a certain number of in-service or staff development sessions every year such as the sessions from my experience. When the in-service sessions are "decontextualized" by delivering one-size-fits-all in-service models to all teachers regardless of their content areas, their effectiveness is negatively impacted (Eisner, 1992, p. 614). Research has shown that teachers need professional development steeped in their own content so the information can be easily assimilated into their already existing instructional settings (Meijer, Oolbekkink, Meirink, & Lockhorst, 2013).

The reasons for this one-and-done in-service format to be used so frequently include school districts' time and money constraints; however, a fundamental lack of understanding of the ways in which teachers learn can also be a contributor, subsequently missing the mark in its desired effects. Just as a process is more successful when an outcome is determined beforehand, so too would teachers benefit from professional development that understands what teacher learning and support for that learning entails. Professional learning is a multi-faceted, much misunderstood process and until schools gain an understanding of how teachers grow professionally, they will not see optimal outcomes from their professional development (Clarke and Hollingsworth, 2002). Fortunately, ample research exists about teacher development and on workplace learning; however, very little literature exists about the connection between the two (Hodkinson &

Hodkinson, 2007).

What We Need to Know about Teacher Learning. Teacher change is a necessary part of professional growth for teachers and schools (Clarke and Hollingsworth, 2002). The Swan Dagen and Bean definition of professional development recognizes that teacher change cannot be assumed, just as it cannot be assumed that teacher learning comes before the end goal of improved student outcomes. Guskey's (2002) model of teacher change is based on the theory that a change in teachers' beliefs and attitudes will not happen until teachers change their classroom practices and see positive student outcomes. This model contradicts the common assumption that changes in teachers' beliefs and attitudes must happen first, before the changes in teachers' classroom practices and in students' learning outcomes occur. It is not so much the professional development that changes teachers' attitudes and beliefs but the successful implementation of the concepts learned in the professional development. Learning is about changing the learner—"constructing and developing and hopefully improving teachers through engagement with the process of learning" (Hodkinson & Hodkinson, 2007, p. 113).

Guskey's 2002 study also measured the affective side of teacher change and found that teachers who liked teaching more and who felt they were impacting student performance were the teachers whose attitudes and beliefs changed the most during professional development. Guskey notes change is gradual and difficult for teachers. Teachers do not like to become "unexpert" (Wiliam, 2011), nor does change happen uniformly, which is why an understanding of teachers' ways of knowing (Drago-Severson, 2012) is so important. Also, teachers need regular feedback on student

learning progress because teaching practices are more likely to be retained if teachers can see the implementation is successfully impacting students. Guskey notes teacher change also requires follow-up, support, and pressure. This support is imperative because angst may accompany those moments when teachers attempt to implement newly learned techniques. While pressure is a necessary part of the change process as teachers engage in trial and error (O'Connell Rust, 2009), one cannot expect teachers to go it alone. Delivering the professional development is the easy part. Sustaining the change through support is the most overlooked and ignored aspect (Guskey, 2002).

Components of Effective Professional Development. Although research supports that a one-size-fits-all-schools-and-teachers professional development program is not effective, certain components of effective professional development central to all learners do exist (e.g., Swan Dagen & Bean, 2014). These components have surfaced as professional development has evolved into a more professional learning approach in which the professional development focuses less on learning a new teaching strategy and more on each teacher as a person—"their values, beliefs, and assumptions about teaching and their ways of seeing the world" (Cranton & King, 2003, p. 33).

Construction and participation. Professional development for teachers must broaden teachers' opportunities to learn within their own environments or contexts, along with providing motivation and support as they develop meaning through their participation in the professional development (Hodkinson & Hodkinson, 2007). This mix of construction and participation is vital as it "provides a way of understanding learning that best fits the current research evidence" (p. 111). Participating in learning in their

own contexts helps teachers relate to their experiences at a more theoretical and practical level (Meijer, et. al., 2013).

Collegiality. Effective professional development views "teachers as learners" and "schools as learning communities" (Clarke & Hollingsworth, 2002, p. 948). Collegiality in schools, where teachers engage in conversations about shared goals related to teaching and learning, is an important part of effective professional development as well (Little, 2007). Drago-Severson (2012) includes "collegial inquiry" (p. 152) as those times when teachers engage in meaningful conversations with others. This dialogue occurs in a collegial environment where teachers may critically reflect on their own practices (Cranton & King, 2003) and learn to negotiate those new perspectives that may develop when new knowledge is encountered. This critical reflection could lead to more successful implementation within the classroom, which motivates teachers, because student success is how many teachers evaluate their own effectiveness (Guskey, 2002). A focus on collegiality at the teacher and classroom level supports all-school collegiality as well, where the school as a team works together toward a shared vision (Drago-Severson, 2012).

Collaboration. Teacher collaboration that occurs in a well-supported collegial environment allows for the professional development to relate to individual teachers' contexts (Meijer, et. al., 2013). It is important for teachers to have the opportunity to collaborate with one another because, from my experience in the classroom, it is very easy for schools to become so departmentalized, teachers have no connection to anything or anyone else in the school beyond their own classrooms. Collegial connections allow teachers to ponder questions and problems together. These

connections help teachers achieve their focus (O'Connell Rust, 2009) and develop their inquiry stances. Unfortunately, many teachers find it easier to work alone instead of collaborating with others (Drago-Severson, 2012). Effective professional development supports teachers as they build connections with others while working towards an understanding of new concepts and perspectives. Collaboration becomes even more important for teachers because acting on any new perspectives gained is dependent on a connection with others who share a similar view (Mezirow, 1978).

Time and sustainability. Successful professional development must be integrated into the school day and sustained over time (Little, 2007; Desimone, 2009; O'Connell Rust, 2009). Consider the four elements common to my professional growth throughout my teaching career: disorienting dilemmas, critical reflection, collaboration, and a held environment. None of these elements is something that could be grappled with or successfully implemented in one, two, or even three professional development sessions. Take, for example, a disorienting dilemma. I have attended many one-shot professional development sessions where we were introduced to a completely new mandated concept, such as new grading or disciplinary expectations, which threw many teachers into a state of angst, thus creating a disorienting dilemma for those teachers. According to the TLT, when our meaning frames are thrown into a state of confusion, we need time and support to come to terms with the new information. In my experience, I usually came to terms with the new information eventually, but generally without support. I wonder how much more effective I could have been as an educator if I would have been provided with time and support to reflect on how the new information fit with

my own experiences, to collaborate with colleagues about their own perspectives, and form those collegial conversations into a plan of action for my classroom?

    Teachers as agents of change.   Transformational change is a complicated process, but once the change is achieved, the sustainability of that change is even more daunting. Throughout my teacher career, I attended several workshops and came home inspired to use newly learned information in my classroom, only to put the new information on a shelf, never to be considered again. Why didn't I follow through with my plans to use the information? The answer: because teachers cannot do it alone. They need collegial groups or at the very least, a reflective partner or critical friend who will continue the inquiry and reflection process (Drago-Severson, 2012). These collegial groups or reflective partners are not only necessary for individual teachers themselves, but also for the schools and districts in which they work. In their Model for Facilitating Transformative Learning in Organizational Change, researchers Watkins, Marsick, and Faller (2012) describe how leaders can affect transformational change in their organizations by transforming the members of the organization through individual and group learning activities. They state schools should be used as workplace laboratories, where groups of teachers learn by experimenting with new approaches to teaching, and then critically reflecting both individually and in collegial groups. It is in this way teachers can be used as change agents for the benefit of the school as a whole. Unfortunately, these opportunities seem rare. Renowned educational psychologist Seymour Sarason was asked if educators are becoming better agents of change or if they just don't "get it" (Fried, p. 79). In response, Sarason offered this cryptic advice to teachers: "You may find, at best, only a superficial collegiality in the school, there is

likely to be no forum where ideas and possibilities can and are expected to be raised and discussed. So, you might as well save yourself from trouble by keeping quiet" (p. 79)

Sarason's response implies schools are not providing effective collegial opportunities for professional growth for teachers. However, not all schools have the same culture. It is the culture of the school that provides the filter for what is valued (Watkins, Marsick, & Faller, 2012). I have taught in schools such as Sarason mentions, where professional growth through collegial conversations was not valued or supported. I have also taught in schools where professional growth was encouraged and well supported but limited to individuals only. Teachers were given opportunities to learn new information and utilize it to the betterment of their own classes, but if they tried to broaden the scope of their learning by critically examining their place within the school system and as a colleague, not just as individual classroom teachers, they were labeled as negative teachers who challenged the system. I have also taught in schools that understood the key to success was a shared vision by all individual members to benefit the whole. In these schools, teachers were allowed time to collaboratively interact with their peers, both content-area peers and all-staff peers, to analyze and question aspects of the shared vision and customize it, based on their shared conversations and learnings, to become their own.

Immersion into theory. Teachers' practices are guided by their tacit, underlying theoretical beliefs; unfortunately, these theoretical beliefs are rarely brought to the surface for scrutiny (Bransford, Derry, Berliner, & Hammerness, (with K. L. Beckett), 2005). In order for people to critically examine theoretical beliefs, these

theories need to be made "explicit" (p. 41). Based on this research, I intertwined theoretical perspectives into the learning process as well in my research study.

Purpose of This Study

Part of my job is to assist districts as they work toward the goal of effective system-wide formative assessment, yet I first had to connect my own experiences to that of the experiences of the less experienced teachers whom I observed in this study, to understand the complexities of the professional development opportunities that might be necessary to help districts reach their assessment goals. However, as an employee of the state department, I feel it is also part of my job to know the impact of current legislation on teachers in the area of assessment. This knowledge will allow me to better assist in the decision-making process at the state level.

In this study, I acted as a "cognitive coach" of sorts (McKenna & Walpole, 2008, p. 5), providing teachers with opportunities to grow and watching their individual progress through the growth process of using formative assessment in their classrooms. I chose the area of formative assessment because of its connection to my current position with the state department of education. I knew a study was necessary because of my own early struggles with the formative assessment process and also because research indicates it is difficult to know how to provide effective feedback to guide student learning (Wiliam, 2011). These experiences convinced me that the formative assessment process is a struggle for many teachers and that observing teachers as they collaborate to critically examine formative assessment and its theoretical bases is a critical step in understanding how to best support teachers in their journey through perspective transformation toward professional maturity.

The study consisted of six professional development sessions during which my participants and I delved into the theoretical and practical aspects of formative assessment. The main purpose of the professional development sessions was to allow participants a forum for collaborative discussions regarding their understandings of and their struggles with formative assessment in their classrooms. Through the in-depth study of formative assessment and the collegial collaborations, new understandings were developed not only in the participants' use of formative assessment, but also in their perspectives regarding the purpose of formative assessment and its impact on student achievement. Additionally, I now better understand the connection between teacher development and workplace learning because of this study's focus on the following research questions:

Primary research question:

- How is professional development in formative assessment related to perspective transformation?

Subsidiary questions:

- How does a theoretical base relate to practitioners' understanding of formative assessment?

- How do practitioners negotiate the effective use of formative assessment through collaborative discussion as they enact it in their practice?

CHAPTER 3: METHODOLOGY, PROCEDURES, AND STUDY CONTEXT

Introduction

I left classroom teaching to work for the State Assessment Office at our state department of education. This position gives me insight regarding the conversations occurring at the policy level about assessment in our schools. Our department of education has embarked on a quest to modify the legislatively mandated assessment and accountability system to focus more on information directly useful for districts and less on accountability and evaluation. The newly designed system concentrates on more than just state Reading, Math, Writing, and Science scores. It also highlights six other tenets or areas of focus, one of which is systemic and sustained assessment practices already in place in schools. One of my roles as a member of the state assessment team is to work with teachers and administrators across the state to determine what successful systemic formative assessment looks like and what supports districts need in this area to ensure successful use of it. Before I can help make decisions at the state level about the kinds of support needed, I need to understand teachers' thoughts and actions regarding formative assessment and their use of supports already in place in their schools. This work was guided by my research questions:

Primary research question:

- How is professional development in formative assessment related to perspective transformation?

Subsidiary questions:

- How does a theoretical base relate to practitioners' understanding of formative assessment?

• How do practitioners negotiate the effective use of formative assessment

through collaboration and reflection as they enact it in their practice?

Study Design

to   **Case Study.** Yin defines a case study as "an empirical inquiry that

investigates a contemporary phenomenon within its real-life context, especially

when the boundaries between phenomenon and context are not clearly evident" (Yin,

2003, p. 13). A case study method is suitable when the questions being asked by the

researcher are "how" and "why" (Yin, 1994, p. 9). I chose a case study research design

because (a) this inquiry describes the thoughts and actions of teachers as they

maneuvered through new challenges with and consequent understandings of formative

assessment (the phenomenon) within their classrooms and their collaborative group (the

context); (b) I gained insight on *how* professional development in formative assessment is

related perspective transformation and *why* teacher learning makes a difference to the

effectiveness of professional development; and (c) I studied the story that emerged from

the data.

The design of this study spanned the length of my doctoral studies. I was a

teacher for the first half of my studies and employed at the state department level for the

second half, which provided me a unique position as a practitioner researcher. The case

study design, while maligned by much methodological literature as having no merit

(Schrank, 2006), allowed me to produce the narrative analyses found in Ch. 4 of this

dissertation that capture the nuances of the participants' and my experiences over time.

Schrank claims qualitative researchers overlook the generalizability of their studies in

order to capture these nuances of their participants' experiences; however, Stake (1978) argues the case study method allows for a more "naturalistic generalization", where an in-depth understanding of the details within "new and foreign contexts" (p. 6) becomes valuable.

Instrumental Steps in My Case Study. The steps to a case study research design include planning, designing, preparing, collecting, analyzing, and sharing (Yin, 2009).
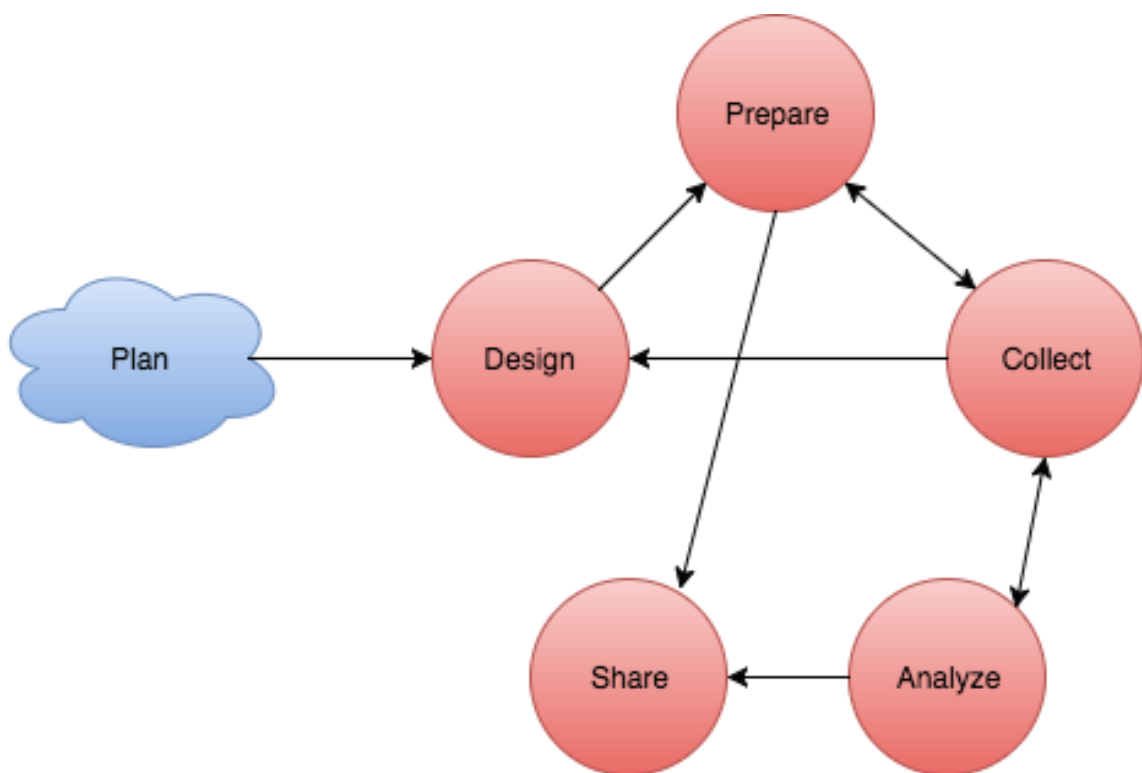
In the *planning* stage for my study, I immersed myself in literature to guide my decisions. I also relied on feedback from my committee members and fellow graduate students. Once I decided on the case study design and developed my research questions, I entered the *design* stage, during which I decided what "underlying ideas and assumptions" (Wolcott, 1992, p. 7) would guide my study. I specified my case as one of perspective development and narratives of the professional experiences of my

participants and myself as the units of analyses. I also chose the TLT as a theoretical

background for the study.

Once my study was designed, I entered the *prepare* phase. This phase involved

(a) becoming well-versed in the characteristics of case study investigation protocol

through my graduate courses in research and case study methods, and (b) obtaining

approval for the study from the Capital View School District (June 15, 2015) (see

Appendix A for letter), and from the Institutional Review Board (IRB) (July 15, 2015)

(see Appendix B for letter). In the *collection* stage, I followed the protocols I learned in

the preparation stage. To triangulate my data, I collected pre- and post-interview

responses and reflection journal responses, and took informal observational notes

throughout the study. Case study is the "analysis of a bounded system" (Merriam, 2009,

p. 40). My case was bounded in time by six, 2-hour observations, over a 14-week period

of time.

Yin calls *analysis* one of the most difficult stages of case study research because

so many researchers fail to have a general analytic strategy in place prior to collecting

data. The use of a general strategy helps researchers select an analytic technique that best

fits the needs of their study (Yin, 1994). My chosen general analytic strategy was to use

the TLT to guide me through an open coding approach to the data analysis.

In the final stage, *sharing* the results, I determined my audience. This study was

designed with three audiences in mind: (a) teachers seeking to understand the nuances of

effective teaching, (b) researchers who want to see how research influences teachers'

decisions, and (c) policy makers wanting to view how policy is acted upon (O'Connell-

Rust, 2009). I also developed a written narrative of the results with corresponding graphs

and charts, and concluded with the implications of my research.

My Case

A literature review revealed that teachers struggle to make sense of formative assessment in their classrooms (Heritage, 2013; Popham, 2008; Stiggins, 2007; Wiliam, 2011). Teachers need opportunities to collaborate with peers to work through the dilemma these types of struggles cause (Tillema & van der Westhuizen, 2006; Shulman & Shulman, 2004; Zeichner, 2006). To gain insight on teachers' views on formative assessment and to determine how teachers make sense of what they know and do within the context of their workplace, I assumed the role of practitioner researcher.

Researcher Role. Realizing the role of researcher was vital to this study's success. I was able to fulfill the duties of practitioner researcher in this study because of the following understandings:

1. Researchers Cochran-Smith & Lytle's (2010) understanding of, and expertise in, practitioner research was the result of myriad experiences in their professional and educational careers, that when melded together, provided them with the framework called an inquiry stance—that worldview and critical habit of mind, derived from epiphanic moments, necessary for all practitioner researchers. My myriad experiences throughout the span of my professional career and educational settings have led me to my own inquiry stance, and the understanding that this study is necessary not only to my own journey, but also to the teaching profession.

2. Because my teaching path was similar to those of the participants, I was able to understand the data at a deeper level than someone who had not been in that position. Some might consider my status as a former teacher in the Capitol View District as a limitation to the research; however, this "insider status" is actually considered an asset of practitioner research because of the "unique insight" and "longitudinal viewpoint" it provides (Cochran-Smith & Lytle, 2009, p. 101). Additionally, my insider status made it possible for me to procure an offer of professional development hours through the school district.

3. At times during the sessions, the participants made somewhat negative comments regarding their administrators or district personnel, but expressing these comments was a part of the rich data collection process. In my data analyses in Ch. 4, I chose my words carefully in some situations so as not to cause issues for my participants with their administrators or district personnel.

4. My position in the department of education and as a former teacher leader and professional developer helped me understand the necessity of a combination of both theory and practice approach during this study.

5. I understood the study's participants might have been influenced by certain uncontrollable aspects. Their need to receive praise for work well done, their distrust of me or the research in general, and their ideas of what I expected them to say are just three examples of these aspects (Wilson, 1977).

6. Determining when to say something during the sessions and when to stay quiet was vital for me to realize in this study. It was not my job to lead my participants a certain direction, but to reflect on their conversations to determine the *how*'s and *why*'s of their experiences. This consideration is similar to what Heaton (2000) faced as she and her 4th grade math students ventured from their prescribed curriculum. She learned that to allow her students to become teachers of themselves and to others, she had to take the risk of assuming the role of student herself.

All the above placed me in the position to examine the issue of the impact of professional development in formative assessment on perspective change.

Theoretical Framework. The TLT is the theoretical framework that provides the guidance for my case. This adult learning theoretical framework maintains that when circumstances require us to critically examine our experiences, both individually and collaboratively, we can change our ways of handling situations, thus developing new views or perspective frameworks (Mezirow, 1978). The primary focus of the TLT, especially its focus on adult development, is the importance of learning to understand our belief systems well enough to change them if and when necessary. We all have frames of reference we use to make sense of our worlds and it is not until something challenges our

belief systems that we are inclined to re-evaluate our frames of references. This study focused on formative assessment, which provided the necessary challenge for the participants to re-evaluate their frames of reference and also provided an avenue for them to develop new frames.

Case Study Literature. Several case studies served as references for me in the areas that are the focus of this study (Glowacki-Dudka, et al., 2012; Konopasky & Reybold, 2015; MacKenzie, Bell, Bohan, Brown, Burke, Cogdell, Jamieson, McAdam, McKerlie, Morrow, Paschke, & Tierney, 2010). These studies all shared some of the same components as my study, such as small participant groups, semi-structured interviews with each participant about their learning and experiences, observations of teachers as they engaged in collaborative interactions, and analyses of participants' written reflections. The findings throughout these studies supported the research from Ch. 2 that described the key components of professional development necessary for productive learning experiences and perspective change.

Framework for Professional Development. Four elements of adult learning are prevalent in all adult learning theories: recognizing individual learning differences in participants, self- and/or critical reflection, collaborative inquiry, and recognizing the role of social context (Rohlwing & Spelman, 2014). These four elements provided the foundation for the professional development sessions in this study.

Meirink, Meijer, Verloop, & Bergen (2009) identified four necessary elements for effective professional development, all of which I incorporated into the sessions in this study: 1) the professional development content reflects what teachers are dealing with in

their classrooms; 2) collaboration with peers; 3) extended time for teachers to grapple with the information; and 4) alignment with school policies.

Walpole and McKenna (2015) provide a list of engagement activities in their discussion regarding best practices in professional development. Providing professional texts for the basis of collaborative discussions, such as the Wiliam text (2011) for my participants was one activity. Another activity from my sessions, also mentioned by Walpole and McKenna, is the implementation of new instructional strategies followed by collaborative discussions regarding the implementation.

Taylor (2009), conducting over 12 years of research about the TLT, identified several practices that would foster transformative learning, which served as a valuable guide when planning and conducting the sessions for this study: a) individual learning, b) critical reflection, c) dialogue (individual and collaborative), d) attention to a multitude of ways of knowing, e) emphasis on context, and f) trusting relationships that lead to open dialogue and mutual understandings.

Participant Selection. Because the participants in this study were defined by a set of criteria, the sample was considered purposeful (Yin, 2009). To participate, teachers had to: (a) be employed by the Capitol View District, (b) be certified in middle school or high school English Language Arts, and (c) have five or less years of teaching experience. The participants also constituted a sample of convenience. My former employment and good standing with the Capitol View District gave me access to the district employee who developed a list of teachers meeting the above criteria. This same employee sent the original email invitation alerting them to the upcoming study. I chose less experienced ELA/Reading teachers because they are representative of the larger

phenomenon on which this study will focus—that of grappling with the complexities of formative assessment and its theoretical underpinnings within the context of professional development. There has been a call for more research in the area of less experienced teachers (Anders, Hoffman, & Duffy, 2000). Merriman (2014) calls for a greater focus on developing teacher expertise, both in content and in pedagogy.

Four teachers responded to the invitation, gave their informed consent to be audio-taped during the sessions, and participated in the study. Chapter 4 will not include information from one of the participants. Even though she attended every session, she did not complete all required reflection journals, making it difficult for me gather rich enough data about her experiences in the study. At the end of the study, she offered to complete the rest of journal entries but I declined to have her do this.

Participants

Kristen. Kristen, a 26-year-old female, has been teaching in the Capitol View district for three years after completing her student teaching experience at a different high school within the Capitol View district. She has not taught in any other district. Currently she teaches three sections of English 9D and two sections of English 11. The focus of 9D is reading and writing and there are approximately 25 students per section, although last year she had one section with 30 students. No students in 9D have an IEP because it is a differentiated/gifted course. English 11, a class with an average class size of 16 and 40% of students with IEPs, focuses mainly on practicing persuasion to prepare students for the persuasive essay on the required state writing test. In previous years, Kristen taught English 9, Composition, and Advanced Composition.

Kristen began considering a teaching career as a junior in a large private high school, when a guidance counselor asked her about her plans after high school. A Spanish class project requiring Kristen to work with elementary school students solidified her choice to pursue education as a career. Kristen says she "fell in love" with the look in the students' eyes when they were successful in understanding a concept. She enrolled as an education major at the local university. After a year of college classes in elementary education, she decided she would rather teach high school students, so she finished her education program in secondary education.   A year of teaching convinced her she had made the right choice by entering the education field, so she pursued and graduated with a master's degree in Curriculum and Instruction. She plans to teach for four more years and then reevaluate her situation to determine whether to stay in the classroom or investigate other options, such as getting a reading endorsement or becoming an instructional coach or curriculum leader.

When asked her primary reason for participating in the professional learning sessions for this research study, Kristen revealed she wants her students to be successful and does not want the way she controls a gradebook to harm them academically. She felt discussion about formative assessment with her peers would help her be more confident in how she grades her students. Kristen feels one of her strengths as a teacher is working well with students and building good relationships with them. She also feels confident in planning for her classes and her classroom management. She is least confident in the area of grading and the arbitrariness of the points in her gradebook. She knows coaches, administrators, and IEP managers pay close attention to student grades, and for this reason, believes the staff in the district would benefit from more guidance on what

formative assessment is and how it should be used and how students' formative and summative work connect to grading. It bothers her that some of her peers grade students' formative work and use it as a summative in the gradebook as punishment or as a way to motivate students to complete the work.

Sue. Sue is a 24-year-old female who has been teaching in the Capitol View district for two years.   After student teaching in the Capitol View district, she taught four sections of English 8 and three sections of English 12 for one year in a small town in the same area of the state. After her first year of teaching, she returned to the high school where she student taught within the Capitol View district and currently teaches two sections of English 11, one section of English 10D, and the Newspaper and Photojournalism classes there. English 10D is similar to English 9D in that it is a differentiated/gifted course that focuses on reading and writing. However, the average class size is 30, as opposed to 25 in English 9D.   The average class size in the Newspaper and Photojournalism classes is 12, mostly non-IEP students.

Sue, like many who pursue a career in education, chose this path in part because she was surrounded by educators her entire life. Both of her parents are classroom teachers. Sue also attributes her career choice to her middle and high school English teachers in her small public school and also to the opportunity she had in high school to tutor struggling students. She completed her education degree at the local university. She is grateful for her student teaching experience in an Advanced Placement Language/Composition course because she felt it bolstered her content knowledge, an area in which she lacks self-confidence, more than any education she had had up to that point.

Although she did not consider herself a struggling student in high school, she admits English was not her strongest area. When she decided on education as a career, it was her high school English teacher who convinced her to teach ELA. When Sue expressed concern about her lack of confidence in her content knowledge at that point, her English teacher explained to her that her confidence would come with time, and that Sue's lack of confidence would be a benefit to her teaching because it would enable her to understand her students' own lack of self-efficacy and enhance her ability to get to the student level. Because of this conversation years ago, Sue's main concern is ensuring that she is reaching her students through her teaching so they have the opportunity to understand the content better than she did at that age.

Of all her courses, Sue is the least confident in her ability to teach English 10D because these students are considered the top students and have a good command of ELA concepts. She spends a considerable amount of time planning for this course so students do not notice her lack of confidence. Sue also lacks confidence in her Journalism classes and the Newspaper class because she has not had any experience in Journalism and limited experience in Newspaper. She feels most confident teaching the struggling writers in her English 11 course.

Sue says she never wants to stop learning, which is why she plans to get her master's degree in Curriculum and Instruction while continuing to teach ELA courses at the high school level. She worries about her continued opportunities to grow in her profession, however. She wishes she had more time to collaborate with teachers about her classroom experiences. In her post-interview, she explained that because her husband is not an educator, her discussions about ELA concepts and how to teach them, end at

school, and because of teachers' busy schedules during the day, those conversations rarely occur. She expressed an interest in voluntarily meeting once every other week or once a month with other teachers who want to have more conversations similar to what we discussed in our professional development sessions for this study.

   Mindy. Mindy, a 25-year-old female, completed her student teaching at a Capitol View middle school and is currently in her second year of teaching at another middle school within the district. She teaches one section of 6th grade Language Arts and four sections of 7th grade Language Communication Arts. Her 6th grade Language Arts course is 2 hours and 18 minutes long every day. None of the 21 students in that class has an IEP but Mindy describes the course as quite challenging because of the various ability levels and behaviors of her students. Her Language Communication Arts courses include a combination of both IEP and non-IEP students and range from 26-30 students per class.

  Mindy's entire K-12 education was in the Capitol View district. She feels grateful she was able to complete her entire K-12 education within the same district. Because three of her grandparents and both parents were or currently are in education, Mindy, like Sue, was surrounded by educators her entire life. Her parents never encouraged her to be a teacher; in fact, her father tried to persuade her to pursue a career outside the education field. But Mindy thinks that she was meant to be a teacher. After exploring majors in communications and advertising at the local university, she landed on the major of English with a minor in education. Because she was not accepted into the education program at the local university, she enrolled in a "fast-track" program at a smaller neighboring university and completed her teaching degree there. She then

furthered her education by earning a Master's Degree in Curriculum and Instruction at the same university.

Mindy credits her mom, a 1st grade teacher, for instilling the love of teaching in her. Mindy realized, however, after working with all ages of students, that she preferred the middle school level as opposed to the elementary level like her mom. Mindy enjoys teaching Language Communication Arts immensely so her long-term goal is to remain in the classroom. She is proud of the improvement she has seen in herself between her first and second years of teaching and anticipates she will see much more growth in her abilities as an educator over the next five years. She looks forward to working with her students as they get accustomed to their individual district-provided Chromebooks. She stresses the importance of staying up-to-date with new concepts, especially technology. She feels many teachers get "stuck in their ways" and does not want to be "like that".

Building a positive rapport with her students is an area in which Mindy feels fairly confident. She says she makes an effort to get to know each of her students because this helps her understand why students behave in certain ways. She works hard to develop respect and trust in her classroom. As with many young teachers, Mindy feels least confident in her ability to handle behavior situations. She questions how she disciplines and does not feel her administrators always provide her with adequate feedback about how she handles situations in her classroom.

Another area in which Mindy feels less confident is formative assessment, especially in her 6th grade Language Arts class. Her struggle centers around the lesson plans provided by her district. The lessons are designed for students to use for practice. Mindy is unsure if she is supposed to grade those lessons and place them in the

gradebook as formative grades, or if, since they are meant for practice, provide students with feedback about their results, but not grade them. Her 7th-grade curriculum, also district-provided, more clearly provides formative assessment opportunities because of certain district assessments the students are required to take in this class. Mindy signed up for this study because she does not feel her school focuses enough on the importance of formative assessment use in the classroom and she is hoping to understand the topic better so she can use it more effectively in her teaching.

Table 3.1: Study participants' teaching experience and certification

Participant	Teaching Experience	Courses Taught (Current and *Past*)	Teaching Certification Area(s)
Kristen	3 years	English 9D English 11 *English 9* *Composition* *Advanced Composition*	7-12 Language Arts
Mindy	2 years	6th grade Language Arts 7th grade Language Communication Arts	7-12 Language Arts
Sue	3 years	English 10D English 11 Newspaper Photojournalism *English 8* *English 12*	7-12 Language Arts

Self-Study. The Carnegie Project on the Education Doctorate (CPED) emphasizes that practitioner research is important to the research field because the insider view of the teacher provides a unique and valuable perspective. This type of research is not without its critics because of its supposed bias and perceived lack of generalizability (Cochran-Smith & Lytle, 2009). However, some see this lack of scientific generalizability as a necessary aspect of practitioner research and that as researchers in practice collect their data, their understandings *should* change, creating the need to

recalibrate the focus of their research (Gottlieb, 2006). For studies such as these to be valuable to others in the field, the researchers' own perspectives need to be brought into the open and confronted. This is how new knowledge is constructed (Tillema, 2006). While conducting this study, my own understandings of the participants' experiences with formative assessment changed from my original assumptions, forcing me to reconsider the ideas underlying this study.

       Research Site: The Capitol View District. The district in which all participants teach is a large urban school district in the Midwestern United States. The district has six high schools, 12 middle schools, 39 elementary schools, and 8 focus schools. The district has a large central district office that supports its schools and teachers by providing professional development opportunities, curriculum materials, and guidance for teachers and administrators. In the Language Arts area, the district has a secondary ELA curriculum specialist, a reading specialist, and a writing specialist. The amount of curriculum materials the district provides for its teachers varies by course. A more detailed explanation of district policies pertinent to this study is provided in Ch. 4.

       The participants' pre-interviews and all sessions were conducted in a classroom of one of the high school participants. The post-interviews were conducted in each participant's own classroom, all completed within one week after the conclusion of the sessions.

Data Collection

       Procedure. Prior to the beginning of my research study, several steps occurred. First, I received IRB approval, as well as approval from the Capitol View District, to conduct my research (see Appendices A and B for Approval Letters). I then contacted a

Capitol View District Office employee, then the Director of Secondary Language Arts for

the district, and asked if he would agree to complete three activities: (a) compile a list of

all teachers in the district who met my participation criteria, (b) send an email that had

been prepared by me to all potential participants (see Appendix D for letter), and (c)

reward my future participants with points to be applied toward their annual required

professional development points. He agreed to all conditions and sent my email to all

potential participants.

Four participants agreed to participate. The original plan was to start the study in

the late summer or early fall of 2015. However, the participants and I all became too

busy in the fall and agreed to wait until January 2016 to begin. We met for a preliminary

meeting in January 2016 during which we discussed the requirements of the study:

The participants were required to

- attend all sessions and contribute to the discussions;
- complete at least one Creative Workshop Journal entry (see Appendix E for example) at the conclusion of each 2-hour session;
- complete at least one Reflective Workshop Journal entry (see Appendix F for example) at some point between each session; and
- complete all required readings.

If the participants met the above requirements, they would receive

- $100 cash
- free text entitled *Embedded Formative Assessment* by Dylan Wiliam
- as many professional development hours they needed to meet their district's requirement <u>once they had completed all required sessions</u>

Once the participants agreed to the conditions of the study, all participants signed

consent forms agreeing to be audio-taped during the sessions. (The sole purpose of the

audio recordings was for me to check the accuracy of my informal observational notes if

necessary. Audio recordings were made on a personal Ipad.) All participants were assured the data would be kept confidential and anonymous, and were informed they could remove themselves at any time throughout the course of the study. They were also informed this study had no connection to the Capitol View District other than the site of the study and the professional development hours that would be awarded to them at the conclusion of the study. We created group norms that evening and ended with individual pre-interviews (see Appendix G for pre-interview questions). After this January meeting, we met five more times as a whole group for 2-hour sessions each time in February, March, and April. After the final session, I met each participant in her own classroom in April, two of them on a Saturday morning and one on a Thursday evening (as per their requested times).

      Collaborative Sessions. The collaborative professional development sessions from February through April were based on the chapters from the Wiliam text along with other relevant articles and teachingchannel.org videos. (See Appendix C for example session agenda and Appendix H for supplementary articles and videos). Each session began with a reminder of the group norms established during the initial January meeting. Participants were then asked to share information about the formative assessment practices they had attempted in their classrooms since the last session. After 30-35 minutes of discussion, the participants were usually given 15-20 minutes to silently (a) review discussion prompts for the Wiliam text assigned reading, (b) skim any articles that were provided at the beginning of the session, (c) fill out a Creative Workshop Journal entry (optional), and (d) take a quick break if needed. After this, we discussed the prompts and articles. At the end of the sessions, participants were given 10 minutes to

fill out a Creative Workshop Journal entry (required).

Meeting dates and times were determined by the participants during the initial January meeting. All sessions were conducted from 5:00-7:00 p.m. on weeknights, except for one, which was rescheduled for a Saturday morning (date and time again chosen by the participants) because of a snowstorm on the day of the originally scheduled session. All participants were in attendance for each session in its entirety throughout the study. See Table 3.2 for the estimated amount of time expended by each participant.

Table 3.2: Estimated Time Amounts Per Participant

	Kristen	**Mindy**	**Sue**
Professional Development Sessions (Six sessions/Two hours each)	12 hours	12 hours	12 hours
Assigned Readings (45 minutes-five sessions)	3 hours/45 minutes	3 hours/45 minutes	3 hours/45 minutes
Pre-Interview	30 minutes	30 minutes	30 minutes
Post-Interview	1 hour	1 hour	1 hour
Reflective Workshop Journal Entries (20 minutes each)	2 hours/40 minutes (8 submissions)	3 hours (9 submissions)	4 hours (12 submissions)
Creative Workshop Journal Entries (15 minutes each)	1 hour/30 minutes (6 submissions)	1 hour/15 minutes (5 submissions)	1 hour/15 minutes (5 submissions)
Total Time	21 hours/25 minutes	21 hours/30 minutes	22 hours/30 minutes

Interviews. The pre- and post-interviews (see Appendix I for post-interview questions) for this study as one part of my data collection were semi-structured, in that I

used a prepared set of interview questions but followed the participants' responses with more probing questions as the need arose (Roulston, 2010). I chose this option because it allowed for more flexibility, although I realized the use of this type of interview process would require me to listen appropriately and to adjust accordingly to ensure all questions were addressed (Roulston, 2010). I relied on my own teaching expertise, along with my past teaching experiences within the same district, and my own experiences with transformed learning to move beyond the structured questions.

Interviews are recognized as important sources of information; however, Yin cautions they are "verbal reports" (1994, p. 85), which makes them subject to bias and validity issues. Also, critics of the interview process maintain participants are not always honest in their answers, sometimes saying what they believe the researchers want to hear (Roulston, 2010). So that these bias and validity issues did not have an undue affect on this study, I triangulated my collection processes to substantiate my data. All pre- and post-interviews were conducted individually with each participant and occurred within teacher classrooms in the Capitol View School District.

It should be noted the pre- and post-interviews used in this study did not contain all the same questions. The pre-interview was used to determine the participants' current formative assessment knowledge and their confidence in their use of it, as well as to gain knowledge about the participants' previous professional development experiences. The post-interview was used to determine the participants' opinions about their experiences in the study, specifically addressing the Creative and Reflective Workshop Journal entries, the collaborative format of the professional development sessions, and their confidence in their formative assessment knowledge. Therefore, the purpose of the interviews was not

to paint a before and after picture for the audience but to add information to the rich deep descriptions in Chapter. 4.

Informal Observational Notes. During the pre- and post-interviews and the professional development sessions, I wrote informal observational notes of the participants' conversations to be used for critical examination in conjunction with the other forms of data collected during this study. These observational notes were not complete transcriptions of the sessions' conversations but rather my notes about comments made that I considered pertinent, and as well as my observations of things such as participant behaviors, facial expressions, and tones of voice. These notes were merely my observations, written in a very direct and dry form, and should not be confused with my written narratives in Ch. 4 that provide rich, thick descriptions of the collected data (Yin, 2009). The sole purpose of these observational notes was to provide evidence of the observations to strengthen the data collection of this study. Audio recordings of the pre- and post-interviews and session discussions were made for the purpose of fact-checking at the completion of the study. To verify the accuracy of the data and to add credibility to my conclusions from the triangulated data, I also conducted memberchecks by asking participants to review the draft findings and provide me with any comments regarding inaccuracies.

Creative Workshop Journal Entries. Creative Workshop Journal entries (Zohar,1997) were completed by the participants at the end of each session on a Google Form. The focus of the Creative Workshops questions was twofold: to determine what, if anything, during each session's discussion, impacted the participants' belief systems; and the formative assessment plans each participant had for her classroom in the coming

weeks.

Reflective Workshop Journal Entries. The Reflective Workshop Journal entries (Zohar, 1997) also completed on a Google Form, asked participants to journal about any formative assessment practices they used in their classes in-between sessions. The purpose of the Reflective Workshop Journal entries was to allow the participants to reflect on the formative assessment strategies they used in their classrooms, and to provide relevant discussion prompts for each professional development session. These journal entries also provided me with an opportunity to see into the participants' classrooms without doing classroom observations. Participants were asked to complete at least one Reflective Workshop Journal entry prior to the next session; however, some participants took advantage of the opportunity to complete more than one Reflective Workshop Journal entry between sessions.

Use of Journal Entries to Guide Discussions. Each session agenda relied somewhat on the responses to the participants' Reflective Workshop and Creative Workshop Journal entries. After each session, I read through the data from the Creative Workshop Journal entries, and before each session, I read through the data from the Reflective Workshop Journal entries to determine what, if any, information would be helpful for the entire group to discuss to further their formative assessment knowledge. When I found information that would benefit the entire group, I would contact the participant and ask her to share out at the next session. My consistent analysis of the data during the study guided part of the discussion for subsequent sessions, thus guided the direction of this study.

Validation

Constructivist Lens. Creswell and Miller (2000) describe different lenses through which qualitative researchers may look to establish validity in their research. One of those is through the lens of the researchers themselves. Researchers use their own lenses when they make decisions about themes in their data, or whether the data can be transformed into a narrative with thick, rich descriptions. These lenses are shaped by the researchers' own perspectives, one of which is that of constructivism. Constructivist researchers demonstrate validity with approaches that enable them to better understand how others construct their own meaning, which is the lens through which this inquiry was conducted.

Triangulation of Data. Triangulation of data, when researchers search for themes in a variety of data sources, is vital to the validity of case studies written from the constructivist perspective. Each data source is used to "corroborate and augment" the other data sources (Yin, 1994, p. 81). For the purposes of triangulation of data to establish validity of the data collection instruments in this study, a variety of different sources were used: (a) pre- and post-interviews, (b) reflection journals, and (c) informal observational notes.

Table 3.3: Relationship between Activities and Research Questions

Activity	Location	Related Research Questions	Type of Data
Participant Interviews	Session Classroom for all participants' pre-interviews Personal Classrooms for all participants' post-interviews	How is professional development in formative assessment related to perspective transformation?	Observational Notes Audio Recordings
Professional Development Sessions	Capitol View School District Classroom	How is professional development in formative assessment related to	Observational Notes

		perspective transformation?	Audio Recordings
		How does a theoretical base relate to practitioners' understanding of formative assessment?	
		How do practitioners negotiate the effective use of formative assessment through collaborative discussion as they enact it in their practice?	
Reflective Workshop Journal Entries	Google Forms	How is professional development in formative assessment related to perspective transformation?	Google Document
		How does a theoretical base relate to practitioners' understanding of formative assessment?	
Creative Workshop Journal Entries	Google Forms	How is professional development in formative assessment related to perspective transformation?	Google Document
		How do practitioners negotiate the effective use of formative assessment through collaborative discussion as they enact it in their practice?	

Memberchecking. Memberchecking is a validity procedure researchers use to check the accuracy of their findings. One way to do this is to organize a focus group of participants to read through the findings to determine if any inaccuracies exist (Creswell & Miller, 2000). For the purposes of this case study, I did not bring all participants together in one large group. Because each participant in my study was written as a different case, I provided each participant with a copy of the narrative written about only

her experiences and asked for separate feedback from each participant. No changes were necessary upon participant review.

Thick, Rich Description. Because most readers are not present during the actual research, it is necessary for researchers to write with enough detail to make the readers feel as if they are seeing firsthand what the researchers see when they are collecting the data. These deep descriptions make the research more credible and also assist readers in deciding whether or not the research is applicable to other similar contextual settings (Creswell & Miller, 2000). In Chapter 4, I have provided thick, rich descriptions for four cases: one for each of my participants and one for me as a practitioner researcher.

Data Analysis

Creswell maintains the collected data in a narrative study "needs to be analyzed for the story they have to tell, a chronology of unfolding events, and turning points or epiphanies" (2013, p. 189). He suggests the researcher begin analyzing the data by looking at an "objective set of experiences" (p. 192) as a beginning point of the analysis to start the chronology of the participants' stories. The chronological story that emerges from that point should showcase any epiphanies or unique biographical incidences that might emerge from the data. After this step is complete, Creswell suggests the researcher go back to the data and recognize those events that have been instrumental in developing the participants' stories (p. 192).

To conduct the data analysis as Creswell suggested, I began the process by reading through all data and taking informal notes about the data to develop a picture of each participant. I gathered data from the interviews, the informal observational notes, and the journal entries to begin the development of my participants' stories. I broke

down all the data by participant, to make the information more manageable. I organized

the data for each participant by data collection instrument and by date. I then read all the

data from each instrument, by date, and recorded summary notes for each piece of data. I

was not searching for anything particular at this time. I merely wrote objective

summaries of each piece of data. The headings in my typed summary notes were (a)

Reflective Workshop Journal entries, (b) Creative Workshop Journal entries, (c) Pre-

interview notes, (d) Session discussion observational notes, (e) Post-interview notes.

I then read through the data several more times, looking for themes or those

unique biographical incidences of which Creswell spoke. To make all themes

manageable, I created a chart for each participant (See Appendices J-M). I organized

these charts by date to help readers see the progression of the participants' thought

processes throughout their stories. The columns in the chart for each participant were (a)

Date, (b) Document Type, (c) Documentation, and (d) My Thoughts.

I looked through the lens of the TLT as I was searching for themes, so as I

processed the data, I looked for the unique biographical instances of when participants (a)

showed frustrations about or a lack of understanding or a misinterpretation of formative

assessment. (I defined a misinterpretation as any idea or concept that was contradictory to

the information from the Wiliam text and/or supplementary readings.); (b) attempted new

formative assessment strategies or showed a new understanding of formative assessment;

and (c) changed their beliefs, confidence, or attitudes regarding formative assessment.

Once I identified these instances, I went back to each participant's chart of data and

created her story from the information in the chart. Chapter 4 provides the thick rich

descriptions of the participants' stories and of their contexts in which their stories are set.

CHAPTER 4: RESULTS

I have organized this chapter into two sections that correlate with the primary and subsidiary research questions in this study. Qualitative results from observation notes, journal entries, and pre- and post-interviews offer thick, rich descriptions. Section 1 provides a description of the Capital View district's policies on learning objectives, assessment, and grading as well as the participants' perspectives about these policies. Section 2 contains the results of my study. I provide thick, rich narratives of the participants' and my own experiences regarding formative assessment and learning objectives in relation to my primary and subsidiary research questions.

Section 1

Capital View District and School-Level Policies Relevant to This Study

Certain policies and practices of the Capitol View school district are described here because they are deeply entwined in the experiences of the participants, who spent a considerable amount of time discussing them during the professional development sessions. The first policy I will discuss is the district's emphasis on learning objectives. The second area of discussion will focus on the district's grading program and summative and formative assessment policy.

Learning Objectives

Chapter 3 of Wiliam's (2011) *Embedded Formative Assessment* centers on learning objectives. This chapter proved to be quite a challenge for the participants of this study, for reasons that I will explain both in this section and in the upcoming sections about each individual participant. The use of learning objectives enables both teachers

and students to understand and gauge progress towards the learning expectations for the classroom. Learning objectives provide the foundation for the formative assessment process for both teachers and students. Developing learning objectives requires teachers to ask themselves the three questions of *Where do I want to go? Where am I now? How am I going to get there?* If teachers cannot answer these questions, they will not understand their own purpose of their instruction, let alone be able to assist their students in understanding the purpose of what they are doing.

Students must be clear on the purpose of their learning. They also need to be able to answer the three questions above about their progress. Not all students think the same as their teachers (Wiliam, 2011). The students who have a similar understanding as their teachers already know what is expected, and this knowledge gives them an advantage over those who process information differently, thus the need for the daily learning expectations to be explicitly stated. These objectives provide a visible learning roadmap for those students who do not know the direction they need to go.

Capitol View's Learning Objectives Focus. The Capitol View School District arranged for small teams of teachers and administrators from all schools in the district to be trained in effective teaching strategies. One strategy in which they were trained was the effective use and application of learning objectives in the classroom. Because of this training, administrators across the district are asking teachers to use learning objectives as a foundation to better instruction in their classrooms. All three participants' school administrators have mandated that teachers in their schools write daily learning objectives on the whiteboard in their classrooms. The mandate requires the objectives be worded in "I Will Know" and "I Will Understand" statements. For example, if the lesson

for the day is about citations in research, the objective on the board might say "I will know how to write a citation in my Works Cited page that accurately gives credit to the author I referenced in my writing" and "I will understand the purpose of citations in my research and how to write a proper one." According to the participants, the requirements for the wording have changed since this policy began. The first year, no specific wording was suggested. In subsequent years, however, teachers were asked to word them in other ways. One year, they were told to write them in "I Can" statements instead of "I Will". This change in wording occurred because of the new training the administrator/teacher teams received. According to the participants in this study, some principals adhere strictly to the wording request. Others merely check to ensure the objectives are on the board and do not comment on the actual wording of them.

The participants' principals not only expect to see objectives in every classroom every day, but also, to hear teachers refer to the objectives throughout their lessons, although the adherence to this policy varies in the participants' schools as well. One participant explained that in her school, she is required to read the objectives at the beginning of the class period, and then revisit them in the middle of the class period and at the end. The principal is unwavering in this expectation. Two other participants said that in their schools, more emphasis is placed on the fact that the objectives are on the board and worded properly, not so much on how the teachers use them during the class period.

Across the district, however, all teachers' evaluations reflect whether or not they have based their instruction on learning objectives. Teachers are asked to provide their learning objectives on their Pre-Evaluation Form, forms teachers fill out and give to their

evaluating administrators prior to the observational visits so the administrators know what to expect when they go into classrooms. Also, learning objectives are addressed in the post-evaluation as an item in the "Instruction" section of the post-evaluation rubric.

Factors Affecting Participant Perspectives about the Learning Objectives Policy. All three participants in this study have struggled with the learning objectives policy in their schools and these struggles have impacted the participants' understanding of and use of the learning objectives. One concern mentioned by all the participants was that daily learning objectives, especially for ELA courses, can be complex and lengthy to write on the board. The participants worry about how much whiteboard space the objectives take and how much time it takes to write them on the board everyday. One participant tried to solve this problem by typing them on her computer and projecting them on her wall at the beginning of class, but her administrator did not approve of this practice and instructed her to write them on the whiteboard and leave them up the entire class period everyday.

The participants feel the true purpose of the objectives is not clear, nor is the objectives' purpose the focus of the policy, thus making their efforts seem futile to them. According to the participants, their administrators push the learning objectives at the beginning of each school year, but then get busy and only have time to address the objectives with the teachers on a superficial level—Are the objectives written on the board everyday? Are they written in the correct format? Are teachers reading them to their students? The participants feel not enough support has been provided them to help them understand how to incorporate the objectives into their daily interactions with

students other than the directive to read them to the students. All participants expressed the desire for more guidance on how to use the objectives to impact student learning.

In one participant's school, the administrators took pictures of the objectives on the whiteboards in some classrooms, then held a staff meeting during which they displayed the pictures and explained how effectively the objectives in the pictures were written. However, the participant did not feel the administrators explained what made the objectives in the pictures effective. These meetings to clarify learning objectives for the staff seem to have had the opposite effect on the participants than what the administration intended. First of all, the administrators in one participant's school, trying to lead by example, begin their all-staff meetings by projecting a PowerPoint slide showing the learning objectives explaining what they want the staff to know and understand by the end of the meetings. One participant said whenever administrators start meetings this way, she just rolls her eyes, and thinks, "Oh my gosh, just give me the information you think I need and let me get back to work." This attitude seemed to permeate the other participants' perspectives as well. Whenever the participants asked questions of the administrators for a deeper understanding of the learning objectives, it seemed to the participants the administrators gave the same answers each time, which has given the participants the perspective their administrators do not have a deep understanding of the purpose of the objectives, therefore limiting their credibility and negatively impacting the participants' motivation to try to incorporate the objectives into their lessons.

Many teachers have become recalcitrant in passive-aggressive ways. All participants commented on how they sometimes leave the same objectives up day after day because the objectives take too long to write and they know their administrators do

not pay much attention as long as they have something written on the board. A teacher in one of the participants' schools took an even more passive-aggressive approach to the problem of how much board space the objectives were taking by writing the objectives on large sheets of paper and taping them to the floor in the doorway so students would have to walk over them to get into the classroom.

Formative Assessment

For many teachers, the area of assessment is a struggle, especially formative assessment, which will become quite evident in Section 2 of this chapter. At the beginning of the study, when asked to define *formative assessment*, all three participants answered the same way: formative assessments are the practice activities, worth 20% of a student's overall grade, that we do in class to help prepare students for the summative assessment, worth 80% of a student's overall grade, at the end of the unit. They all expressed a deep concern about how to grade formative assessments and how to provide motivation for students to engage in formative activities. After reading and discussing *Embedded Formative Assessment* (Wiliam, 2011) during this study, along with other supplementary materials, the participants' understanding of formative assessment broadened considerably, which will also become apparent in Section 2 of this chapter.

The chapters in the Wiliam book about Learning Objectives (Chapter 3) and Feedback for Students (Chapter 5) were the pivotal chapters for the participants in this study. Chapter 3 sent them into a tailspin of anxiety as they expressed their confusion over learning objectives and their frustration with their district's focus on the objectives. Chapter 5 brought them out of their despair because in processing how to provide feedback for their students that is formative in nature, the purpose for the learning

objectives became more obvious. This deeper understanding enabled them to let their

defenses down and more clearly process how learning objectives are the root of the

formative assessment happening in their classrooms.

Capitol View's Grading Program and Formative/Summative Assessment Policy. All schools in the Capitol View district use an online grading program. The

district office customizes the program in an attempt to encourage consistent grading

practices throughout the district. For English-Language Arts courses, the district

established an 80/20 policy: summative assessments are worth 80% of a student's overall

grade and formative assessments are worth 20%. Teachers are allowed to decide which

work to enter into the gradebook as formative and which as summative. All participants

in this study recalled at least one incident in which they had been approached by parents

concerned with their child's grades after seeing the scores in the online grading program.

Factors that Affect Participant Perspectives about the Grading Program and Formative/Summative Assessment Policy. The factors that affect the participants'

perspectives regarding the Capitol View grading program and the 80/20 assessment

policy are similar to their concerns regarding the learning objectives policy. The

participants do not feel confident in their understanding of the 80/20 grading system and

this has caused much anxiety. They struggle with knowing which scores to enter as

formative and which to enter as summative. They also reported that many of their

students choose not to complete the formative assessment work because they know it is

only worth 20% and will have little impact on their overall course grade. All three

participants said their students frequently asked, "Is it formative or summative?" in order

to determine whether or not they were going to engage in the activity. One participant

explained that she answers that question by saying, "I don't know if this assignment is going to build on anything or not." Another participant admitted to saying something similar: "I tell them I don't know yet."

The participants explained that they are constantly in defensive mode because parents and students question grades so much. None of them remembers questioning their own grades when in high school. One participant wondered, "Maybe students and their parents don't even understand the difference between summative and formative assessments, so explaining grades to them is a struggle." The same participant later said that because of the constant pressure from parents and students about grades, she wonders about the purpose of the grades: "I don't get the purpose of grading sometimes. I hold myself accountable for their grades. When their grades indicate they haven't learned something, it's my fault, not theirs. Should they be graded on my bad teaching?" Another participant agreed: "We are wasting a lot of time by plugging in numbers because we know that's what they want to hear." In response to this comment, another participate said, "Yeah, we are supposed to be using the data to focus on where the students can do better, but we don't know where the data is going. It's not always clear why students are understanding the concepts."

At one of my participants' schools, teachers are not allowed to give zeroes. The participant said when students choose not to turn in their work, she assigns them a few points (so there is no zero in the gradebook) but the points are not enough for the student to pass the assignment. She does not feel the no-zero policy in her school is consistently followed by all teachers.

Another similar concern is that the guidance they have received from their administrators lacks clarity and although meetings to clarify expectations have been held, the participants still feel directions are inconsistent and unclear. At one participants' school, the administration showed the staff seven sample online gradebooks: some had only summative scores entered, some had only formative scores entered, and some had a balance of both formative and summative scores. The latter samples showed the best overall grades of the seven samples and the administrators used this in an attempt to explain why a balance of formative and summative scores is preferred. The participant said she already knows a balance of formative and assessment scores needs to exist. Where she struggles is in how to translate student work into balanced scores in the gradebook. Any new guidance from administrators is met with resistance from the participants because they feel that even the administration does not have a complete understanding of what these policies should look like at the classroom level.

The lack of consistency in grading practices across the district was obvious from the discussions during our sessions. In some of the courses taught by the participants, the district provides teachers with curricular materials with suggested activities. The curriculum also includes some district-required assessments, which are submitted to the district central office after students have completed them. These required assessments are usually entered as summative scores. Teachers are allowed, however, to assign as many points to the assessments as they want. So one teacher may count a district-required assessment as 100 points in the gradebook while another teacher may count the same assessment as only 5 points in the gradebook. The participants expressed a desire for more guidance in this area.

Because the online grading program is live for all to see, once teachers enter a score, students or parents can see their scores and overall grades immediately, unless the staff member uses the "hide" option, which allows teachers to enter scores but keep them private. The hidden scores still impact a student's overall grade, but are not visible to anyone but the teacher. The participants said they rarely use the "hide" option because it is too much trouble to remember what is hidden and what is not. They would like to have a "fake class" in their online grading program they could use to enter scores for fictitious students. This would give them the opportunity to practice with different grading scenarios so they would have a better understanding of what impact the different grading scenarios have on student grades.

Section 2

In this section, I provide thick, rich descriptions of the participants' experiences throughout this study in relation to three research questions:

Primary research question:

- How is professional development in formative assessment related to perspective transformation?

Subsidiary questions:

- How does a theoretical base relate to practitioners' understanding of formative assessment?

- How do practitioners negotiate the effective use of formative assessment through collaboration and reflection as they enact it in their practice?

The chart in Table 4:1 contains a list of activities in which the participants engaged during the study and the data collection instruments used to document the

activities. The final column aligns the activities and data collection instruments to the

steps in the TLT.

Table 4.1: Connection of Activities and Collected Data to Theoretical Base

Activity	Data Collection	*Mezirow's Steps in TLT
• Basing entire study on formative assessment	Professional Development Sessions	Step 1: A disorienting dilemma
Asking participants about their • formative assessment journeys to date • current beliefs and attitudes toward formative assessment • confidence in their understandings and uses of formative assessment • use of formative assessment in their classrooms	Pre- and Post-Interviews	Step 2: Self-examination with feelings of fear, anger, guilt, or shame
• Discussing readings from Wiliam text and supplementary articles and Teaching Channel videos • Reflecting on discussions at end of session • Reflecting on classroom practices	Professional Development Sessions Creative Workshop Journal Entries Reflective Workshop Journal Entries	Step 3: A critical assessment of assumptions Step 4: Recognition that one's discontent and the process of transformation are shared. Step 5: Exploration of options for new roles, relationships, and actions Step 6: Planning a course of action
• Discussing readings from Wiliam text and supplementary articles and Teaching Channel videos	Professional Development Sessions	Step 7: Acquiring knowledge and skills for implementing one's plans
• Discussing the contents of the Reflective Workshop Journal Entries • Reflecting on classroom practices	Professional Development Sessions Reflective Workshop Journal Entries	Step 8: Provisionally trying new roles Step 9: Building competence and self-confidence in new roles and relationships

		Step 10: A reintegration into one's life on the basis of conditions dictated by one's new perspective

**(Mezirow, 2009, p. 19)

Primary Research Question: How is professional development in formative assessment related to perspective transformation?

Organization of Data. According to the TLT, the perspective-changing process has ten steps.

1. A disorienting dilemma
2. Self-examination with feelings of fear, anger, guilt, or shame
3. A critical assessment of assumptions
4. Recognition that one's discontent and the process of transformation are shared
5. Exploration of options for new roles, relationships, and actions
6. Planning a course of action
7. Acquiring knowledge and skills for implementing one's plans
8. Provisionally trying new roles
9. Building competence and self-confidence in new roles and relationships
10. A reintegration into one's life on the basis of conditions dictated by one's new perspective (Taylor & Cranton, 2012, p. 86; Mezirow, 2009, p. 19).

However, not everyone follows the same steps in the same order nor do all people experience all of the steps. These differences will become evident in the following narratives of the participants of this study. It seemed most logical to present the data in narratives about their experiences in a chronological order because the transformation process is a gradual process that occurs over a period of time.   As you will see in the data, the participants all started in different places and followed different paths, sometimes taking one step forward but two steps back. They all ended in a different place as well.

The data in these narratives explains the emotions and actions the participants displayed through their Reflective and Creative Workshop Journal entries and in their

comments during our discussions. The narratives highlight any time the participants demonstrated misunderstandings or confusions about formative assessment and times they showed new understandings of formative assessment or made plans to implement new formative assessment techniques in their classrooms. The narratives also explain any times participants showed a change in their beliefs or attitudes regarding formative assessment or in their ability to implement it in their classrooms. Because aspects of the TLT helped shaped the analysis of the data collected and to demonstrate how professional development in formative assessment is related to perspective change, the subheadings in the narratives are steps in Mezirow's transformation process. These subheadings are not meant to suggest that a perspective transformation did or did not occur, but merely to help the reader see a connection of each section in these narratives to the underlying theoretical basis of this study.

Participant Experiences

Sue. Sue, a high school teacher with two years of teaching experience, began her formative assessment journey when she was introduced to formative and summative assessment in her undergraduate studies at UNL. She was taught the difference between the two types of assessment but not how to grade it. She was instructed to use both formative and summative assessments during her student teaching. Her cooperating teacher showed her how to enter grades into the computer grading system used by the district, but the cooperating teacher was the one who determined all the point values and whether or not the grades would be considered formative or summative; therefore, her student teaching experience required no deeper understanding of assessment. Sue explained: "When I student taught, the supervising teacher couldn't fully relinquish

control so I never knew what my students' grades were." During her first year of

teaching, she used the same grading practices as her own high school teachers—

homework assignments were 10-40 points and tests and quizzes were 80-150 points. She

had not been taught to grade in any other way and this grading system seemed logical to

her.

During her first year of teaching, Sue started to examine her grading system

practices after an interaction with an assistant principal who had a daughter in Sue's

class. The principal explained to her that one assignment was worth 100 points in her

class but all other assignments were worth only 40 points. He was concerned that one

assignment would determine the students' overall grades. His daughter had done well on

the 100-point assignment, so he was not there to argue for his daughter's grade, but to ask

Sue if she was prepared to defend her grading practices if ever challenged. This made

her reflect on her grading practices and for the first time, she considered whether she

should have broken the 100-point essay down into multiple formative assessments.

Regardless of her reflection, she did not change her grading practices because she felt

confident that she could defend her practices by saying that she assigned so many points

to that one essay because they spent over a week on it.

When she started in her current position, she used the same grading system, but

she started noticing toward the end of each semester that since she had so many points in

the gradebook, it did not matter how students did on their work towards the end of the

semester. Their grades were "pretty much set in stone" even before the end of the

semester. After that realization, she started the semester in which this study occurred by

assigning fewer points to assignments, in the hopes that student grades would be more

likely to show student progress from the beginning all the way to the end of the semester. She also started to use the "Work Habits" section of the grading system, which allowed her to write comments about student work habits for students and parents to see. These comments did not affect the students' grades but provided her with an opportunity to give feedback; although she started to utilize the Work Habits option, Sue doubted that many parents or students would read the comments. She admitted that her current grading system wasn't perfect but she believed it was an improvement over her previous method.

Self-examination with feeling of fear. As mentioned in Ch. 3, Sue lacked confidence in her content knowledge. The depth of this low self-confidence was evident in her comments during our first session: "I feel like an actor and the kids can tell. I feel so fake right now. Even the kids—I can see it on their faces that I don't know what I'm doing." She also lacked confidence in her knowledge of formative assessment. Sue admitted she let her schedule dictate her instructional decisions rather than allowing formative assessment to guide her decisions. In her words, she knew "how to assess in a formative way", but did not understand what to do after she got her results "especially if some students understand and some do not." Sue also admitted she did not feel confident in translating assessments into scores. She felt that joining the professional learning group for this research study would help her learn more about formative assessment and how to use it to its full potential in her classroom.

At the beginning of the study, when asked how she activated students as owners of their own learning, Sue explained she allowed time for students to review feedback she provided on their essays after she handed the essays back so they could reflect on their strengths and weaknesses. It is important to note here that at this point in the study, she

allowed this reflection time for her students only *after* the summative grade on these essays has already been entered into the gradebook.

  Critical assessment of assumptions. In the February 6 Creative Workshop Journal entry Sue completed at the end of our two-hour discussion of Chapter 2, she mentioned she wanted to make feedback to students more meaningful. She wrote, "I really like the idea of making feedback to students meaningful. It makes me want to try different feedback approaches." However, she struggled with the idea from the Wiliam book about not putting scores on formative assessment activities. "It is difficult for me to not 'reward' students with credit for the time and effort they put into an assignment/lesson/activity. I understand that formative assessment isn't necessarily a grade but rather a tool, but the way I have been taught makes me want to attribute a grade to an assignment. This is an area I plan to reconsider and reflect on in the future." This was a big step for Sue because she expressed the battles with which she was grappling. One battle was that all along, she had thought of formative assessment as just a score, but in her Creative Workshop Journal entry, she demonstrated that she was starting to understand it as more than that. She wanted to learn how to use authentic formative assessment in her classroom with this new understanding, but needed considerable guidance and practice to understand and implement it. Her second battle was that the district office required teachers to enter scores for formative assessments, a practice that conflicted with her newfound knowledge that formative assessment was not always necessarily a score.

  Exploration of options for new role, relationships, and actions. She also commented on how she learned from Chapter 2 that there was a difference between just

facilitating a class and actually teaching. "I feel like I put a lot of effort into creating lessons, but then, when it comes to the actual lesson, I feel like I am just facilitating the lesson rather than teaching or fostering learning." She set a goal to "move away from the idea of designing immaculate lessons," focusing more on the ideas or concepts she wanted students to learn and how she could engage them in the topic. She wrote that she planned to accomplish this by "implementing more constructive and engaging feedback on assignments and activities." Her goal was for her students to "actively consider the feedback they are given" (Creative Workshop Journal #1, February 6, 2016).

Even with her new understanding of formative assessment and her new goals, Sue struggled with it in her classroom. On February 17, she journaled about a caption writing activity in her Photojournalism class, during which students practiced writing captions for six photos. When asked what made this activity formative in nature, Sue responded it was formative because "students are able to use pictures they have taken themselves, which gives them more ownership in the activity." This answer indicated she could not properly identify formative assessment at this point in the study. Sue gathered assessment data in this activity, but she did not use it formatively—she reflected in the same journal entry that her students were not challenged enough during the activity. This was data, but Sue did not recognize it as such. She had assessed their progress. This was evident when she noted that the students had not been challenged by the activity. Had she recognized this student information as data and used it formatively, she would have realized the students understood the skill and were ready to move on to more difficult concepts. Unfortunately, she did not see the lack of challenge as an indication her students had mastered the skill. At the end of the activity, she journaled:

"I would like to do this activity again. I think I will make it ten pictures next time instead of six. The students finished rather quickly and I think they can benefit from the practice" (Reflective Workshop Journal #1, February 17, 2016).

Her Reflective Workshop Journals continued to show her growth, even though she was not aware at the time that growth was occurring. In her early February Reflective Workshop Journals, Sue's comments about the formative aspects of her activities were centered around student behaviors. For example, "the students' heads were up off their desks" and "the students were bored" (Reflective Workshop Journal entries, February 9, 2016 and February 17, 2016). I added the question *How was this activity formative in nature?* after our February 18, 2016 session because I needed a better way to gauge the participants' formative assessment knowledge and answers such as the ones she gave above were not providing me with enough insight into the participants' thinking.

   Critical assessment of assumptions. On February 22, when asked how the activity in her Reflective Workshop Journal entry was formative in nature, she wrote: "I am using the activity to build up to the summative assessment at the end of the unit." In another February 22 Reflective Workshop Journal entry, she answered that same question by saying: "The activity will help students build a foundation for their own writing." When I read her answers at the time, it appeared to me she was just providing her definition of formative assessment on a superficial level. I felt she was just saying what she thought I wanted to hear. She admitted during the discussion in our March 3 session that she did not understand what I was asking for with the newly added question and in her frustration, did exactly that—wrote what she thought I wanted to hear. I

explained to her formative assessment happened when *she* examined how *she* behaves

when *she* is getting feedback from her students. In her post-interview, she said that

moment on March 3, when I explained the purpose of formative assessment, "flipped a

switch" in her head. She stated: "I had never considered formative assessment as

something beneficial for *me* or in terms of how *I* could use it to benefit the students. I

only saw it as something to put in the gradebook up to that point."

       Self-examination with feelings of fear and anger. In her Creative

Workshop Journal entry after the March 3 session, Sue demonstrated that she was still

struggling to connect what she had learned about formative assessment in the sessions to

the district's mandated grading policy. She said, "Teachers know the grades aren't an

accurate measure of student achievement, but they are expected from us" (Creative

Workshop Journal entry, March 3, 2016). Although she expressed a desire to try

different methods of feedback and assessments next fall, her lack of confidence in her

ability to do it were causing her to hold back from committing to any new grading

practices. Because of her lack of confidence, she was afraid that straying too far from

what she had done in the past might make her look inept to her students, their parents,

and her administration.

       Exploration of options for new actions. Sue's Reflective Workshop

Journal entry from March 15 was a turning point in her use of formative assessment in

her classroom. She explained she had her students read independently and answer

comprehension questions about what they were reading. In answering *How was this*

activity formative in nature?, she wrote: "I was able to gauge student comprehension of

the novel by looking at their answers to their comprehension questions. I started class the

next day by reviewing with the whole class the comprehension questions they had missed the day before." This is something she would not have even thought about doing before participating in this study. This is the first time in the study Sue actually realized the importance of relying on information she had gathered from students to inform her instruction the following day. Also, she was able to place the grades for the comprehension questions in the gradebook, which satisfied the district grading mandate. This was a major step for Sue.

Provisionally trying new roles. In her Reflective Workshop Journal entry on March 30, Sue took an even bigger step. Sue was teaching her students how to analyze poems. Because Sue had struggled with this skill herself in high school, she wanted to check their understanding every step of the way, not just at the end of the unit. So after the students independently analyzed a poem and after Sue explained to them how the analysis of that poem should look, she had her students hold up three fingers if their poem analyses were accurate, two fingers if they were close, and 1 finger if they were way off. When asked how this was formative in nature, she answered, "The information I received about where the students were at and their current confidence level helped me navigate my planning for the rest of the semester" (Reflective Workshop Journal, March 30, 2016). How was this a bigger step than using the comprehension questions mentioned above to dictate her next day's lesson? It was bigger for three reasons: 1) she used a quick check activity that was new to her that she had learned from our sessions, 2) she both recognized that it was a formative activity and used the information formatively, and 3) she did not stress about putting the information she learned from the quick check activity in the gradebook.

A critical assessment of assumptions. In another activity, Sue gave students feedback about some poems they had written. The feedback consisted of what they had done well and what they could do to improve. Her intent was that students would read the feedback and edit their poems based on the feedback given. Because she felt the students had a hard time "relating to" the feedback activity, Sue postponed the feedback activity for the students' next poems until *after* the students had had more practice writing poetry. She did not recognize that instead of postponing the feedback activity until *after* her students had had more practice, she should have provided *more* feedback *earlier* in the activity and instructed her students in *how to use that feedback* to become more effective at writing poems.

Self-examination with feelings of fear and anger. The participants read Ch. 3 of the Wiliam text for our February 18 session, and most of the two-hour discussion focused on what Wiliam wrote about the role of learning objectives. The participants struggled to connect their schools' policies on learning objectives with their classroom instruction. Sue could not see the value in the learning objectives and although she wrote them on the whiteboard as instructed, she admitted, "As English teachers, we are really good at making things sound good. Our objectives look legitimate when the administrators come in." Sue explained that her students do not care about the objectives. She said, "If I start out the class by saying 'This is what you need to know, understand and do', they just tune me out. All they care about is what work is due and how it matters in the long run."

During the two-hour session, the participants and I attempted to reach an understanding of the purpose of learning objectives and how objectives might be used to

increase student engagement and positively impact learning. We even watched a video of a teacher using learning objectives to guide the instruction in his classroom by having his students read them aloud and demonstrate how they connect to the activity they are completing. However, by the end of the discussion, Sam was extremely frustrated as is evidenced in the Creative Workshop Journal entry she wrote before she left for the evening. "Almost everything we discussed today I have heard before. However, I had never put much thought into objectives. I always assumed there were more pressing things to put my time and effort into. For example, I have heard the idea of including students with creating the objectives before, but I still can't really wrap my head around it. It also makes me wonder what other element of teaching I will have to sacrifice in order to make objectives more of a priority. That may sound negative, but if we spend class time focusing on the objectives, what other elements of the lesson am I going to have to cut? I need to take the time to realize why this is important. I plan to be more open minded about the topic in the future" (Creative Workshop Journal entry #2, February 18, 2016).

Sue's written comments, I felt were a testament to her commitment to this study and to her students. Her frustration was real, but even in her angst, she communicated that an understanding of learning objectives was important and that she was committed to pushing herself to gain that understanding. How many other teachers, when reaching this point of frustration, would shut down and never attempt to reach an understanding?

   Planning a course of action. In our March 3 discussion, I encouraged the participants to speak with their students about how learning objectives could be more meaningful to them. I did not expect Sue to welcome this idea because she was so

frustrated by the end of the last session. However, she agreed that it might help to speak with her students about learning objectives so she committed to having a discussion with her students before our next session. I realized after my post-interview with her that this was a big step for Sue because her lack of self-confidence had kept her from getting student feedback up to that point in her teaching career. It was important to Sue, however, that she teach to the students at their level—she valued this immensely. So to gain an understanding of learning objectives at the student level, Sue knew she needed to speak to the students themselves, even though she was uncomfortable with the idea of having that conversation with them. She said, "I feel like the kids are going to say 'What are objectives?' and I'm going to have to say, 'Well, I don't really know either!'" By the end of our session, Sue was wondering aloud how many other teachers had actually taken the time to explain to their students the purpose of the learning objectives they see on the whiteboards everyday.

      Provisionally trying new roles. Sue talked about her learning objectives conversation with her students during our March 24 session. She said it had not gone as well as she had hoped it would. She said the students were not interested in talking about the learning objectives and were not able to provide her with any valuable information about how the objectives could be made more meaningful to them. Sue seemed disappointed and was still frustrated at this point.

      Building competence and self-confidence in new roles and relationships. During our last session and also during her post-interview, Sue explained the process she went through to reach an understanding of learning objectives that worked for her. She was filling out a Reflective Workshop Journal entry one day after school and when she

arrived at the question *What's left to do in order to accomplish it (the activity)?*, she realized she did not know how to answer because she had not thought about what the objectives were for that activity. When she started thinking about what her goals were for that activity, she realized that objectives are simply *goals*. She said that she realized at that point that the word *objectives* had always had negative connotations for her because objectives did not seem tangible to her. But she felt that the word *goals* was something both she and her students could understand. She explained that since the beginning of her teaching career, she had always started her classes by saying, "Okay, this is what we are going to do today and these are my goals for you and this is how we are going to connect them to the next goal." She reported to the group: "Now I end my classes by saying, 'Do you feel like we met our goal? Is your understanding higher than it was at the beginning of class?' And then I have them hold up 1, 2, or 3 fingers to check their levels of understanding."

Sue was very relieved to have come to this understanding for herself and for her students. In her post-interview, she said, "Figuring out that *goal* thing helped take a load off my chest. That's what I like about these sessions—it's made me think about how confident I feel now compared to before we started the sessions." Sue felt the word *goals* was more "kid-friendly" and seemingly more attainable from the students' perspective. It occurred to me that in wanting to get to the student level, Sue was showing her ability to understand how students learn and what would make learning better for them. I was not sure she understood she was teaching at such a deep level. In her mind, Sue was just trying to get to the student level so they did not feel inferior like she had in high school— so they gained a better understanding of the concepts than she had in high school.

However, in attempting to get to the student level, she was pushing herself to understand her students' thinking, which is a large aspect of formative assessment.

Sue mentioned in her post-interview that she is a "teacher of students, not of content" and that the Reflective Workshop Journal entries showed her the importance of reflecting on ways to make the content more meaningful to each individual student. She mentioned she allowed students who struggled with their last project a do-over—something she had never allowed her students to do in the past. She explained she learned from our sessions the importance of communication, so before her students could redo the project, they had to write her a letter explaining which parts of the project were confusing to them and why they should be allowed to redo it. She said she was surprised to receive a letter from a student that in the past had shown no motivation in class. Sue concluded her post-interview by saying, "Before, I just gave comments on papers and then we moved on. But I feel like because of these sessions, I have built better relationships with these students because I'm talking to them more. That's one thing I didn't like about teaching before. I felt like an actor up there and I was just putting on this performance. Now I feel like I've become more honest with the kids."

Kristen. Kristen's formative assessment journey started when she took a graduate assessment course the summer she graduated with her undergraduate degree. The instructor told the class she was going to push the students to consider things they had not considered before. For example, she told them as teachers, they needed to plan their assessments before they planned the rest of their units, a practice not widely used by teachers at that time, or still today. She also told them certain common grading practices such as giving zeroes for missing work and taking off points for late work caused grades

to be invalid measures of students' true abilities. Kristen said many of the class participants agreed with the professor, but some disagreed. This gave Kristen the opportunity to hear rich discussions from both sides of the argument. She enjoyed the information she learned in the course but found it hard to fit the course teachings into the grading expectations at her school once she started teaching.

Kristen did not concern herself with finding a balance between formative and summative scores in her gradebook until a parent called and questioned her about his daughter's overall grade. Kristen realized the parent was correct that an imbalance in the formative and summative scores made the student's grade an inaccurate representation of her abilities. This was the point at which Kristen began to question her assessment knowledge.

An incident in one of her classes the semester before this study began shook Kristen's already low self-confidence in her grading practices. Her department chair received a complaint from a parent (who is also teacher in the same building) that Kristen's class was not rigorous enough. The parent was basing her argument on the fact that Kristen had only formative scores and no summative scores in her gradebook after four weeks of classes. The department chair sided with the parent and told Kristen she needed to put summative scores in the gradebook at least once a week. Kristen tried to explain that she considered the work they had done in class up to that point as formative in nature, but quickly realized people had very different ideas as to what formative and summative assessment were. She was unable to sway her department chair so although she disagreed with the department chair's opinion that summative scores were necessary

every week, she was, at the time this study began, placing a certain number of formative assessments scores and a summative assessment score in the gradebook each week.

When asked her primary reason for participating in the professional learning sessions for this study, Kristen said, "I want my students to be successful and don't want the way I control a gradebook to harm them academically." She felt discussion about formative assessment with her peers would build her confidence in how she graded her students. Kristen noted one of her strengths as a teacher was working well with students and building good relationships with them. She also felt confident in planning for her classes and her classroom management. Where she felt least confident was in the area of grading and the arbitrariness of the points in her gradebook. She said, "I know coaches, administrators, and IEP managers pay close attention to student grades, so I believe the staff in the district would benefit from more guidance on what formative assessment is and how it should be used and how students' formative and summative work connect to grading." She added that it bothered her that some of her peers graded students' formative work and used it as summative in the gradebook as punishment or as a way to motivate students to complete the work.

At the beginning of the study, when asked about her formative assessment use in her classroom, Kristen reported that she used several different techniques to collect formative assessment about her students. As a proponent of cooperative learning, she taught her students how to share in groups and provide proper feedback to each other. Also, she frequently used Google Docs with her students, enabling her to provide instant feedback to individual students, either written or verbal, when they submitted their work, and also helping her to easily see patterns in the data and address those issues as a whole

class. She also mentioned she provided opportunities for her students to self-assess by reflecting on the feedback she provided them, and then asking them to communicate the results of their self-assessments to her. Kristen listed several other formative assessment techniques used in her classroom, such as anticipation guides, KWL charts, checklists and hand signals.

Self-examination with feelings of fear and anger. Kristen's struggle with formative assessment was not in how to gather the data from her students, but in how to meet the district's mandate for grading after the data was collected. Kristen admitted grading had always agitated her because she was never really taught how to do it. Her frustration was evident in her response when asked about her ability to grade according to the district grading policy. She stated, "There is nothing! It's not like they sent us all to a formative camp. They don't show us how to put it in a gradebook. It feels like there are two different types of formative grades—one about the instruction that's happening in the moment, exit tickets, for example, and then there is the formative assessment you put in the gradebook. I can show what the kids can do but I don't know how to translate that into the gradebook."

Because of the recent parent and department chair incident, Kristen felt like her grades were under more scrutiny. She stated, "You have to put formative assessment in the gradebook or someone is going to come hunt you down." The pressure was taking its toll on her self-efficacy. She mentioned she felt like she had lost her teacher identity because of all the pressure she was under. "I finally came to the realization that this is not why I came into teaching. After my classes the other day, I had a moment when I

thought 'I don't want to be here.' In the past two years, I haven't felt like that. So I thought, 'Why do I feel that way?' I felt like I was going to cry."

A critical assessment of assumptions. Despite her lack of confidence, Kristen held strong beliefs about assessment. She believed students needed to be involved in their own learning. She understood the importance of making her students aware of where they were and where they needed to go. She stated that her goal was "to provide learning opportunities that benefit the students more by giving them more control of their own learning." She admitted this would not be an easy task because students "need to be taught how to take control of their learning and given practice time in class to do this."

Exploration of options for new roles and actions. Her early Reflective Workshop Journal entries demonstrated her commitment to involving her students in the assessment process. In a February 12 Reflective Workshop Journal entry, Kristen wrote about an activity in which students answered questions about a class reading and then practiced group discussions about the questions. Kristen then provided them with written and verbal feedback at the end of the discussion. She journaled, "I think it would have been cool to have the students record themselves, listen back to the recording, and have them give feedback to each other." She also commented: "If I did this again, I would have the students complete a Google Form and respond back to the comments I made. That way I know that they were reflecting on what I had said and connecting it to their writing."

Provisionally trying new roles. In another Reflective Workshop Journal entry from February 12, Kristen journaled about a comma worksheet she had her students

complete. She was not happy about giving them a worksheet but decided it was a convenient way to find out where individual students were in their understanding. Staying true to her goal of involving students in their own learning, instead of just grading the worksheets and handing them back to the students, Kristen put the answer key online, had the students assess their own progress, and then respond back to her online about which ones they missed and which comma rules they struggled with most.

A critical assessment of assumptions. In her Reflective Workshop Journal and Creative Workshop Journal entries, Kristen expressed her concerns about student engagement with these ungraded formative self-assessments. For example, she did not grade the comma activity in which the students completed a self-assessment. She worried that because these self-assessment activities were ungraded, students would not complete them. After the comma activity, she wrote: "I anticipate many students will forget about completing it especially after I told them I wasn't putting it in the gradebook." She problem-solved by stating: "I think it's better that I am putting this activity in their hands. However, if they don't respond to me, I'll have to do a class activity to see where they are at." She had not yet devised a way to increase her students' engagement in their own learning and this frustrated her.

Our discussion during our March 3 session centered around how to word the learning objectives on the whiteboards to make them more meaningful for students. Kristen shared her frustration with the learning objectives stating that she understood the objectives were to guide instruction but that it was difficult to make that happen. Her struggle was in connecting the learning objectives mandate to her goal of allowing students to be in control of their own learning. She described a time when she attempted

to involve the students in setting the learning objectives so they could be more involved in their own learning. Most students were disinterested. "They were like 'Whatever. I'm a student. Just tell me what to do and I'll do it.'"

   Exploration of options for new roles, relationships, and actions. By the middle of the March 3 discussion, two participants basically shut down because they could not make sense of the learning objectives and how to tie them to their instruction. Their frustration was too intense and they were unable to process the information because of their anxiety. Kristen, however, continued to process, despite her frustration, because she understood that students needed practice in making the connection between the objectives and their learning. Without the practice, she said, students would not understand the meaning of the objectives. She maintained that once students learned how to make that connection, they would be able to see how the instruction fits with the objectives and "that's when it becomes meaningful."

   Planning a course of action. Kristen wanted to devise a way to "hook" the students and she felt the objectives were a way to accomplish that. Her processing led her to the conclusion that she had not been effective in telling students what she wanted them to learn. She felt she had not been breaking down her learning objectives enough for them. She came to the realization that she should focus more on each separate skill students needed to know and help her students assess themselves on these skills. She set the goal for her students' next research unit to plan backwards and write out her daily objectives for each part of the unit before she started teaching it. She wrote: "I need to be better at being clear about what I want the students to learn, come up with effective formative assessments, and help the students realize what they have and haven't

learned" (Creative Workshop Journal entry #2, February 18, 2016). It is important to note Kristen learned about backward planning in her assessment course mentioned earlier, but at that time, she did not see the backward planning practice fitting into her current teaching situation. In this study, however, she learned that it was vital to student success in her classroom and planned to start doing it.

Exploration of options for new roles, relationships, and actions. Although Kristen mentioned student self-assessment many times in our discussions and in her journals prior to the February 18 discussion, her comments had always focused on how *she* used the data collected from the students' self-assessment to determine if students were learning. This was the first time during this study that Kristen mentioned that the purpose of the students' self-assessments was to help the *students* realize what *they* had learned and not learned. This was a major step in her journey towards giving students control of their own learning.

Self-examination with feelings of fear and anger. At the beginning of our March 3 session, Kristen's frustration was evident. She was still struggling with the grading of formative assessment. She mentioned she was inspired by the examples of how to give effective feedback provided in Ch. 5 of the Wiliam text. However, she said her inspiration turned to frustration because she could not understand how these strategies could fit into the district's formative assessment grading mandate. She stated, "I HATE putting a number on something, especially if it's practice. But we HAVE to give them formative grades! Are we supposed to say to the kids, 'Hey, you can make mistakes because this is just practice, but just kidding…you're going to get an F in the gradebook?'"

A critical assessment of assumptions. As we continued our discussion, however, Kristen seemed to work through her frustration and explained where she was in her thinking. She stated the sessions had inspired her to think of ways to make her students more aware of what they needed to do, but that she did not know how she would go about it yet. She also stated that she loved the information in the Wiliam text because it was nice to know researchers were actually having discussions about the same frustrations she was feeling. When I asked her if the text was helping her understand the true purpose of formative assessment, she said, "Well, to me, when I read Ch. 5, yeah…that's exactly how I think of formative assessment. But unfortunately, we can't think of it that way because we HAVE to put in a grade. We have to have a certain number of formative assessments and so I feel it gets all twisted and I don't know what I should put a grade on and how I should score it."

Exploration of options for new roles, relationships, and actions. Two strategies in particular from the readings for this session helped Kristen over a major the hurdle in her formative assessment journey. The first strategy was a Grading Scheme Chart from Ch. 5 of the Wiliam text. (See Appendix N for example of chart.) This simple chart included columns for the key learning outcomes for any given unit and rows for all students. For each learning outcome, sources of evidence were identified. Students earned a 3, 2, or 1 for each source of evidence. During the discussion, Kristen said she liked this chart and tried to determine how a chart like this would work in her classroom. She said, "All of it is feedback. And the kids really like this. But if you record HOW they did then somehow translate it into a chart, like formative

assessment…I don't know if that would work." She could not quite make sense of it at this point in the study.

The other strategy that helped Kristen was the "decoupling" grading strategy. With this strategy, students could either take the final summative assessment score at the end of a unit or choose to take an average score of all the practice work leading up to the summative assessment. Kristen liked this idea because it would give students a way to show they knew the information along the way, not just at the end in the summative assessment.

Planning a course of action. By connecting her thoughts about these two strategies, Kristen began to develop an assessment plan to help her students control their own learning. She wrote, "For the research unit, I'm going to write out the objectives, have a space for students to rate themselves, and have a space for me to rate them. Then, we are going to talk about what they need to do to reach mastery" (Creative Workshop Journal entry #3, March 3, 2016). Kristen added one more sentence to the end of this writing in her Creative Workshop Journal entry, a somewhat defiant sentence that revealed a new level of confidence about her personal grading practices. The sentence read, "And…I'm probably not going to grade it…"

Building competence and self-confidence in new roles and relationships. When our March 24 session started, Kristen described a grading system she developed in Google Forms. She had adapted the chart from the Wiliam text and put formulas in it to average the scores automatically. Instead of saying, "Turn in your homework" to the students, she said, "Okay, you show me you are ready to do this." Instead of giving them just a summative grade, she said to them, "Show me three or four examples of how you

know how to do this skill." She was also incorporating parts of the "decoupling" strategy by allowing her students more choice in what scores to use. She felt this process allowed her to give much better feedback. Also, she planned to give the students a self-assessment sheet so they could track their own progress as well.

When I asked if she thought her administration and department chair would be okay with the new grading process, she admitted she was nervous about mentioning it to them, but that the new assessment process just seemed so logical to her. She explained most of her students had poor grades not because they *could not* do the work but because they *had not* done the work. So, she felt that by assessing them while they are doing the work in class, their grades are going to be a lot better. Kristen further argued that she had never had a parent of a student with a *good* grade complain about what she is doing in her class. Therefore, she believed the administration will welcome her ideas. She planned to speak with her principal about it after she had used the new assessment process for a few weeks.

A reintegration into one's life on the basis of conditions dictated by one's new perspective. In her post-interview, Kristen shared that her students' research unit had gone so much better after she had read the Wiliam book because she was much more purposeful in her formative assessment use. Instead of waiting until the end of the unit, she provided feedback for the students and self-assessment opportunities for students all the way through the research paper process. Because of the continuous feedback and conversations with students, Kristen said she had a pretty good idea of where the students were in their knowledge even before they submitted their final papers. She happily claimed they were the best research papers she had ever read.

Kristen admitted that for her new grading plan to work, she would have to be very purposeful and consistent in her planning. She appreciated the study's collaboration sessions because the discussions helped her adapt ideas into something that worked for her. She mentioned that most of the time during her teaching career, she had felt like she was swimming upstream, but since working through her assessment issues, she had been "on top of her game" in the classroom. Her new confidence level was very evident. In her post-interview, she said, "This last week in terms of school, I've been killing it!" She said that she could see the "big picture" better and that after the sessions, everything just started to "make sense and fit."

Mindy. At the same time she was student teaching, Mindy was enrolled in a college assessment course, during which the nuances of both formative and summative assessment were explained to her. However, because of her lack of true hands-on experience with formative and summative assessment, she struggled in her understanding of the assessment process. As an assignment for the course, Mindy surveyed her middle school students during her student teaching on their knowledge of formative and summative assessment. Their responses were no surprise: they said formative scores were only 20% of the overall grade so they either did not need to give their best effort or did not even need to complete those; summative scores were 80% of the overall grade so they knew they needed to give their best effort on those. These responses initiated Mindy's assessment journey during which she struggled to understand her own assessment beliefs and also to align those beliefs with the assessment policies of her district and with her students' perceptions of assessment. Mindy understood that this journey was far from over and that she needed support in this growth process.

Building a positive rapport with her students was an area in which Mindy felt fairly confident. She said she made an effort to get to know each of her students because this helped her understand why students behave in certain ways. She worked hard to develop respect and trust in her classroom. However, Mindy felt inadequate in her classroom management skills. She questioned how she disciplined her students and did not feel her administrators were providing her with timely or helpful feedback about how she handled classroom management tasks.

Another area in which Mindy felt less confident was formative assessment, especially in her 6th grade Language Arts class. Her struggle centered around the lesson plans provided by her district. Most of the lessons were designed for students to use as practice projects that would lead to the final summative projects. Mindy was unsure if she should grade those practice lessons, placing them in the gradebook as formative scores, or if, since they were meant for practice, provide students with feedback about their results, but not grade them. She said she did not struggle as much with grading in her 7th-grade classes because she felt more confident teaching this class and believed the district-provided curricular expectations were more clearly defined.

Mindy joined this professional learning group because she did not feel her school focused enough on the importance of formative assessment use in the classroom and was hoping to understand the topic better so she could use it more effectively in her teaching. This Sarason quote described Mindy perfectly: "…the beginning teacher (especially in our large urban settings) tends to anticipate failure, is plagued by all kinds of doubts, is fearful of a negative evaluation, is thankful for her relative isolation due to fleeting and infrequent visitation by administrative superiors, and yet is acutely aware that she needs

and wants help, guidance, and support uncomplicated by the implied threat of a negative evaluation" (Fried, 2003, p. 86). Many of Mindy's comments, written and verbal, during this study highlighted how anxious she was about her lack of experience in classroom management and in planning and implementing sound formative and summative assessment practices.

   Self-examination with feelings of fear, anger, and guilt. Mindy's frustration, lack of confidence and desire for support became evident quite early and remained with her throughout this study. At our first meeting, she appeared confident about her teaching ability. She explained her current teaching experiences with the other participants and described activities she did with her students. However, her desire for support emerged as early as her February 6 Creative Workshop Journal entry, when she wrote she was thankful to participate in these sessions because she "needs help with knowing how to provide beneficial feedback and positive formative assessments" (Creative Workshop Journal entry, February 6, 2016). In February and March, at least four of her Reflective Workshop Journal entries mentioned she was open to suggestions on how to make the activities she described go more smoothly in her classroom.

   Recognition that one's discontent and the process of transformation are shared. These written comments suggesting she would welcome ideas from others, however, contradicted much of what she said during the session discussions, especially during our February 18 discussion about learning objectives. On that night, all the participants were expressing their frustrations about their inability to understand the writing of the learning objectives. Mindy talked more during this session than she had during the first two. Upon completion of the study, I realized two things might have

contributed to her talkativeness during that session. One was her sheer frustration with the learning objectives, which I will discuss below. The other was her shyness, which did not come to light until she spoke of it in her post-interview on April 12. In the interview, Mindy mentioned she was incredibly shy, so shy in fact that she did not speak in peer groups of more than three or four people, so it may be Mindy finally became comfortable enough with the group by the February 18 session that she felt she could contribute to the conversation about the objectives.

Self-examination with feelings of fear, anger, and guilt. Based on her comments and actions, the February 18 discussion was a tough one for Mindy. She expressed her disdain for the learning objectives process with several different comments. She did not understand how to write them. Specifically, she could not determine how to consolidate all the learning skills for the day into a small set of learning objectives to be written on the board. She said in an emotional tone, "My 6th grade class period is 2 hours and 18 minutes long. And we are working on spelling, vocabulary, reading, writing, and grammar. How am I supposed to write all that up there? Seriously, how is a little 6th grader going to read all that on the board and just check things off? Like, 'Okay, yeah, I got that one. Now I got that one. Okay, I'm good to go.'"

The amount of space the learning objectives took on her whiteboard was a concern for her as well. When an attempt to project the learning objectives on the board from her computer failed because of administrator disapproval, Mindy said she just started writing the same objectives for everything because even though she did not know what to write, she felt having something on the board for her administrator to see was better than being reprimanded for having nothing at all. It bothered her that she could not

conquer an understanding of the learning objectives. She exclaimed, "I seriously don't know how to do it well. I would do it—I just don't know HOW to do it."

This was where her contradictory statements appeared. In their attempt to understand learning objectives themselves, the other participants offered suggestions for different ways of handling them in their classrooms. Mindy's responses to their suggestions seemed negative. When it was suggested students be more involved in determining the learning objectives for the day, Mindy responded, "I feel like when I would try that, I would lose control and it would be a hot mess." When pushed further to consider this option, she replied, "If I tried that, my administration would walk in and say, 'Hey, why aren't you teaching?'"

Many of Mindy's defeatist comments seemed to be directed toward her administration and its handling of the learning objective mandate. She did not understand the need to refer to the objectives at the beginning of the lesson, in the middle, and then again at the end, as was required in her school. She felt if teachers would be allowed to handle the learning objectives in their own individual ways in their classrooms, the students would be more engaged. She described a time when she asked her administrators what impact the focus on learning objectives had had on student learning in their school and was frustrated that she had not received an answer from them.

At one point during the session, Mindy opened her computer to show the other participants what she had written on the board that day for learning objectives. As she was showing them, she said, "I look at them and think…I don't even know that it makes sense to ME, so how would the kids understand it?" When she received suggestions

about the learning objectives she had just shared, she became exasperated, shut her

computer, and said, "Yeah, I'm not doing it right."

A critical assessment of assumptions. By the end of the session, I felt

Mindy had reached her limit and any conversations about learning objectives would need

to be avoided in future sessions. I also wondered if Mindy had not been sincere in her

earlier Reflective Workshop Journal entries about her willingness to consider suggestions

to improve her teaching, based on her negative responses to the others' suggestions.

However, in her Creative Workshop Journal entry for that evening, Mindy wrote, "I

really enjoyed when we were just sharing different ideas." She continued with: "My

goals are to continue to work on objectives." She emphasized that she wanted to make

her learning objectives more engaging for her students. Upon reading this, I realized that

just because her comments sounded negative and defeatist during the session did not

mean she was avoiding working through the problem. In addition, the fact that she

opened up about her anxiety despite her shyness and low self-confidence demonstrated

her angst was real and needed to be acknowledged. Her willingness to continue to find

ways to successfully structure her lessons around the learning objectives showed she

realized the need to change strategies in areas in which she did not feel successful.

Provisionally trying new roles. In a Reflective Workshop Journal entry,

Mindy described her attempts to make learning objectives more meaningful to her

students. She said she had the students read them aloud, but it "seemed more of an off-

task behavior than it being beneficial" (Reflective Workshop Journal entry, March 2,

2016). She further explained that although she thought it was helpful for the students to

hear other students' voices instead of hers, the students reading aloud either started to

laugh, or claimed they couldn't see and then got up and moved around which distracted everyone from the goal of hearing the objectives.

Self-examination with feelings of fear, anger, and guilt. Mindy was really questioning her ability at this point. She wrote, "I don't know why I have difficulties doing this" (Reflective Workshop Journal entry, March 2, 2016). At this point she directed her frustration over her inability to conquer this issue on her administration. She wrote, "It may be because I truly don't feel like my students are ever engaged when listening to the objectives. They have to do it six other times throughout the day and since they are requiring each teacher to do it the same, I can't blame the students for being zoned out" (Reflective Workshop Journal entry, March 2, 2016). She further explained that her training in the learning objectives mandate was "uninformed, uneducated, and abrupt" when it was presented to the staff in a 10-minute staff meeting one week before school started. She wrote, "I feel like at this point, I have dug myself into a hole with objectives, and I'm not sure how to get out" (Reflective Workshop Journal entry, March 2, 2016).

Exploration of options for new roles, relationships, and actions. Mindy was fairly quiet at the beginning of the March 3 discussion session. I suggested to the group that maybe they could ask their students what would make the learning objectives more meaningful to them. Mindy remained silent on this, and I wondered if she had completely given up on the subject. After the midway break, however, as we began to discuss the reading they completed for the session, Mindy listened intently as Kristen explained how she might use the chart on pg. 126 of the Wiliam text to make sense of grading formative assessment in her classroom. Then Mindy asked Kristen several good

questions about what it would look like, how it would be used, how Kristen would align the chart with the district grading policies, etc. She even provided Kristen with some suggestions on how the chart could also be used for summative assessment. I noticed at this point Mindy's defenses seemed to have lowered, allowing her to more positively process the information from the readings and the discussion.

Planning a course of action. My observations were accurate. In Mindy's Creative Workshop Journal entry at the end of the night's discussion, she wrote, "What I'm actually really excited about is asking my students about objectives. I want to have a class discussion about how I can make it so they understand the bigger picture. I am truly looking forward to hearing their insights about this and how I can make some changes" (Creative Workshop Journal entry, March 3, 2016). This demonstrated that she understood the importance of obtaining student feedback to better enable her to instruct at the students' level.

Provisionally trying new roles. During our April 6 session, Mindy explained she gave her students some questions to answer about the objectives. The following are the questions and the students' answers:

What are your thoughts on the objectives?

- They aren't effective because no one really looks at them
- I like them because it tells me what we are going to do today
- Okay, but they could be more creative
- Know what you're learning to put stuff together that you already know
- They're important because that's what we are learning for the week
- They let me know what we are doing
- More creative and fun--mostly tells what we are going to do
- Most don't read some just write on the board

What can I do to bring attention to the objectives?

- Make a chart that says "do you get what we are going to learning today, little

shaky, or do you not get it at all"
- Make quizzes to make sure they read them
- Make a warm up relating to the objectives
- Getting a board for the door
- Students teach the objectives

Any suggestions I can do to help you become more interested in my objectives?

- Activity for each objective
- One sentence below explaining the objectives
- Student could read it out loud
- Write it on a piece of paper what you think the objective is and how we will use it today
- KWL chart

Asking her students for this information was a big step for Mindy, because like Sue, Mindy's low self-confidence made her nervous that students might see weakness in her. During the April 6 discussion, Mindy responded positively to Sue's ideas about referring to the learning objectives as *goals*. Unfortunately, she felt her principal would shut her down if she asked to refer to them as *goals* in her building. It seemed Mindy was still dealing with such a high frustration level she was unable to come to terms with the policy. It should be noted that in her last question to her students above, she asked them what she could do to make them more interested in *her* objectives. Mindy did not understand the underlying idea was that the objectives were not just hers. They were the students' as well.

In her post-interview, Mindy mentioned she might share her students' answers with her principal so he could view the objectives from the students' perspectives. I think this was a big step for Mindy because even though she feared retribution, she was continuing toward a workable solution to the objectives mandate while advocating for her students.

Self-examination with feelings of fear and anger. Besides her struggle with the learning objectives, Mindy's comments during the pre-interview and on her early Reflective Workshop Journal entries indicated a frustration with the district grading policies as well. She said she did not agree with the district grading policy because the "grading scale is way off", causing difficulties for students to get A's in her classes despite the amount of effort they put in. However, after hearing her conversations with other participants during the sessions, it appeared Mindy did not have many scores in her gradebook, which might account for her perception that the grading scale is "off".

The curriculum for one of the courses she taught contained some required district assessments, certain projects that were collected by the district office at the end of the school year. The district office provided lesson plans for the district assessment projects as well as some lesson plans for other projects that were meant to prepare the students for the final district assessment projects. Mindy counted the district assessments as summative because they were the final projects. She felt the other projects were formative in nature because they were the practice leading up to the final projects. Mindy was not sure how to grade the practice projects. "Am I supposed to take them for an actual formative grade or not grade them since they are for practice?" This struggle might explain the lack of scores in her gradebook.

Mindy felt pressured by parents and told the group of an incident in which a parent recently questioned her grading practices. The father (a teacher in a nearby high school) sent her an email questioning why such a big project completed by Mindy's students was only counted as formative. Mindy explained to the father the project was a practice project, which is why she counted it as formative only. She read her email

exchange with this parent aloud to the participants during one of our sessions. After she read her email response, she explained to the participants that although the project in question took a lot of time to complete, the purpose of the project was to help the student prepare for the next project, a required district assessment that would be counted as summative in her gradebook. A few weeks later, Mindy told the group this same parent came to parent-teacher conferences and yelled at her. Mindy was very upset by this and felt the online grading system was used more for parents to track their children's teachers than for anything else. "The parents don't let you really teach. They question everything you do."

> ***Exploration options for new roles, relationships, and actions.*** In her pre-interview on January 14, Mindy demonstrated, like Sue, a lack of understanding of formative assessment other than a textbook definition of it. When asked to explain formative assessment practices she used in her classes, she said she provided written feedback on her students' rubrics after their presentations were completed. In our February 6 discussion based on the readings and the Wiliam video, the participants shared several different formative assessment practices with each other. In Mindy's Creative Workshop Journal entry after that discussion, when asked what sparked her creativity during the session, she wrote she wanted to try new and different ways to get students more involved in their own feedback. She also commented on the importance of informing the students about the true purpose of assessment. Based on these comments, it appeared she was learning more about formative assessment during our sessions.

Mindy talked and wrote about feedback continuously throughout this study. As mentioned above, when she started this study, she felt written feedback on completed

work was sufficient for her students. Also, on February 6, she said it was frustrating

when students did not read her written feedback. She expected them to reflect on her

written feedback so they could improve on their next project, but few of them read her

comments. At this point, she understood giving feedback to students was important, but

had not made the connection that students needed to be taught how to use the feedback.

During our discussion on March 3, Mindy explained her plans to have students write a

letter to her at the completion of the project saying what they learned and what they

needed to work on. This demonstrated that she was beginning to understand the

importance of both the teacher and students using feedback to check for understanding,

however, once again, this activity was being conducted *after* the project was already

completed.

She also understood students needed to be taught how to use her written feedback

on the rubrics, but was not sure how to teach them. In her April 6 Reflective Workshop

Journal entry, she explained how she still gave students written feedback on their rubrics,

but now, because of what she felt she had learned from our sessions, when she handed the

rubrics back to the students, she informed them, as instruction on how to use the

feedback, of the importance of reflection and that they should not throw the rubrics away.

When we talked about this again in her post-interview, I reminded her that formative

assessment was to happen along the way—before the summative. She agreed with me by

saying she "harps" on the students not to throw their rubrics away so they could do better

on their next project. It was obvious at this point she believed she was using the rubrics

formatively because the information on them was supposed to make the students better

on the *next* project. When I asked her what she thought a rubric meant to the students,

she finally realized that even though she meant for the rubrics to be formatively used by the students to improve on each subsequent project, students perceived the rubrics as summative because the rubric feedback was given to them *after* they completed a project and not *while* they were completing a project.

Provisionally trying new roles. Many of Mindy's Creative Workshop and Reflective Workshop Journal entries were devoted to describing the new activities she learned and attempted during this study. Like Sue, implementing new strategies when lacking self-confidence, was a nerve-wracking endeavor for her. She was very proud of two such attempts, however. One involved practicing for the state reading assessment. Instead of having a class discussion over each practice question presented on a PowerPoint slide as she had done in the past, she marked four corners of the room as A, B, C, or D. She then asked each student to write on a piece of paper, the answer to the question projected on the slide. Once they wrote their answers, they crumpled their pieces of papers into paper wads and threw the paper wads into the center of the room. Each student then grabbed a random paper wad and went to the corner of the room that corresponded with the answer on the paper wad they picked up. Mindy said the most effective part was watching the students argue back and forth over the answers. She said she enjoyed sitting back and watching the students discuss the answers without having to do the thinking for them. One student even thanked her after the activity for making the state test practice fun.

Another activity involved grouping the students into groups of 4 or 5 and allowing them to discuss with each other the progress they had made during the 30 minutes of individual work time. Students gave each other feedback and Mindy

commented, "I had one of those teacher moments where my heart felt like it was going to explode because of how much progress I have seen" (Reflective Workshop Journal entry, March 24, 2016). Mindy added another element to this cooperative learning activity. At the end of the 20-minute group sharing time, the group members had to rate themselves on the participation and behaviors of each group member. The group with the highest score won a prize. Mindy said she did this to hold them accountable.

The comment "hold them accountable" should be noted. Unlike Sue, Mindy's lack of self-confidence was tied not so much to her content knowledge but to her classroom management skills and her lack of pedagogical content knowledge. Holding students accountable was something Mindy mentioned often in her Reflective Workshop Journal entries, Creative Workshop Journal entries and discussion comments. It did not occur to me at first, but I finally realized that all along, Mindy's struggle with understanding formative assessment arose from her struggle with classroom management. For example, in her Creative Workshop Journal entry on February 18, she wrote about a formative assessment activity she planned to try. She wrote, "I think this activity is important because it holds students more accountable" (Creative Workshop Journal entry, February 18, 2016). In her Creative Workshop Journal entry from March 24, she discussed using a chart similar to the one in the Wiliam text so she could post the students' scores on the wall "to hold students accountable" (Creative Workshop Journal entry, March 24, 2016). So by the end of the study, Mindy was still struggling to understand the purpose of formative assessment.

The Researcher. I started this CPED program three years ago with the naïve idea that I would create a professional development program and then traverse the nation,

helping teachers with my professional development sessions. I thought the CPED program would provide me with all the information I would ever need to develop my program of strategies to benefit teachers everywhere in all content areas. What I learned over the course of these three years is that a one-size-fits-all teacher professional development program, even if I *had* developed one, would not benefit the teachers in the ways I had originally thought, for reasons described earlier in this dissertation. This new knowledge did not sway me from my desire to help teachers; however, my plan changed dramatically because I realized I would never be in the position to help teachers unless I studied and understood what they needed—or possibly more importantly—what they *wanted* as far as support in their teaching. My position with the state department of education also provided me with a much broader view of the assessment requirements of districts and the challenges they face in meeting these requirements. With these realizations, I developed a research study that allowed me to watch and learn as teachers made sense of the formative assessment process. What I did not realize was my experiences would be similar in nature to those of the participants.

As I planned my research study, I think I subconsciously assumed I would control the direction of the study. Of course, I told myself and others that the participants would guide my research journey, but subconsciously, I wanted to be in control for two reasons: 1) I feel more comfortable when I am in control, and 2) I wanted to ensure I received results to support my theories. Even though I knew my theories might not line up with my results, and that such an outcome was perfectly acceptable for a research study, I did not want that to happen. I like clear lines—I like closure—I like to be right. Of course my assumption that I would be in control was shown to be incorrect immediately. The

participants guided this study through their words, writings, and actions, through their values and beliefs, and the fears and doubts that accompanied those values and beliefs. Because they went in the direction that worked for them, it is possible I learned more from them than they learned from our sessions together.

I chose the Wiliam text as the basis for this study for several reasons: a) He takes a problem-solving approach, not a blaming approach, toward improving teacher quality; b) His message is an appropriate balance of theory and strategy—perfect for the teacher level; c) The text is an appropriate length and organized in such a way that is ideal for book study with groups of teachers; d) He has a way of inspiring teachers to break out of their routines, giving them permission to become unexpert while they learn; and e) The content of the book concisely encapsulates the same philosophy of formative assessment as my own, which grew out of my own struggle with the formative assessment process during my teaching experience.

I supplemented the Wiliam text with current articles that further explored the topics that arose during the participants' discussions. For example, all the participants struggled with the question as to whether formative assessment should be graded or not, so I knew they would appreciate reading *Should Formative Assessments be Graded?* by Liana Heitin.

Before this study, I had had little experience with Google Forms; therefore, when the study began, I was somewhat anxious about introducing the Reflective Workshop and Creative Workshop Journals to the participants because they might ask me questions about the technology to which I may not know the answers. However, the participants were already familiar with Google Forms so my anxiety lessened considerably. I had at

one time considered not using a computer program for my data collection because of my lack of confidence in my ability to use the technology, but I am happy I eventually decided to go that route because it was a very smooth data collection process. I was surprised, though I probably should not have been, that all participants were familiar with Google and needed very little guidance on the completion of the Creative Workshop and Reflective Workshop Journals.   After the first submissions, they requested I change the settings of the Reflective Workshop Journals to allow them to see their previously submitted journal entries. This request and one added question to the Reflective Workshop Journal, *How was this activity formative in nature?*, were the only changes made to the journals throughout the course of the study.

   A critical assessment of assumptions. According to the TLT, the beginning of a perspective transformation is marked by a disorienting dilemma, an event that pushes one out of one's comfort zone, spurring a time of anxiety and deep introspection. Before this study began, I spent a considerable amount of time wondering if our discussions about formative assessment would be enough to push the participants into a disorienting dilemma. My goal was to use our discussions to gently lead them into a time of deep reflection. I worried about how I would guide them to that place of reflection without causing them to shut down completely. (Notice my assumption that *I* would be leading *them*.) It became immediately obvious within the first discussion that I would not have to worry about challenging them. All participants were clearly in the midst of a personal disorienting dilemma and all they needed from me was support, mainly in the form of listening, as they tried to work their way through it.

At the beginning of our February 6 session, the participants' immediate rapport with each other surprised me. How could a group of teachers who had just met bond so quickly? The answer is quite simple: they had a commonality—their agony over their lack formative assessment knowledge and their deep frustration over administrative expectations. Once they started the conversation, any thought that I would need to guide the discussion vanished. Their shared frustrations led them through an emotional discussion about their current school situations, their disconnect with school regulations and district mandates, and their desire to understand formative assessment to help their students. I was amazed at the intensity of their frustrations, but should not have been because earlier in my teaching career, I too had experienced a similar disorienting dilemma. As I listened to their discussion, the depths of their doubts and fears became evident and I realized firsthand, the importance of intentionally providing teachers with opportunities to collaborate in "holding" environments (Drago-Severson, 2012, p.89).

A disorienting dilemma. In preparing for my research study, I read information about how to successfully facilitate discussion sessions. I studied, among other resources, Drago-Severson's (2012) suggestions on intentional language for learning environments and Cranton's (2006) text about supporting transformative learning. During a post-interview, one of the participants explained she would like to form a collaborative group with her co-workers next fall, but she feared it would not go well because she did not have my "facilitating expertise," so apparently my extensive planning paid off. The sessions were successful in that they spurred deep discussions and helped us all reach new understandings. We ended every session wishing for more time to continue our discussions. Only one discussion turned a direction I wish it had not

turned and this was the beginning of disorienting dilemma for me, although I was not aware at the time that I was experiencing one.

It was our February 18 discussion. Prior to our session, the participants had been asked to read Chapter 3, entitled *Clarifying, Sharing, and Understanding Learning Intentions and Success Criteria*, from the Wiliam text. The conversation quickly centered on the learning objectives topic with which the participants were currently struggling to understand. I felt the discussion was taking a negative turn and was afraid the negativity would not lead to fruitful outcomes, so I attempted to guide the discussion in a more positive direction. Had I known then that understanding the learning objectives was *the* central aspect to their understanding of formative assessment and that this conversation would become one of *the* most important discussions of the entire research study, I would have allowed the conversation to continue its original course. However, I was not aware of this at that time in the study. Nor would the "control freak" in me allow myself to back off once I had decided to jump in. I did not understand that my purpose was not to control the learning. One more mitigating factor was that I had an understanding of learning objectives, but failed to realize that everyone had to reach their *own* understanding of them based on the context of their own classrooms.

I believe I did more talking than the participants that evening. Every time a participant voiced a concern, I jumped in with a possible solution to the concern based on my own understanding of learning objectives. I did not feel that my solutions were well received and this started to chip away at my confidence in my understanding of the objectives. I felt that at the end of the session, we were all on edge. I assumed, based on their comments, that the participants were angry and frustrated and that their anger and

frustration were directed at me, the researcher who kept pushing. I left the session thinking that if I had kept quiet, the participants would have worked through their frustrations and moved on to problem solving, but because I had interfered with the process with my words, they had not advanced in their learning like they could have. I do not think I could have been more wrong in my assumption.

       A critical assessment of assumptions. In retrospect, I was basing my assessment of the night's session on an inaccurate assumption. I assumed the participants were defensive simply because they were not ready for guidance from a researcher like me—someone who was no longer in the classroom. This assumption was based on my own past experiences. So many times as a classroom teacher, I had endured mandated professional development sessions led by people who had either never been classroom teachers, or who had been out of the classroom long enough that I felt they had lost touch with the reality of the classroom. My mindset during these sessions was usually one of disdain for the speaker's message. I had very little time to spare, and if I thought my time was being wasted, I had little patience. When the participants reacted defensively, I assumed it was because of my position as a non-classroom teacher and researcher. I left that night thinking the participants needed to converse with their peers, not with a researcher with books and research articles in hand.

       On my drive home that evening, I called my husband and told him that I had made the mistake of micromanaging the session that evening and had frustrated my participants. My mood was remorseful and as I drove, I began to wonder what I could do to help the participants get back on track the next session. I need not have worried. When I arrived home that evening, I opened up my computer and read the participants'

Creative Workshop Journal entries they had each filled out at the conclusion of the session. Much to my surprise, their comments were positive. Mindy had written that she appreciated the sharing of ideas in which we had engaged during the session. Kristen had commented on what she had learned about objectives from our discussion and set some goals for future use of learning objectives with her students. Sue had taken the opportunity to vent a little about how much time objectives would take to incorporate into her classes, but at the end of the entry, vowed to reach an understanding of how to utilize them to improve her teaching. I finally understood that what I had perceived as negative comments from them were just their thoughts as they grappled with the concept of learning objectives. Their comments that evening might have sounded negative, but what they were engaged in was very important dialogue—where they spoke their thoughts out loud. They were not dismissing my ideas—quite the contrary actually. The fact that they were responding to them, regardless of the tone of their comments, I realized meant they were internalizing them and putting them into their own contexts. My own lack of self-confidence caused my defensiveness, which caused my incorrect assumption.

Self-examination with feelings of fear, anger, guilt or shame. I did not enjoy seeing the participants so frustrated and felt guilty for pushing them to what I thought was their limits in my attempt to help. Ironically, at the end of the entire study, in a conversation with the participants, I mentioned how horribly I had felt at the end of that session, but they did not have the same memories of that session as I did. They remembered being frustrated at the end of the conversation that night, but did not remember being at the point where they wanted to give up on trying to understand the

learning objectives concept. They had no recollection of any frustrations being aimed at me.

    Recognition that one's discontent and the process of transformation are shared. As mentioned earlier, I had some preconceived notions at the beginning of this study that might be common to novice researchers. One of those notions centered around my role as researcher. I knew I was going to learn from the participants in this study. I would not have conducted the study had I not thought I would learn something from listening to their dialogue and reading their reflections. What I did not know, however, is what my learning would look like. I was shocked at the end of the study when I reflected on my own experiences and realized the form that my learning had taken. I had experienced many of the same steps that correspond with the TLT: a) I entered into a disorienting dilemma, all the while not knowing I was experiencing one; b) I had feelings of guilt as I examined my facilitation of the sessions through the lens of an unconfident novice researcher; c) I needed to critically assess the assumptions I had about my participants and this research study; and d) at the end of the study, I realized that the transformative experience is shared. I, too, emerged from this study with a somewhat broader perspective (though I would argue not a full transformation of perspective). Not because I learned more about learning objectives, or more about how three teachers were going to use formative assessment in their classrooms. My broader perspective came when I realized that the role of researcher is much more than making observations and taking notes. The learning is not contained within the observations and notes or any other research instruments researchers choose to use. Those are just tools that help guide researchers to their real learning. The writing of the dissertation is the step that, when

used in conjunction with the other tools, helps the researchers process their way into a new lens—a new framework.

Another crucial learning moment for me during the study occurred when I adapted the Reflective Workshop Journal form by adding the question *How was this formative in nature?* I knew after the first Reflective Workshop responses that the original questions were not eliciting the depth of description I was seeking. All participants were doing a nice job of describing activities in their classrooms, which was very helpful since I was not able to actually observe them in practice. However, I needed to know what data they were collecting and how they were using it formatively during the described activities. I thought by adding another question, I could possibly pull that information out of them. Although the addition of this question might have provided me with a few extra tidbits of data, I was never fully satisfied with the information I received from the Reflective Workshop Journals.

It was not until we neared the end of the study and I looked at their Reflective Workshop Journal submissions more closely in relation to the other data, that I realized their inability to answer how the activities were formative, at least for most of the participants, was due to their lack of an in-depth understanding of formative assessment itself. I had thought all along they were just rushing through the questions and not taking the time to think deeply about their formative assessment use. An example of one such answer to the question *How was this formative in nature?*: "The students are able to see where they are at and where they need to go. They also have an idea of how to get there" (Reflective Workshop Journal entry, March, 23, 2016). When I first read this answer, I thought the participant was just giving me a pat answer because she did not want to take

the time to explain how the activity was formative. Now I realize she was thinking about

formative assessment, but did not understand it well enough to explain beyond a simple

definition of it.

My original plan was to utilize the teachingchannel.org video website by asking

participants to watch a video of their choosing in-between sessions, and then describe the

activity from the video and how it could be used formatively, to the rest of the

participants, similar to the format of one of my CPED courses. I soon deserted this plan

because there was not enough time to discuss anything during our sessions except the

readings. There were three videos from the website, however, that I definitely wanted to

incorporate:

1. Formative Assessment: Proportional Relationships

2. Making Feedback Meaningful

3. Making Learning Personalized and Customized

I showed the first video, an example of a teacher using learning objectives to

drive his instruction, an hour into the February 18 session. (This was the session about

learning objectives during which I attempted to guide the discussion.) By the time I

showed the video, I felt the participants were already in defensive mode over their

perceived lack of understanding of the objectives. About halfway through the session, I

started the video.

As they watched the video, I watched their reactions to it. In the video, a teacher

starts his class by having an interactive discussion with his students about the objectives

for the day. His students then begin their activity, a cooperative learning activity during

which they read and study some material with their group members and then create an

artifact that shows their learning. The teacher circulates and asks each group how their learning matches with the learning objectives they studied at the beginning of class. At the end of the video, the teacher admits he has not succeeded in getting the students to where he wants them to be so he plans to adapt his instruction for the next day. Some students also admit on the video that they did not meet the objectives for the day.

I thought my participants seemed somewhat agitated by the video, so I stopped the video before they saw the teacher and students in the video admit they did not meet the objectives. When I asked the participants what they thought about the video, their comments supported my observation that they were irritated by the video. They complained the students were just repeating the learning objectives in the video and not internalizing them, much the same as what happens in their own rooms. In retrospect, I should have let the participants watch the entire video and form their opinions after hearing what the teacher planned to do with the data he collected. That was the second time during this session I made a decision *for* the participants instead of letting them process the information on their own. I also realized later I would have been better off allowing the participants to choose their own videos, which had been my original plan. Just like their own students, the participants did not have a sense of choice during this session so their buy-in was not 100%. There is a great possibility they would have chosen the same videos as I had if they had been allowed to choose for themselves. If this had happened, they might have had a more positive opinion of the same video that was irritating them during our session.

At this study's conclusion, I found myself wondering where the participants would be a year from this time. What would these teachers do in the next year for their

formative assessment journey? Would they advance their knowledge even further, either by personal reflection or by gathering colleagues and facilitating collaborative sessions? Would they desert their quest for understanding and submit to district mandates even though they do not agree with them? Would they leave teaching altogether because the disconnect between their values and the mandates of the district was so massive? What could be done at the state level to support districts in ensuring that teachers have opportunities to engage in collaborative sessions with their peers? The answers to these questions have so many implications for future teacher development.

Transformation or no transformation? Did I experience a full perspective transformation based on Mezirow's ten steps in the TLT as a result of this study? I would have to say that I did not. While I did critically assess my views and realize that my current understandings did not mesh with my new knowledge, there are many more steps in Mezirow's list that go far beyond what I experienced. Those steps, which include planning a course of action, acquiring more knowledge, trying new roles, and building my self-confidence in those new roles, are steps that I can and must take in the future as a researcher, as a member of the state education department, and as a professional developer.

Research Question #2: How does a theoretical base relate to practitioners' understanding of formative assessment?

The answer to this question can be demonstrated by the participants' struggle with learning objectives. The understanding that learning objectives provide the means for students to own their own learning is an imperative component of the theoretical base of formative assessment. The basic concept of formative assessment is that once students

learn to gauge their own progress within the context of their own work, they can control their learning along with support from the teacher. However, students cannot gauge their progress to control their own learning until they understand where they are supposed to be going. This is where the learning objectives enter the picture because they are the road signs that lead students down the path.

Sue. Unfortunately, as seen from the evidence in the participants' narratives above, unless teachers understand this concept, they struggle with the overall concept of formative assessment. Look, for example, at Sue's path to understanding learning objectives. Her initial response was anger and resistance to using learning objectives. She did not understand the purpose of them and blamed her administration for her frustrations. Not until the end of the study when Sue succeeded in making sense of learning objectives at the student level by calling them *goals* instead of *objectives*, did she finally realize students have to be a part of a continued conversation. As seen in the model in Figure 1.1, Sue did not possess an understanding of the bottom green diamond at the base of the formative assessment model, and because of this, was not able to negotiate her way in, out and around the yellow diamond of formative assessment, even though *healthy tension*, *reflection*, *collaboration*, and a *holding environment* (blue rectangles) were in place to support her.

Kristen. Unlike Sue, Kristen understood the need for students to personalize their learning at the beginning of the study. However, she struggled to understand how to make this happen, specifically with how to engage the students in a conversation about them and teach them how to use them. This struggle translated into a deep frustration with the grading of formative assessment. In our March 3rd session, Kristen finally

started to realize the answer to her quandary was to find ways to make students more aware of what they needed to do to be successful—learning objectives. From that point on, Kristen developed a system, centered around the learning objectives, to help her students take control over their learning. Thus, a basic understanding of the theoretical base of formative assessment helped Kristen reconcile her beliefs about grading and the district mandates about grading.

Mindy. Like the other participants, Mindy's frustrations regarding learning objectives were directed at her administrators. However, unlike the other participants, Mindy did not come to an understanding of learning objectives during the course of this study, even though the study provided the layers of *healthy tension*, *reflection*, *collaboration*, and a *holding environment.* If we look at the formative assessment model in Chapter 1 (Figure 1.1), Mindy did not understand the theory behind formative assessment. This deficit can be seen as late as the last session when Mindy shared that she had requested her students' input on the use of *her* learning objectives. The shared responsibility for learning between teacher and student was not evident to her.

She also struggled with other areas of the formative assessment model. As mentioned in the narrative above, her pedagogical content knowledge was a major hurdle in her understanding. Her lack of confidence with two of the four green diamonds on the chart (pedagogical content knowledge and theory) limited her ability to negotiate movement throughout the formative assessment process.

This is not to say Mindy did not progress in her knowledge of formative assessment and instruction. She did successfully employ new strategies in her classroom to engage her students. However, until Mindy understands the purpose of these activities

and how to use learning objectives to guide her instruction, her students will not understand where they are headed in their learning or understand how to get there.

The Researcher. If I had been asked prior to beginning this study if I could negotiate the model in Figure 1.1, I would have answered in the affirmative. I was convinced that I had all the skills (the green diamonds of *PCK* and *content knowledge, instruction, curriculum*, and *theory*) and the other necessary components (the blue squares of *healthy tension, reflection, collaboration*, and a *holding environment*) in place. In retrospect, however, I did not possess everything I needed. My level of PCK hindered my progress. As a classroom teacher, my PCK was exceptional, but as a researcher and a facilitator of collaborative small group sessions, I am a novice, therefore, my expertise and my self-confidence were lacking. I would also maintain that the area of *theory* caused me to struggle to negotiate the model. It might seem odd that I consider the area of theory as a detriment to my progress in this study. I wrote a literature review about the TLT prior to the beginning of the study, so I was fairly knowledgeable about it. However, there is a big difference between *knowing* about something and *understanding* it within your own context. Now that this study is finished, I have an understanding of how the TLT fits into the context of this particular research study. Prior to conducting the study, I only knew the facts about the TLT. I had to experience the theory in action in this study first before I could fully understand it.

Research Question #3: How do practitioners negotiate the effective use of formative assessment through collaboration and reflection as they enact it in their practice?

In the formative assessment model from Chapter 1 (Figure 1.1), collaboration and reflection are two of the elements necessary for movement in, out, and around the center triangle of formative assessment. This study provided those two elements along with a healthy tension and a holding environment.

Journaling. The participants were required to complete two different types of journaling for this study. The purpose of the Reflective Workshop Journals, submitted in between sessions, was threefold: (a) to provide me with a glimpse into the classrooms of the participants, and (b) to give the participants opportunities to reflect on the formative nature of their classroom activities, and (c) to guide my session agendas. The purpose of the Creative Workshop Journals, at the end of each session, was to inform me of any changes in beliefs or attitudes the participants may have experienced during our sessions.

When asked about the impact the journaling had on their experiences in this study, the participants admitted they did not enjoy the Reflective Workshop Journals. All participants felt confined by the questions and suggested that if the Reflective Workshop Journals would have had just one open-ended question, as opposed to several questions, they might have written in more detail. One participant admitted she did not understand how to answer the question *How was this activity formative in nature?*, which I added after our February 18 session, so she just made up an answer she thought I wanted to hear. As much as the participants disliked the journals, the journals did provide me with quality information necessary for this study, as is evidenced in the narratives about each participant above.

When asked in their post-interviews if they would continue to reflect on their teaching, all participants admitted that although reflection was a good practice, they

would probably struggle with it simply because it would not be a top priority for them.

One participant explained that while she might not write out actual reflection notes, she

always reflected on each day's events to inform her next day's instruction.

Collaboration. All participants appreciated the collaborative sessions. One

participant explained that the three participants had a discussion at the end about how

they wished the sessions were not over. The rapport of the participants was evident from

the very first session, and other than the session in which I mistakenly took over as lead

collaborator, the discussions were natural and informative for not only the participants

but also for me as is evidenced in the narratives above.

When asked if they would consider establishing collaborative sessions within

their own departments to discuss formative assessment, the two of the three participants

were hesitant. They expressed doubt that anyone would participate if the sessions were

voluntary. They also explained they would worry that some staff members would agree

to participate but not really want to be in attendance, which would affect the tone or

mood of the discussions. One participant, however, expressed an interest in leading a

discussion group that would discuss the Wiliam book in her school. She seemed excited

about the prospect of advancing her co-workers' knowledge of formative assessment

through a collaborative process.

Summary. Collaborative and reflection opportunities emerged as imperative

components to the progress of the participants. For example, Kristen's confidence

occurred in part because of her newfound ability to verbalize the connection between her

formative assessment beliefs and the district's grading mandate. Before this study began,

she knew what formative assessment was, but was unable to make sense of how it fit into

her teaching and district requirements. The discussions and reflection opportunities in this study provided her with the time, support, and resources to reexamine her beliefs, study various aspects of assessment, practice and reflect on different assessment techniques, and finally develop a plan that enhances student learning in her classroom.

Chapter 5: Discussion

Introduction

The purpose of the study was to inform my question as to how professional development might impact perspective change in teachers as they grapple with difficult concepts. To reach a deeper understanding of this phenomenon, I studied teachers by conducting pre-and post-interviews, taking observational notes during twelve hours of collaborative sessions, and collecting reflection notes from the three participants.

I had anticipated that I would need to lead the participants into a deep discussion about the difficulties of the formative assessment process; however, it became apparent within the first few minutes of our first discussion that the participants were in need of a forum such as this study provided them. The participants found the common ground necessary for a deep, rich discussion without my guidance. For most of the sessions, I watched and listened in awe as they discussed all the factors involved in the assessment processes in their classrooms. Their frustrations ran deep but so too did their desire for an understanding of formative assessment and how to meld it with the framework of their building and district policies. Based on the data I collected, I believe the participants were different at the end of this study than what they were when they began, but was the difference because of a perspective transformation or was it merely because they had acquired informational knowledge about formative assessment, thus increasing their confidence levels? And how did the professional development opportunities in this study facilitate these changes?

Summary of Findings

Throughout this dissertation, I have referred to Mezirow's ten types of experiences encountered when undergoing a perspective change. In Chapter 4, I used some of Mezirow's steps toward perspective change as subheadings to indicate that characteristics of those steps were evident in the data I had collected about the participants at certain points throughout this study. It is possible at least one of my participants experienced a perspective change similar to what Mezirow describes in his TLT, but Mezirow acknowledges the transformation process is gradual, caused by an accumulation of events. Therefore, it should be noted I am not claiming the experiences in this study alone were solely responsible for any transformational learning that may have occurred. The participants' past experiences, especially those with formative assessment, prior to this study prepared them for the way they processed their new knowledge gleaned from this study.

Kristen. A one-sentence summary of Kristen's experience in this study would be the following: *To help her students become more involved in their own learning, and to find a grading system to match both the district mandates and her personal beliefs about assessment, Kristen worked through her frustrations with district policies and developed a system for formative assessment in her classroom.* As is evidenced in her narrative from Chapter 4, Kristen experienced a disorienting dilemma prior to the beginning of this study and was in the middle of a very emotional examination of her own assumptions about assessment when we first met. Throughout the study, Kristen made it over her emotional hurdle by verbalizing her frustrations, trying new assessment strategies, building confidence along the way, and ultimately developing an assessment system that would personalize learning for her students. I would argue Kristen experienced all of

Mezirow's ten steps at some point during this study and experienced an epiphany when she realized that by providing students with choices as to how to demonstrate their learning, she was giving control of learning over to the students—her goal all along. By allowing students choice in how to demonstrate their learning, Kristen was more in tune to her students' levels of understanding.

Why do I believe Kristen's experiences were transformational as opposed to just an expansion of her knowledge and confidence in formative assessment? Kristen took the new knowledge she learned from the readings, videos, and session discussions and used it for a broader purpose. According to Mezirow (2012), humans want to understand their experiences. When we do not understand something, we have two choices: (a) stick with tradition, regardless of the fact that our current perspectives do not allow for understanding, or (b) reflect on our understandings based on our perspectives and readjust our perspectives to fit the situation. Kristen's beliefs about grading did not mesh with those of her department chair and this frustrated her. She knew she was expected to follow the grading recommendations of her department chair. However, she also knew her new information and old information conflicted with each other and she wanted to resolve the disparity (Black & Wiliam, 1998). Kristen chose to come to an understanding of assessment by critically examining her own beliefs and creating a new perspective to better fit the situation. Through her epiphany, she realized grading is about student learning and student success, not just numbers for parents and department chairs to see. Her ability to verbalize her rationale for her grading beliefs provided her a newfound confidence in her ability to grade in such a way that her students would be successful. In her post-interview her new sense of empowerment was obvious.

Sue and Mindy. Although they were definitely more knowledgeable of formative assessment and of their own beliefs about themselves as teachers and their students as learners by the end of the study, I do not believe Sue or Mindy experienced full-blown transformations in their perspectives. Like Kristen, they too were in the middle of disorienting dilemmas when they started this study, and they experienced many of Mezirow's ten steps toward transformation as they critically examined their beliefs and teaching practices and tried new instructional strategies to engage their students in their own learning. However, their confidence levels about their understandings of formative assessment at the end of this study, while better than at the beginning, were still lacking, making it hard for them to revise their perspectives to reach new understandings. By the end of the study, Sue was just beginning to know how to verbalize her new understandings about learning objectives, but needed more time to practice formative assessment to make her grading philosophy her own. Mindy's lack of PCK and her perceived lack of support in her building prevented her from deeply examining her beliefs about grading.

The Researcher. The data gathered in this study made it very clear that no one can assume to know what supports teachers need without first understanding the teachers' own assumptions and beliefs about the topic(s) at hand. However, more importantly, they must understand what learning is, above all else, before assuming to know what teachers want and need. People in the position of teacher and district support must involve teachers and districts in planning those supports so teachers and districts may control their *own* learning, as opposed to someone else controlling it for them. (See the section entitled *Implications for Future Research* in this chapter for connections to

current literature regarding perspective transformation, formative assessment, and professional development.)

Limitations of My Study

The small length of time during which this study took place was a limitation. Although each participant invested over 20 hours in this study, this was not enough time for the participants to address all components of formative assessment in depth, nor was it enough time for participants or me to fully understand any epiphanical moments that are central to the transformational learning process. Also, the two-hour sessions needed to be longer, possibly 3-4 hours in length, because it seemed like the participants would just get into a deep discussion about something and the session would be over already. Also, the study would have been better had it been spread out over a longer period of time, possibly over a semester or an entire school year. This would have given the participants more time to reflect on and discuss with each other their formative assessment practices. Even though the timing of the study was shorter than I would have liked, I did utilize the time we had to gain a wealth of data to support my claims in this study.

Another limitation was that I did not observe the participants as they negotiated the formative assessment process in their classrooms. The Reflective Workshop Journals served their purpose in that they gave me some insight as to what was happening in the participants' classrooms, but I could have had much richer data had I personally witnessed the participants in action. Also, I should have allowed (or even required) them to read and provide feedback on each other's Reflective Workshop Journal entries. Because I did not have them read each other's journal entries, they did not know what the

other participants were doing in their classrooms unless I asked each participant to specifically address an entry. I did ask them to share their classroom experiences during our sessions, but if I had had them read each other's entries prior to the sessions, we could have gotten to a deeper level of discussion more quickly. More valuable data might possibly have been collected had I done this.

Another limitation was that this session was voluntary and the participants received payment for attending the sessions and completing the readings and journal entries. This may have provided participants with more motivation, thus creating a different impact on their learning than if the sessions had been mandatory.

The results of this study are dependent on the participants' experiences. Their experiences are deeply entwined with the Capitol City View District's grading and learning objective policies. Because of this fact, this study may not be generalizable to other populations, nor can it show causality between professional development in the area of formative assessment and transformational learning.

To ensure the validity of the rich, thick data gathered, I, as the principal researcher, triangulated my data through pre- and post-interviews, reflective journal entries, and informal observational notes. I also engaged in the memberchecking process to ensure that the data had been accurately observed. Finally, I made audio-recordings to check the accuracy of the informal notes taken during the collaborative sessions. In addition, I treated each participant as an independent case to prevent myself from fixating on one end goal. These data gathering techniques ensured the validity of the data gathered in this study.

Study Significance

While I would never claim this research study has found the solution to perfect professional development for teachers, I will claim it adds to the literature seeking to understand how to best support teachers as they attempt to make sense of their current situations. Without having watched the processing these participants did throughout the study, I would not have known that many of my assumptions about how teachers process were inaccurate. One of the assumptions I made was that teachers who make comments contrary to mine and other teachers' beliefs during collaborative settings are too cynical to learn. In reality, everyone processes in different ways, thus the importance of providing several different modes of expression for optimal professional learning. Prior to beginning this study, I was well versed in Drago-Severson's (2012) "ways of knowing"; however, it was not until I was in the midst of this study that I realized it is not so much understanding the "ways of knowing" as it is the understanding of how to *recognize* and *negotiate* all those ways of knowing.

Another related assumption I made was that teachers who say, "That will never work in my classroom" are unwilling to try because they are not open to new ideas. In reality, teachers may make this comment because they struggle with classroom management and other areas of PCK and, while they are not against trying new things, they need the time to first understand the ideas, and then decide how they can incorporate the ideas into their instruction without causing disorder in their classrooms, as was evidenced by Mindy's comments during the course of our sessions. In my earlier chapters, I described my own experience of becoming defensive when administrators introduced me to new mandates. So why did I not see through Mindy's comments and recognize that she was struggling? Why did I immediately assume she was negative until

I looked at all the data I had gathered from her in one big picture? Because I naively

believed that in developing these sessions for my participants, I had created a holding

environment that worked for everyone. What I failed to remember from my studies was

the most important part about holding environments (Drago-Severson, 2012)—that

holding environments must be present and they must "hold well" (p. 47), meaning they

must be in place, but not push participants to change, and allow participants to process at

their own pace. Because I was so deeply invested in this study, and because the TLT was

prominent in my mind, I believe I was subconsciously looking for a change to happen

more quickly.   This point has implications for administrators and/or state department of

education personnel when rolling out support plans for schools and districts. It is

imperative that they not get so attached to their projects that they inadvertently neglect

the needs of the people they are supporting.

Because my job allows me to be in the position to support districts and also

because I hope to continue to work with teacher support, this study has made it possible

for me to be more confident as I move forward in both areas. Although I do not know

everything there is to know about working with teachers and districts, as I continue my

career in professional learning and assessment, the information learned from this study

has provided me with a basic knowledge on which to broaden my expertise.

Implications for Practice

After a careful review of the data, several implications for the professional

development and a broadening of perspective in teachers became obvious. I write these

implications with middle school and high school administrators and curriculum directors

in mind.

Role of Adult Learners. While the role of the facilitator of any professional development opportunity is important, the role of teachers as adult learners is also important. Teachers play an equal part in the outcome of their learning. They must be open to the transformative process. If the conditions in the environment allow, they must be willing to reflect on their current practices, challenge their assumptions, and explore new options, which can enable perspective change.

Content. Careful planning must go into the content of the professional development. Teachers will be more likely to engage in the development opportunities if the purpose of the content is obvious and teachers deem the content relevant, applicable and accessible to them (Griffith, Ruan, Stepp, & Kimmel, 2014; Desimone & Stuckey, 2014). The Wiliam text served its purpose in this study well. The participants connected well with the theoretical and practical balance of the information. The length of the chapters was manageable and the content seemed to be exactly what the participants were needing at this time in their disorienting dilemmas. Only two times did I hear comments about how some examples used by Wiliam in the text were not applicable to the participants' situations. The additional articles and the teachingchannel.org videos complemented the Wiliam text and provided the participants with more strategies to add to their formative assessment practices. Consideration of the content of the study took careful planning, which is how professional development opportunities should be treated.

Context. Teachers need to be allowed to learn within the environment of their own contexts (Rohlwing & Spelman, 2014). The context of this study was the culture the participants and I created within the classroom of less experienced middle school and high school ELA teachers. Teachers need support within their own context of practice,

which includes acknowledging their individual beliefs about teaching, their concerns with their current situations, and the lenses with which they are currently viewing the world. This study provided opportunities for the participants, not only to express their beliefs and concerns, but also to investigate and revise their perspectives if necessary for their understanding, along with other individuals with similar lenses for processing.

Collaboration and Reflection. Collaborative and reflective opportunities are key components to effective professional development (Tillema & vander Westhuizen, 2006; Shulman & Shulman, 2004; Zeichner, 2006). However, they might be the most misunderstood or misused components. Collaborative opportunities must be natural, not contrived, and also sustained over time. Teachers need to be given time to talk out their issues with peers who share a common ground. However, it should be noted that some teachers may not always respond positively to collaborative opportunities and would welcome a different mode to process the information. This is why reflective opportunities are equally important. The collaborative and reflective professional development opportunities in this study contributed to Kristen's transformational learning experience, and to the overall knowledge and confidence growth of Mindy and Sue. Kristen especially used the collaborative sessions for her sense-making process. It was through her conversations with the other participants that she expressed her concerns, shared her new ideas, received validation, and learned how to verbalize her newly-formed perspective. Without the opportunity to collaborate with her peers in this collaborative fashion, Kristen may not have worked through this process. She admitted in her post-interview she had attempted to work through this issue in the past with no success because it always got placed on the back burner. She explained that she always plans to

work on issues such as her grading practices over her summer vacations, but then never does. This pattern is a source of frustration for her and she was very relieved to have had the opportunity to work through this process with the group.

Sue and Mindy used the Reflective Workshop and Creative Workshop Journals more than the collaborative discussions to express their confusions and frustrations, as well as their new ideas for formative assessment implementation in their classrooms: Sue because she was also using the Reflective Workshop Journal entries as artifacts for her evaluation meetings with her administrator and Mindy because she struggles with shyness so it was easier for her to put her thoughts down on paper than to speak them aloud. Both Sue and Mindy contributed to the collaborative discussions as well, but they also utilized their journal entries to express their thoughts.

Healthy Tension. Professional development opportunities intent on facilitating perspective change must acknowledge that teachers become disoriented when presented with information that does not fit within their schemas, and that time and support are necessary to help them fit the information into their frames by examining their beliefs and deciding if their frames need to be readjusted. These tensions are a natural part of the process (Cobb, Wood, & Yackel, 1990; Loughran, 2006), but the emotional aspect makes it difficult to negotiate. In this study, the participants' struggle with their understanding of formative assessment and how to negotiate their beliefs with the policies of their schools and district created a healthy tension in the professional development sessions. This healthy tension provided a common ground for the participants, allowing them to build an instant rapport with each other and develop a trust based on the knowledge that

the feedback they received from each other would be quality because they were all dealing with similar tensions.

Holding Environment. It must be acknowledged that groups are filled with individuals who bring with them unique ways of processing information (Drago-Severson, 2012). Without this acknowledgment, it will be difficult for administrators to get teachers to accept new information and attempt to transform the new information into revised understandings. The participants in this study knew that in the professional development sessions, their different ways of knowing were acknowledged. This recognition created an atmosphere that welcomed the sharing of comments that might not have been expressed had the structure been more geared toward one way of knowing over another.

Time and Support. Less experienced teachers are unique because they have such a high level of need in both content knowledge and pedagogical content knowledge (Shulman, 1986). They need time to observe master teachers and learn new instructional practices, time to hone their skills in their own classrooms, and time to process their knowledge with mentors. They also need to feel supported as they learn these skills. In this study, all three participants were unique in their needs. Of the three, Mindy felt the least supported in her school. She would welcome support from her administrators, assessment specialists, and fellow teachers in the areas of classroom management and grading practices.

Implications for Future Research.

Throughout my CPED journey, and in preparation for this study, I read ample research in the areas of professional development (Clarke & Hollingsworth, 2002;

Meijer, et. al., 2013); Swan Dagen & Bean, 2014); formative assessment (Coffey, Black & Atkin, 2001; Heritage, 2013; Wiliam, 2011); and transformational learning (Cranton, 2006; Mezirow, 1991). The content of the professional development sessions in this study was formative assessment. The TLT undergirded the content. In the following discussion, I provide implications for research in all three areas.

Professional Development for Teachers. The findings in this study were consistent with current research that describes the components of quality professional development for teachers. Ample research also exists that indicates quality professional development for teachers is lacking for various reasons including, but not limited to, time, money, or a lack of understanding of teachers' support needs. Even though I had read the research and understood the lack of ability of schools to meet the professional development needs of teachers with the resources currently available to them, it was not until I conducted this study that I truly understood the expanse of teachers' unique needs and how poorly equipped schools really are in that area. I have read research about schools that partner with higher education institutions in an attempt to provide quality, sustained learning for teachers. However, after conducting this study, I wonder if retired teachers are an untapped resource for teacher development, especially for less experienced teachers. I do not know what would come of this inquiry, but I would like to see some research in this area. I would also like to see more research about (a) the involvement of departments of education in support not just at the district and school levels, but support in teacher development, (b) what needs to change within schools to better support teachers' needs, and (c) the differences between the assessment needs of

teachers trained before the implementation of No Child Left Behind and teachers trained since its implementation.

Formative Assessment. I appreciate that formative assessment is getting its day in the limelight at the federal and state levels. However, local school leaders should not get their hopes up too high that with all this attention, very direct guidance will be forthcoming. Although more discussion is happening, the decision as to what formative assessment looks like will likely remain a local decision (Stiggins & Chappuis, 2013).

The assessment office at the state department of education has begun to work with schools across the state to identify successful implementation of systemic formative assessment processes. Recently, two schools indicated that they had a schoolwide formative assessment plan in place and were asked to present their formative assessment processes at a recent school administrator conference. They were asked to address formative aspects such as how they set up and maintained their system-wide formative assessment process, how they communicated the purpose of the process to their teachers, and how they engaged students in the process. However, their presentations were more about specific formative assessment strategies used at the classroom level, and not about how they used the data school-wide. Could it be that they were presenting at the level of their understanding? Even though we wanted them to present at a deeper level, is it possible they were unable to, very similar to what happened in my study in the answers to the Reflective Workshop Journal entry question *What makes this formative in nature*? I would like to see more case study research on how school administrators, staff members, and students in schools with successful school-wide formative assessment processes in place work together to understand the process at a deeper level to create and maintain

these system-wide processes. Schools might understand the necessity of this, however, they may not know how to accomplish it.

Another area not addressed in this study but worthy of consideration is a look into how mandated policies affect students' purposes for learning. How does what the state requires relate to what students want?

Transformational Learning. Very few studies about the TLT exist (Taylor & Laros, 2014). Because it is a gradual and multi-faceted process, studying transformational learning is difficult. Most people do not know their perspectives have changed until the change has already occurred. Glowacki-Dudka (2012) conducted a study after their study. Their initial research project was similar to this research study with collaborative book study sessions and reflective workshops. However, at the end of the study, the researchers and the participants conducted a case study to study the transformations of the participants during the initial study. More of this type of research needs to happen. These stories about the epiphanical experiences of educators would provide a much-needed focus on the unique experiences of teachers during learning to inform teacher support decisions.

Another area related to this study, but not addressed, is the subject of power. The context of professional development is very sensitive to the element of power and teachers' sense of control. This element along with the skepticism about the state department of education's role in it (Hamann & Lane, 2002) would help provide more insight into understanding teachers' professional development experiences.

Conclusion

For successful implementation of formative assessment, it is imperative that teachers help their students learn to verbalize the answers to the questions *Where are you now? Where do you need to go? How are you going to get there?* about their learning process. These questions give students insight into what content is to be learned and how it might be learned. With this insight and with the supports of a healthy tension, a holding environment, and collaborative and reflective opportunities, students can navigate their way in, out, and around the formative process of purpose, prior knowledge, instruction, and curriculum to control their own learning.

It was my hope that my participants would process their way into new knowledge by the end of this study. It was also my hope that I could see their learning as a formative process similar to the formative assessment process they were trying to develop themselves. Professional development for teachers should focus on helping teachers to verbalize answers to the formative questions for themselves. Teachers should be provided resources and taught how to navigate their way in, out, and around the formative process of theory, content and pedagogical content knowledge, instructional strategies and the curriculum. For professional development opportunities to effective and for learning to be transformational and not just informational, the focus must be on the formative, systemic nature of learning,

Teacher learning is a formative process. Sometimes it is painful. Sometimes it is epiphanic and enlightening. But always it must be purposeful just as the formative assessment process should be. Having sustained, systematic processes in place to ensure student success is the goal and support for teachers a means to reach it.

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Appendix A

Approval Letter from District

RR 15-75
(NUgrant #15227)

June 15, 2015

Kimberly Snyder, Student
Kathleen Wilson, Ph.D.
Teaching, Learning and Teacher Education
UNL

RE: Request to Conduct Research in the ███████████████

Dear Ms. Snyder and Dr. Wilson:

Your request to conduct a study entitled, "The Formative Nature of Professional Learning" with middle and high school ████ English/Language Arts teachers is approved. Please contact ██████████, Secondary ELA Curriculum Specialist, to secure his permission to proceed with the implementation of this study and coordinate subject recruitment. Consent is required for this study, please use the form and processes submitted with your request.

Sincerely,

█████████████, Ph.D.
Director of Assessment and Evaluation Services

cc: ██████████, Secondary ELA Curriculum Specialist
        ████████, Human Resources Supervisor

Appendix B

IRB Approval Letter

UNIVERSITY OF Nebraska Lincoln

Official Approval Letter for IRB project #15227

July 15, 2015

Kimberly SnyderTeaching, Learning and Teacher Education 6000 Lillibridge St., Apt. 14 Lincoln, NE 68506

Kathleen WilsonTeaching, Learning and Teacher Education 114E HENZ, UNL, 68588-0355

IRB Number: 20150715227 EXProject ID: 15227Project Title: The Formative Nature of Professional Learning

Dear Kimberly:

This letter is to officially notify you of the certification of exemption of your project by the Institutional Review Board (IRB) for the Protection of Human Subjects. Your proposal is in compliance with this institution's Federal Wide Assurance 00002258 and the DHHS Regulations for the Protection of Human Subjects (45 CFR 46) and has been classified as Exempt Category 2.

You are authorized to implement this study as of the Date of Exemption Determination: 07/15/2015.

1. Your stamped and approved informed consent document has been uploaded to NUgrant (files with Approved.pdf in the file name). Please use this document to distribute to participants. If you need to make changes to the informed consent document, please submit the revised document to the IRB for review and approval prior to using it.

We wish to remind you that the principal investigator is responsible for reporting to this Board any of the following events within 48 hours of the event:* Any serious event (including on-site and off-site adverse events, injuries, side effects, deaths, or other problems) which in the opinion of the local investigator was unanticipated, involved risk to subjects or others, and was possibly related to the research procedures;* Any serious accidental or unintentional change to the IRB-approved protocol that involves risk or has the potential to recur;* Any publication in the literature, safety monitoring report, interim result or other finding that indicates an unexpected change to the risk/benefit ratio of the research;* Any breach in confidentiality or compromise in data privacy related to the subject or others; or* Any complaint of a subject that indicates an unanticipated risk or that cannot be resolved by the research staff.

This project should be conducted in full accordance with all applicable sections of the IRB Guidelines and you should notify the IRB immediately of any proposed changes that may affect

the exempt status of your research project. You should report any unanticipated problems involving risks to the participants or others to the Board.

If you have any questions, please contact the IRB office at 472-6965. Sincerely,

Becky R. Freeman, CIP for the IRB

University of Nebraska-Lincoln Office of Research and Economic Development

nugrant.unl.edu

Appendix C

Example of Professional Learning Session Agenda

Session 3   Topic: *Clarifying, Sharing, and Understanding Learning Intentions and Success Criterion*

5:00-5:05   Welcome and review of group norms
5:05-5:30   Sharing session--Discussion of participants' Reflective Workshop
                           submissions.
5:30-6:50   Discussion of reading (pg. 56-69 of Wiliam book.) AND of two teacher
                           videos that demonstrate the use of *Clarifying, Sharing, and
                           Understanding Learning Intentions and Success Criterion* (Ed
                           Week video (elementary one about writing) and
                           Teachingchannel.org video about _____)
6:50-7:00   Complete a Creative Workshop Journal entry and submit it

Prompts for discussion:

Prompt 1: Reread Wiliam's comments about the "wallpaper objective". Does your
                   school require this practice? If so, how do you make it work within the realm
                   of *Clarifying, Sharing, and Understanding Learning Intentions and Success
                   Criterion*?

Prompt 2: On pg. 57, Wiliam says "Sometimes telling the students where they are going
                   completely spoils the journey!" Describe any experiences you have had with
                   letting students explore their own learning paths or with "co-construction" that
                   he describes on pg. 59.

Prompt 3: Discuss the difference between learning intentions—What we want students to
                   learn—and success criteria—the criteria we use to determine whether the
                   activities in which we engaged our students were successful or not.

For next time: Please read pgs. 78-105 in Ch. 4 of the Wiliam book. Also, prior to our
next session, please fill out at least one (but more if you want) Reflective Workshop
Journal entry based on your practice of what we discussed today about *Clarifying,
Sharing, and Understanding Learning Intentions and Success Criterion.*

Appendix D

Letter sent from Capitol View School District Office to potential participants

Greetings! The purpose of this email is to inform you that you are eligible to participate in an exciting professional learning opportunity. If you choose to participate, you would receive the following upon completion of the professional learning sessions:

1. $100 cash
2. As many LPS FLEX hours that you need to meet your district's Flex requirement <u>once you have completed all required LPS FLEX sessions</u>
3. A free book entitled *Embedded Formative Assessment* by author Dylan Wiliam

This professional learning opportunity will provide you with time to collaborate and plan classroom activities around formative assessment strategies with other teachers. Kim Snyder, a doctoral student at the University of Nebraska-Lincoln, and a former Capitol View High School Reading teacher, will be conducting this professional learning opportunity in order to provide teachers with a forum to explore formative assessment strategies for their own classrooms.

The sessions will take place at Capitol View High School this summer and fall on the following dates and times:

5:00 p.m.-8:00 p.m.	July 16
5:00 p.m.-8:00 p.m.	July 20
5:00 p.m.-8:00 p.m.	July 22
5:00 p.m.-7:00 p.m.	August 25
5:00 p.m.-7:00 p.m.	September 10
5:00 p.m.-7:00 p.m.	September 24
5:00 p.m.-7:00 p.m.	October 6
5:00 p.m.-7:00 p.m.	October 20
5:00 p.m.-7:00 p.m.	Final exit interview (date and time TBA)

This opportunity is not associated with Capitol View Schools other than the fact that I am sending this email to Capitol View School District teachers who are eligible and also the fact that if you participate and complete the sessions, you will receive the FLEX hours as mentioned above. No Capitol View District Office employees are involved in the planning or conducting of these professional learning sessions, nor are any Capitol View District employees monitoring the participants. Upon completion of the sessions, Kim will let the Capitol View District Office know which teachers completed the sessions and the professional development hours will be applied at that time.

If you are interested in participating or have questions, please email Kim at (redacted) or call her at (redacted). She would like to hear from you as soon as possible so that she can finish planning for the summer and fall. Thank you for your time.

(Name redacted)
Capitol View District Office

Appendix E

Creative Workshop Journal Entry (Group Session)

What sparked your creativity today?

What concepts, if any, were discussed today that you hadn't considered before or that run contrary to your beliefs or values? Describe your thoughts and opinions regarding these new concepts based on your professional experiences.

If applicable, how and why have your goals changed since the last time you journaled?

What do you plan to do between now and our next session with formative assessment in your classroom?

Appendix F

Reflective Workshop Entry

What did my students and I attempt to accomplish?

What's left to do in order to accomplish it?

How did we do? What was the most effective part of what we accomplished? What parts need more creativity in order to work?

What's next?

What if? (Could we have done something differently? Should we adapt it and try again? What would the adaptations look like?)

What made this task formative in nature? (Added on February 18)

How did I feel before we started? How do I feel now?

Appendix G

Perspective Transformation Individual Pre-Session Interview Questions

1. Please discuss any reflection opportunities that you have had in any professional development sessions that you have been a part of in your teaching career. What if any impact did they have on the outcomes that you experienced as a result of that professional development session. Did you continue to use the reflection practices that you just mentioned?

2. Please discuss the most meaningful experiences that you have had as a result of professional development sessions in the past. What made them the most meaningful?

3. Please discuss your (and your students') knowledge of and use of formative assessment in your classroom. To what do you attribute your knowledge of formative assessment?

Appendix H

Additional Reading and Videos

Gewertz, C. (2015, November 9). *Searching for clarity on formative assessment: Is formative assessment 'just good teaching' or something more specific?* Retrieved from www.edweek.org/go/formativeassessment-digital

Gewertz, C. (2015, November 11). *Questions and answers: Formative-assessment misconceptions.* Retrieved from www.edweek.org/go/formativeassessment-digital

Heitin, L. (2015, November 11). *Should formative assessments be graded? Four experts offer their takes on the question and suggest some alternatives.* Retrieved from www.edweek.org/go/formativeassessment-digital

Teaching Channel (Website). (2016). *Formative Assessment: Proportional relationships*. Retrieved from https://www.teachingchannel.org/videos/formative-assessment-example-math-sbac

Teaching Channel (Website). (2016). *Making feedback meaningful.* Retrieved from https://www.teachingchannel.org/videos/personalize-feedback-for-students

Teaching Channel (Website). (2016). *Making learning personalized and customized*. Retrieved from https://www.teachingchannel.org/videos/workshop-model-customized-learning

Zubrzycki, J. (2015, November 11). *Putting students in charge of their own learning: Can students learn more by assessing their progress?* Retrieved from www.edweek.org/go/formativeassessment-digital

Appendix I

Perspective Transformation Individual Post-Interview Questions

1. Please talk about the reflection opportunities of these sessions and any impact that they may have had on the outcomes that you experienced as a result of these sessions. Do you plan to continue to use the reflection practices that you used during the sessions?

2. Please talk about the collaboration opportunities of these sessions and any impact that they may have had on the outcomes that you experienced as a result of these sessions. Do you plan to continue to use the collaboration practices that you used during the sessions?

3. Please talk about the most meaningful experiences that you have had as a result of these sessions. What made them the most meaningful?

4. Please talk about your (and your students') knowledge of and use of formative assessment in your classroom now as compared to before you participated in these sessions. If they have changed at all, to what do you contribute the changes?

5. Please compare your teaching values, beliefs, or assumptions now to what they were prior to these sessions. If they have changed at all, to what do you contribute the changes?

Appendix J

Data Chart for Kristen

Date	Document Type	Documentation	My Thoughts
January 14 (before PD sessions)	Pre-Interview	Defines formative assessment as activities such as homework, quizzes, and daily work that lead to a summative	Understands how to collect formative assessment data but does not know how to translate the data into scores that show her students' true capabilities
January 14 (before PD sessions)	Pre-Interview	Describes her use of several effective formative assessment techniques	Understands the importance of effective feedback, reflection time, and data sharing for her students
February 6	Session Discussion	Expresses concerns about the pressures of grading	Does not understand how to verbalize or act on her beliefs about grading
February 6 February 12	CW RW	Wants to give students more control over their own learning	Understands the importance of students gauging their own progress but stresses that students need to be taught how to do this
***February 18: I added the question *How was this activity formative in nature?* to the RW's.			
February 18	Session Discussion	Struggles with writing the learning objectives	Does not understand how to write all expected skills into the learning objectives
February 18	CW	Realizes that her objectives are not written at the right grain size	Understands that she needs to be clearer about what she wants students to learn but does not yet know how to do this
March 3	Session Discussion	Reads an article that discusses a different way of grading	Begins to formulate her plan for her new grading system
March 3	CW	Vows to develop a new plan for grading formative assessment after being inspired by Ch. 5	Shows a new confidence in her understanding of grading to show student learning
March 17	RW	Plans to provide an extra week in between practice quizzes so she has time to give proper feedback	Realizes the timing of her vocabulary quizzes does not allow formative assessment to drive her instruction

March 24 April 6	CW CW Session Discussion	Shares new ideas for formative assessment techniques and grading system for her classes	Feels confident in her new understanding of grading to show student learning
April 8	Post-Interview	Focuses more on the big picture for her classes and less on individual activities	Realizes the importance of being more purposeful in her planning

Appendix K

Data Chart for Sue

Date	Document Type	Documentation	My Thoughts
January 14 (before PD sessions)	Pre-Interview	Defines FA as an activity that leads to a summative	Has no other knowledge of formative assessment other than introductory definitions she was taught in her undergraduate work and in all-staff professional development sessions while teaching
January 14 (before PD sessions)	Pre-Interview	Says she allows student time to review her feedback on their essays after she hands them back (when asked how she activates students as owners of their own learning)	Does not realize that the feedback she is providing at the end of the unit is not effective as formative assessment
February 6	CW	Sees formative assessment as activities that she needs to grade for students both to reward students for their formative work and because the district mandates that teachers enter formative assessment scores in the gradebook	Has no other knowledge of formative assessment other than introductory definitions she was taught in her undergraduate work and in all-staff professional development sessions while teaching
February 9 February 17	RW RW	Observes that students were motivated, bored, or not challenged by activities	Does not recognize that her assessment of students could be used formatively
February 18	Session 2 discussion	Struggles to communicate learning objectives to her students	Does not understand that learning objectives should guide her classroom assessment
February 22 March 1	RW RW	Explains that the activities were formative in nature because they helped students build up to summative	Appears to be providing the answer that she thinks I want to hear possibly because she does not understand what I am asking
April 1	RW	Plans to postpone	Does not understand that her

		feedback to students because students had a "hard time relating to it"	students need the feedback earlier in the unit and that they need to be taught how to use the feedback formatively
March 16	RW	Conferences individually with students about their grades and their English class placement for next year	Realizes the importance of helping students understand where they are and where they need to go. Does not yet understand that students also need to know how to get there
March 30	RW	Asks students to hold up 3 fingers if their poem analysis was accurate, 2 fingers if it was close, and 1 finger if the analysis was way off	Conducts a formative assessment activity for the purpose of checking for understanding and not for a grade
February 6	CW	Sets a goal to gather more student feedback	Realizes that interaction between students and teacher is an important part of formative assessment
February 6	CW	Sets a goal to provide more feedback for her students	Realizes that interaction between students and teacher is an important part of formative assessment
March 3	CW	Wants to try new forms of feedback and assessment next fall but is not confident in her ability to do so	Realizes that she should consider different ways to assess students but struggles to align her newfound knowledge of formative assessment with the district grading mandate
March 3	CW	Plans to ask her students what could be done to help make the learning objectives more meaningful to them	Understands that student feedback in this area is necessary even though she feels it is risky because she cannot anticipate what the students will say and does not feel confident in her own understanding
March 15	RW	Explains that the activity was formative because she could see whether students understood the material as they were working through the unit, not just at the end of the unit	Recognizes for the first time that she can use student responses in the middle of a unit to gauge individual student and whole class understanding

April 6	CW	Plans to convene an advisory group in an effort to get valuable feedback from her students	Understands the importance of communication in the formative assessment process
April 6	Session Discussion	Plans to use the word *goals* instead of *objectives*	Understands that *objectives (goals)* are a necessary part of formative assessment because they help students know where they are going and how to get there
March 3	Session Discussion	Admits that she does not know what I was asking for in the question *How was this activity formative in nature?*	Realizes after her admission that formative assessment is not only for the students but for the teacher as well
March 16	CW	Expresses desire to use grading chart in her classes so that students can gauge their performance in class	Realizes the importance of helping students understand where they are and what they need
April 8	Post-Interview	Explains how she used the RW's formatively	Understands that reflecting on and adapting instruction based on the reflection is formative assessment

Appendix L

Data Chart for Mindy

Date	Document Type	Documentation	My Thoughts
January 14 (before PD sessions)	Pre-Interview	Defines FA as an activity that leads to a summative	Has no other knowledge of formative assessment other than introductory definitions she was taught in her undergraduate work and in all-staff professional development sessions while teaching
January 14 (before PD sessions)	Pre-Interview	Says she does not agree with district grading policy because she feels the grading scale is way off and it's difficult for her students to get an A regardless of how much effort they put it	Admits she does not understand the grading system in her district and struggles with what to enter as formative assessment grades
January 14 (before PD sessions)	Pre-Interview	Says she provides written feedback on rubrics for her students after their presentations are over	Does not realize that the feedback she is providing at the end of the unit is not effective as formative assessment
February 6	CW	Writes that she is thankful for the opportunity to participate in these sessions because she needs help with knowing how to provide beneficial feedback and "positive" formative assessments	Lack self-confidence and classroom management skills and needs support from others
February 6	CW	Plans to teach students that purpose of assessment	Realizes the importance of communicating with student about the purpose of their assessments
February 6	CW	Sets a goal to use more peer feedback opportunities in her classes to give her students more practice	Realizes that peer feedback is an important part of formative assessment

		at providing feedback to each other	
February 6	Session Discussion	Says she gets frustrated when students don't read her feedback	Does not understand that students need to be taught how to use feedback of any kind
February 8 February 22 February 25 March 21	RW RW RW RW	Says she is open to suggestions on how to improve her teaching	Lacks self-confidence and classroom management skills and needs support from others
***February 18: I added the question *How was this activity formative in nature?* to the RW's.			
February 18	Session 2 discussion	Struggles to communicate learning objectives to her students	Does not understand that learning objectives should guide her classroom assessment
February 18	CW	Talks about using formative assessment to hold students accountable	Confuses formative assessment with classroom management
February 18	CW	Sets goal to use a version of the ABCD Cards strategy and also to work on making her references to the learning objectives more engaging to her students	Realizes the need to change strategies in areas where she does not feel successful
March 2	RW	Feels she has dug herself into a hole with the learning objectives because she doesn't understand them and doesn't feel supported	Lacks classroom management skills and self-confidence, which is impacting her ability to progress with the learning objectives
March 2	RW	Uses the "paper-throwing" strategy for a state test practice activity	Conducts a formative assessment activity for the purpose of checking for understanding and not for a grade
March 3	CW	Plans to ask her students about how learning objectives can be more meaningful to them so they can "understand the big picture"	Understands the importance of student feedback in getting to the student level

March 3	Session Discussion	Plans to have students write a letter to her about what they learned and what they need to work on	Understands the importance of feedback to check for understanding
March 24	CW	Plans to post chart similar to one in Wiliam text that shows student progress in order to hold students accountable	Confuses formative assessment with classroom management
April 6	RW	Explains that she provides feedback on a rubric and expects her students to utilize this feedback to improve on their next presentations	Expects students to read and learn from her written feedback but does not provide students with guidance on how to do so
April 6	CW	Plans to ask students for feedback regarding what worked for them in the class	Understands importance of student feedback to improve teaching and learning
April 6	Session Discussion	Expresses continued frustration over her administration's management of learning objectives	Cannot get beyond her frustration with her administration which hinders her ability to process how learning objectives could work in her classroom
April 12	Post-Interview	Admits she does not give students enough opportunities to show where they are in their learning	Realizes the importance of helping students understand where they are and what they need

Appendix M

Data Chart for the Researcher

Date	Document Type	Documentation	My Thoughts
Pre-January 14	Video and text	Chose Wiliam as the main resource for my work with participants	Connected with Wiliam's philosophy when reading his work and watching his videos in my doctoral courses
Pre-January 14	Google forms	Learned how to use Google forms	Sought training in use of Google forms to use for participants' CW's and RW's
January 14 (before PD sessions)	Session	Described study design to participants	Realized participants were knowledgeable and using Google forms in classes
January 14 (before PD sessions)	Session	Expected to have to push them toward a disorienting dilemma	Thought I would have to push them to make them examine formative assessment at a deeper level
Feb. 6	Session	Surprised by participants' seemingly immediate rapport	Realized that their struggle with formative assessment and how to align it with the district grading policy and learning intentions mandate provided them with a common language
Feb. 6	Session	Surprised by participants' level of anxiety about formative assessment	Realized the participants were all there for a reason—to understand what formative assessment really was, how to do it in their classrooms, and how to align what they do in their classrooms with district policies
Feb. 6	Session	Verified lack of understanding of formative assessment	Realized that before we get to discussion of what formative assessment is, they have to get their frustrations out
February 6-February 18	RW's	Noticed lack of mention of needed information about formative assessment in their RW's	Decided as of Feb. 18 to add this question to the RW's: How was this activity or process formative in nature?
February 18	Session	Centered the discussion on Ch. 3 of Wiliam text, Zubrzycki article, and teachingchannel.org	Surprised at the negative reaction to video. I should have let them watch it to the end

		video about learning objectives	
February 18	Session	Tried to guide the discussion too much. I led them away from a very important discussion because I was afraid it would lead to negativity—I needed to cede control but didn't.	Was afraid it would turn into a gripe session so I intervened. In retrospect, I should have let them keep going because I think they would have turned it around to more problem solving and less griping.
February 18	Session	Believe this was a pivotal session for all of us	Discussing learning objectives gave voice to their common frustrations. I realized they didn't want/need my input.
February 18	Session	Felt unsuccessful and unsure at the end, but also excited because we were entering the unknown	Did not know how to handle their negativity. At that point, I didn't know what insecurities were feeding that negativity until later--lack of confidence, pressure from parents/administration, lack of classroom management skills, etc.
March 3	RW and CW	Realized which direction I would go with learning objectives quandary	Need to help them understand that learning objectives are central to formative assessment because they enable students become participants in the formative assessment process in the classroom. I encouraged the participants to start a conversation with their students.
April 12	CW's and RW's	Reflected on the participants' journeys and the answers to these questions: *Where are you now? Where do you need to go? How are you going to get there?*	Did not ask these questions specifically but I know the answers to them based on the information the participants' provided for me in their CW's, RW's, and post-interviews.

Appendix N

Example of Grading Chart

	A	B	C	D	E	F	G	H	I	J	K	L	M
		Use of Lab Equipment	Metric Unit Conversion	Density Calculation	Density Application	Density as a Characteristic Property	Phases of Matter	Gas Laws	Communication (Graphing)	Communication (Lab Reports)	Inquiry Skills	Score	Grade
	Period	1	1	1	1	1	1	1	1	1	1		
	Standard	1	2	3	4	5	6	7	8	9	10		
1	Georgie	2	2	2	2	2	2	1	2	2	2	95	A
2	Kirsty	1	1	1	1	2	2	1	2	1	2	70	C
3	Victoria	2	1	2	2	2	1	2	2	1	2	85	B
4	Jennifer	2	1	2	1	2	1	1	1	2	2	75	C
5	Andrew	2	1	1	1	2	1	1	2	1	2	70	C
6	Jonathan	0	2	2	2	1	1	2	1	1	2	70	C
7	Charlotte	1	1	2	1	1	1	2	1	2	2	70	C
8	Scott	0	0	2	2	1	1	1	1	2	2	60	D
9	Amy	2	1	2	2	2	1	2	1	1	2	80	B
10	Grace	1	0	2	2	1	1	1	1	2	2	65	D
11	Lee	2	2	2	1	2	1	2	2	2	2	90	A
12	Peter	2	1	2	2	0	2	1	2	1	2	75	C
13	Thomas	1	1	2	1	0	1	2	2	2	2	70	C
	Average %	69	54	92	77	69	62	73	77	77	100		

Read horizontally to determine a student's mastery of each of 10 standards. Green (2) shows mastery, yellow (1) shows developing skills, and red (0) shows beginning or below basic skills. Read vertically to determine a group of students' mastery of a given standard. The percentages at the bottom indicate the group's mastery of each of 10 standards.