

TEACHER EXPERIENCES WITH FORMATIVE ASSESSMENTS:
A NARRATIVE ANALYSIS

A doctoral thesis presented
by

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to
The College of Professional Studies - Graduate School of Education

In partial fulfillment of the requirement for the degree of
Doctor of Education

In the field of
Education

Northeastern University
Boston, Massachusetts
June 2018

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Abstract

Formative assessments are valuable tools that can be used to monitor academic progress and increase student learning. Although these assessments can help improve learning achievement, research indicates that some issues surround the practice. Research found that finding the time to give students feedback about their performance on the activities was problematic (Buck & Trauth-Nare, 2009) and some teachers were uncertain about how they should continue their instruction after receiving data from assessments (Furtak, 2011). At an elementary school located in a large urban school division, teachers are required to implement formative assessments daily. This study focused on examining their experiences with the practice. The research question that guided this study is: What are teacher's experiences with formative assessments? Spillane, Reisner, and Reimer's (2002) cognitive sense-making framework served as a theoretical lens to explore this phenomenon. Utilizing narrative inquiry, five teachers participated in semi-structured interviews to discuss their experiences with the practice. The data analysis included searching for the most prevalent themes and subthemes in the interview transcripts. The themes generated in this study indicated that the participants were initially confused when first asked to implement formative assessments; however, their understanding developed over time. They also collaborated with their peers by planning the activities or by analyzing formative data. There were also barriers to implementation which were a lack of time and student behavior. The findings suggest that the participants would benefit from training that emphasizes introducing the learning goal at the beginning of a lesson. Other recommendations focus on attention to developing the formative assessment practices of pre-service teachers in higher education institutions.

Keywords: formative assessments, sense-making, narrative inquiry

DEDICATION

To my husband and love of my life,

Darian Tazewell

To my only son whom I love dearly,

Aubrey Tazewell

ACKNOWLEDGEMENTS

I would like to first give honor to God who made this all possible. I know that I would have never made it through this doctoral journey without the love and guidance of my Lord and Savior Jesus Christ. I would also like to offer my sincerest gratitude to the most supportive and loving husband anyone could have, Darian. He not only encouraged me to keep fighting but he believed in me and my dream. I thank him for listening, praying, and supporting me throughout this journey. Most of all I thank him for his love and kindness. I also thank my son Aubrey for all of the hugs and cheering me on during my doctoral work. This was a lot for my family, but they stood by me. I also thank my mom, Henrietta who offered up prayers for me when I needed them. She never doubted my ability to get through this. I also thank my mother in law, Sandra for her prayers and kind words during this journey.

I also have to thank two people who were my prayer sisters while I was working on my dissertation, Minister Rose Clemons and Quangie. They prayed for me for years until the end. Also, special thanks to Elder Gala Hoggard for the encouragement and kind words during this process. I also would like to thank all of my other relatives, friends, and church family for the love and encouragement that was shared along the way.

Additionally, I would like to express sincere appreciation to my committee Dr. M. Billye Sankofa Waters, Dr. Kristal Moore Clemons, and Dr. Gloria Walker. It was a wonderful experience working with everyone. I am grateful for Dr. B's guidance and support that helped me to get to the finish line. Dr. B also encouraged me to write in a way that allowed my voice to shine through. I'm also very appreciative of her challenging my thought process and prompting me to write the blueprint of how I

plan to use my experience and research as an educator. Most of all she always listened and understood the concerns that only a doctoral student would have. I am also grateful for Dr. Clemons support on my committee as well as her ideas which challenged me to think differently. Lastly, I would like to express gratitude to Dr. Walker for her support on my committee. When we met in Boston, I didn't know that we would come together again to end my journey. I'm grateful to have met such a wonderful person and excellent writer that I learned a lot from. I would also like to thank all of the doctoral students that I met along the way in the College of Professional Studies who gave me bits of advice and support. Thank you all so much.

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Chapter 1- Introduction

During the process of instruction, most classroom teachers try to identify whether their students understand what is being taught. Teachers may use many activities to determine the learning status of their students. According to Burke and Depka (2011) activities that are used to identify student progress and modify instructional methods based on learning needs are known as formative assessments. Examples may include simple questioning or informal observations (Shepard et al., 2005). Other activities may be a student's written summary of what was learned (Dirksen, 2011) or their response to a question following a lesson, known as an exit ticket. Formative assessments typically are not used for grading purposes because they are implemented during the process of learning (Burke, 2010; Burke & Depka, 2011; Hammerman, 2009). The information gathered from these activities is used to identify whether students are learning specific skills or if they need additional instruction. If learning deficiencies are observed, teachers may need to re-teach a skill or provide additional practice activities.

At an elementary school located in a large urban school division in the Southeast region of the United States, teachers are expected to implement formative assessments daily. Over a two-year period, teachers were to utilize this practice to monitor student learning and check for understanding throughout instruction and concluding a lesson. Additionally, information gathered from these activities should be used to address the learning needs of students. Although the use of formative assessments is an expectation, the factors and variables that influenced the teachers' experiences has not been explored. Thus, their individual experiences with the practice is unknown.

Statement of the Problem

The use of formative assessments often is endorsed as an effective tool to help students improve during the learning process; however, several problems surround the practice. Studies found that although teachers are aware of formative practices, they assess primarily for summative purposes, (McNair, Bhargava, Adams, Edgerton, & Kypros, 2003). When students are assessed to assign grades or to confirm whether they are performing at proficient levels, it is considered summative assessment (Shepard et al., 2005). Dirksen (2011) noted that assessments used for grading purposes often are the only form of evaluation that is appreciated. Thus, getting teachers to implement formative assessments consistently may be problematic.

Also, there are several other issues associated with using formative assessments (Aschbacher & Alonzo, 2006; Buck & Trauth-Nare, 2009; Cizek, 2010; Furtak, 2011). One issue is the time needed for developing and implementing the activities in the classroom (Cizek, 2010). An additional dilemma is teachers attempting to utilize an assessment activity without a clear understanding of the learning content (Aschbacher & Alonzo, 2006). Research also found that finding the time to give students appropriate feedback about their work performance is problematic (Buck & Trauth-Nare, 2009). Teachers also have difficulty determining how their instruction should proceed after receiving information about the learning progress of their students (Furtak, 2011). Due to the influx of variables that may affect how teachers implement formative assessments, this research is worthy of investigation.

Purpose Statement

The purpose of this qualitative study is to examine the experiences of teachers with formative assessments. Using narrative inquiry, teachers will share their individual experiences with formative assessments based on the expectation of school administration.

Significance

Formative assessments are significant in educational reform (Cizek, 2010). The use of formative assessments is the subject of reform because they are recognized as a potential solution to increase student learning as opposed to annual standardized tests (Cizek, 2010). Unlike yearly tests that produce results not suitable for informing current instruction (Heritage, 2007), formative assessment information is available while students are still in the process of learning (Burke & Depka, 2011; Hammerman, 2009). Teachers can use the data from formative assessments to determine whether additional instruction is needed and to identify if adjustments should be made to their teaching (Dirksen, 2011). Formative assessment data also can identify the skills that students need to master prior to taking standardized assessments. This information also can help teachers focus their instruction on these needs. Thus, Marzano and Brown (2009) referred to formative assessments as “powerful measurement tools and powerful instructional tools” (p. 25). Additionally, Burke and Depka (2011) noted that when formative assessments are aligned to the learning standards, they can be used to routinely assess student progress. Teachers can assess student understanding of concepts throughout instruction and identify each pupil’s learning status. Using formative assessments also gives students the opportunity to be involved in their own learning (Cizek, 2010; Clark, 2005; Heritage, 2007). Students can utilize feedback from teachers to improve their learning and master certain skills (Burke, 2010).

It is evident that formative assessments can help improve learning achievement, yet several variables can affect how they are implemented. Thus, this investigation may be valuable to my school community because it is likely to identify the factors that either support or impede teacher’s formative assessment practices. It may inform school administration of the successful

experiences that teachers are having with using formative assessments and identify the weaknesses in practice. Most importantly, the findings from this inquiry can be used to design professional development and training that may increase teacher's ability to implement formative assessments in their classrooms.

Research Question

It is likely that teachers have different experiences with formative assessments. To understand the factors that influence how they implement the practice it is necessary to examine their experiences and listen to their perspectives. Thus, the primary research question for the study is:

- 1) What are teacher's experiences with formative assessments?

Positionality

Assessment of student learning has been an important component of classroom instruction throughout my fourteen year journey as an elementary teacher. I was introduced to the term formative assessment in my teacher preparation program and I have utilized the practice frequently during my career. However, I have witnessed the focus on using formative assessments fluctuate. My first teaching experience was Kindergarten. I spent a lot of time observing students and taking anecdotal notes. I used this information to plan future lessons. However, as a 4th grade teacher, high-stakes standardized testing often dominated the focus of classroom instruction. Although student learning remained a priority, classroom instruction focused more on strategies to help students pass such tests. Over the past three years, there has been a shift back to using formative assessments to monitor student learning. In my local school, it was a mandatory practice. As a Kindergarten teacher, I used several types of formative assessments in all subjects. One of the primary formative assessments I used is exit tickets. At

the end of a lesson students would write their response to a question or draw a picture to illustrate their response on an index card. I then collected the cards and observed each students answer. I used this data to decide which students needed additional instruction. If high numbers of students had incorrect responses, I would re-teach the skill to the entire class using a different method. If only a few students had incorrect responses, I would address the misconceptions in a small group.

Another formative assessment that I also used is quick response on dry erase boards. During this activity students would write their answers on dry erase boards and show their responses simultaneously. When scanning the students responses, I normally addressed misconceptions during the lesson. In addition to using exit tickets and student's quick responses on dry erase boards, I also observed students in the process of completing independent activities. While observing students I could identify whether they had an understanding of the content or the skill that was taught. I also could immediately address misconceptions or note which students needed additional instruction.

I believe that a combination of factors have influenced how I implement formative assessments. One significant factor is training from undergraduate courses. In my teacher preparation program I was taught that formative assessment occurs during the process of learning. It was emphasized that these assessments should be used to determine learning progress and not for the purpose of assigning a letter grade. Additionally, I had some experience with formative assessments in my early years of teaching. Thus, when teachers were expected to use formative assessments in my local school I had both prior knowledge and experience with the practice. Professional development sessions offered in the school division and my local school also influenced how I used formative assessments. As a Kindergarten teacher I attended several

trainings on formative assessments in the school division during the 2013-2014 school year. These sessions were given by members of faculty and division personnel. In one session the presenters used a powerpoint presentation to describe formative assessment and how it differs from other forms of assessment. Additionally, teachers were able to share experiences of how they used formative assessments in their classroom. In another professional development given by a faculty member, teachers were given specific examples of formative assessments that also could be used in their classrooms. In my local school, I also received several trainings during both the 2015-2016 and the 2016-2017 school year to help with the implementation of formative assessments. During the 2015-2016 school year, a faculty member presented a training on formative assessment to the entire staff. This training included a discussion about formative assessment and the opportunity to make examples of the activities with groups of teachers. Teachers also were given several resources to support using formative assessments in their classrooms. In the same school year, other faculty members also presented a training to the entire staff. This training included specific formative assessments that could be used in different grade levels in reading and math. Teachers were given various resources and materials that school administration expected to be used during instruction.

During planning meetings with colleagues, we also shared ideas and engaged in discussions about different formative assessment strategies. In these meetings we also brought examples of the activities and discussed the assessments that we planned to use in future lessons. Additionally, positive feedback from administrators following classroom observations also strengthened my confidence and commitment to implement the practice. During observations administrators noted the formative assessments used during my lessons and were pleased that they were being implemented.

Unfortunately, there are some factors that had an adverse impact on my ability to both implement formative assessments and utilize the data from the activities. One major issue is student behavior. Poor student behavior interrupted classroom instruction and hindered my ability to implement a planned assessment activity. Thus, I was not able to identify the students' learning status. Additionally, after obtaining data from an assessment, I often had difficulty finding time to address all of the learning needs of my students. Some students needed extensive additional instruction and others required individualized attention. However, having to follow a daily schedule which allocated a certain amount of time per subject often restricted my ability to give additional instruction and feedback to students when needed. Thus, there are many factors that can influence how teachers implement formative assessments. A discussion of the issues that have influenced my personal experience will help me to better understand the accounts of the participants in this research study.

Theoretical Framework

The goal of this research is to examine the experiences of teachers with formative assessments. The cognitive sense-making framework developed by Spillane, Reisner, and Reimer (2002) will be used to explore this phenomenon. Spillane et al. (2002b) used the term sense-making to describe how individuals develop an understanding of educational policies. In the cognitive sense-making model there are three constructs which are: individual cognition, situated cognition, and role of representations (Spillane et al., 2002b). Interactions among these constructs influences how individuals comprehend and make interpretations regarding certain educational reforms (Spillane et al., 2002b). A thorough description of the components of the framework will be explained in greater detail in the subsequent paragraphs below.

Spillane et al. (2002b) applied the sense-making model when examining educational policy to identify other explanations for teacher responses to reform. Some traditional explanations suggested that teachers attempt to change or intentionally ignore aspects of a policy (Spillane et al., 2002b). These reasons neglected to consider other factors that may be involved in how individuals understand and interpret reforms (Spillane et al., 2002b). Thus, Spillane et al. (2002b) recommended examining the impact of the variables in the cognitive sense-making model to understand the behavior of teachers in response to educational policies. The understandings that teachers develop may determine how well some reforms are implemented. Hence, using this framework will be helpful to explore the factors that may be involved in how teachers implement formative assessments.

Quinn (2009) noted that several studies have utilized the sense-making framework to explore topics education. Schmidt and Datnow (2005) investigated how teachers made sense of different school reforms and the influence of their emotions on the process. Spillane et al. (2002a) explored school leaders sense-making of accountability policy. Coburn (2001) examined the sense-making experiences of teachers in response to reading policy. Dissertations also have utilized the sense-making framework as a theoretical construct. Quinn (2009) examined how middle school science teachers made sense of a reading program they were required to implement. Gieser (2014) studied how district leaders, school board members, and teachers understood and made sense of policy to reform low performing schools. These studies situate the sense-making framework as a viable lens to explore various issues in K-12 education.

Constructs in the Cognitive Sense-Making Framework

Individual cognition. The individual cognition component of sense-making involves individuals using experiences, existing knowledge, and beliefs to develop meaning regarding

new policies (Spillane et al., 2002b). Spillane et al. (2002b) affirmed that individuals process stimuli by relying on experiences and current understandings. Existing fragments of knowledge, known as schemas, help individuals relate what is already known to new information and guide how the information is processed (Spillane et al., 2002b). It is common for persons to rely on what they currently understand to connect with new information. Conversely, this prior knowledge can have negative consequences for reform implementation (Spillane, 2004; Spillane et al., 2002b). When given new information, most individuals seek to keep their current ideas instead of evolve them (Spillane, 2004; Spillane et al., 2002b). Thus, when teachers have some understanding regarding formative assessments, it may be difficult for them to take new information and incorporate it with their existing knowledge. To counteract this type of issue, individuals may need to restructure their current knowledge to develop new understandings (Spillane et al., 2002b). Existing knowledge may not need to be entirely omitted, but it should be examined and revised to align with the new information.

Since teachers can have several existing understandings and experiences, they also may interpret the same policy differently (Spillane et al., 2002b). As a result, policies can be implemented in ways that may not be aligned to reform goals. As noted by Spillane et al. (2002b), current understanding can cause teachers to focus on insignificant similarities that are evident in the new reform and their existing practices. Focused attention given to these resemblances may prevent teachers from examining other critical aspects of the policy (Spillane et al., 2002b). Additionally, research confirmed that although teachers report familiarity with certain aspects of a reform, they may fail to implement it effectively (Spillane & Zeuli, 1999). Teachers may lack an understanding of the ideals associated with a policy, even though they perceive to themselves to be knowledgeable (Spillane et al., 2002b). Thus, familiarity with

formative assessments may not result in successful implementation because some teachers neglect to have a satisfactory understanding of the practice. To effectively implement formative assessments, teachers should clarify any misunderstandings with school leaders or knowledgeable colleagues before attempting to carry out the practice.

An individual's beliefs also can influence sense-making and affect how some reforms are implemented (Spillane et al., 2002b). When teachers believe that their practices related to the goal of a reform do not need improvement, they may focus on experiences and methods aligned with those ideals (Spillane et al., 2002b). This also may affect their ability to understand the key features of the policy and implement it properly. Conversely, when one's beliefs are aligned to policy goals this may lead to a focus on the reform efforts and better interpretation of the practices that should be implemented to produce change (Spillane et al. 2002a). An individual's beliefs also can impact the implementation of their formative assessment practices (Furtak, 2011). When teachers believe that using formative assessments is a necessary element of instruction, they may be more able to recognize the foundational elements of the practice and utilize them effectively in their classrooms.

Situated cognition. Another construct that influences sense- making in policy initiatives is situated cognition or context (Spillane et al., 2002b). Spillane et al. (2002b) noted that many aspects of a situation can influence how individuals make sense of policies. In this component of the framework Spillane et al. (2002b) suggested that contextual factors such as the structure and history of a school organization, as well as one's professional knowledge and affiliations can influence how individuals interpret policy.

In this situated construct organizational structures refer to the ways that teachers are assembled in groups and learning communities. In many schools' teachers are assembled with

individuals based on their grade assignment and they often are encouraged to collaborate regarding school related policy. Spillane et al. (2002b) affirmed that the established patterns of social exchanges in schools also reflects the organization's structure. This social interaction can influence the how individuals interpret policy (Spillane et al., 2002b). Spillane (2004) noted that collaborative exchanges allow teachers to clarify misunderstandings regarding the reform with one another. In addition, peer engagement with policy permits teachers to construct new understanding and practices that assist in implementing the reform (Coburn, 2005). Conversely, without collaborative engagement teachers are more prone to reject policies before attempting to utilize them (Coburn, 2005). Thus, schools that support collaborative engagement in their organizational structure create a context that helps teachers develop meaning about certain reforms individually and collectively.

Additionally, the history of a school organization can influence how individuals respond to reforms (Spillane et al., 2002b). This context may include different norms and traditions in a school associated with how teachers may perceive and understand policy. Also, a person's professional knowledge or specialization as well as certain affiliations are contextual factors that can influence how individuals make sense of policies (Spillane et al., 2002b). One's professional specialization defines their specific level of expertise (Spillane, 1998b). Thus, when teachers have additional certifications or specialized training in assessment, this contextual element can have a positive impact on their understanding and implementation of formative assessments. Additionally, an individual's association with certain professional groups can influence the types of instructional ideas that are understood regarding a policy reform (Spillane, 1998b). Affiliations with certain groups also may enhance one's knowledge about certain practices

(Spillane, 1998b). Hence one's professional connections may likely influence their ability to effectively interpret aspects of formative assessment policy.

Role of representations. Policy representations are the last construct in the sense-making model. How a policy is designed and communicated influences how teachers make sense of reforms (Spillane et al., 2002b). School related policies can be conveyed in written form or verbally, through legislature, printed documents, certain directives, and professional workshops (Spillane et al., 2002b). Some teachers may rely on state policy documents that contain specific procedures for reforming certain instructional practices. Due to the methods used to present new information, certain policies are more likely to enable individuals to identify weaknesses in their current instructional practices (Spillane et al., 2002b). Thus, Spillane et al. (2002b) noted that rather than solely focusing on a set of practices when introducing policy, the emphasis should be explaining the “deep underlying principles” (p. 416). This may be accomplished by explaining a policy's intent and central ideas.

Spillane et al. (2002b) also noted that misunderstandings might occur when teachers relate policy to being a series of practices without considering other key components. Thus, when given a directive to implement formative assessments teachers should be introduced to examples of these activities, but more importantly it is critical that the policy message communicate several essential ideas. The message should communicate that the results from the assessments must be used to identify the learning progress of students and instruction should be modified when necessary to help them improve. Additionally, teachers should be informed that students need to have knowledge of the learning goal when using formative assessments during a lesson. Thus, being able effectively implement formative assessments may depend on whether the message clearly communicates all the essential elements.

Organization of Study

Chapter One explains the problem of practice, the significance of formative assessments, and the theoretical framework. Chapter Two includes an examination of studies which focus on sense-making of educational reforms and policies, a brief history of the origin of formative assessment, research studies on the topic, and literature which identifies how teachers can develop the capacity to implement the practice. Chapter Three explains the methodology, including the research design, the process involved in the recruitment of participants, and the data analysis methods. Chapter Four reports the findings of this research study, gives a synthesis of the themes, and the issues discussed in the reflexivity journal. Chapter Five discusses the findings in relation to the theoretical framework and the literature review. Additionally, this chapter will include future recommendations to improve formative assessment practice at the school level and in teacher preparation programs.

Chapter 2 – Literature Review

This review will focus on literature which examines sense-making as it relates to the implementation of educational policies, the history and background of formative assessment, including studies on the topic, and literature that identifies ways to help teachers develop the ability to implement the practice. Literature established that the variables in the sense-making cognitive framework such as an individual's experiences, beliefs, prior knowledge, context, and policy representations can affect how educational reforms and policies are understood and carried out in schools. The background and history section of the review will solidify formative assessment as a crucial element of the teaching process and identify several issues related to the practice. Formative assessment studies will demonstrate how teachers implement the strategies in their classrooms and some of the challenges they experience. The last section of the review will describe ways to develop formative assessment practices in teachers. Certain methods described in this section of literature should be communicated to teachers in effort to support implementation of the practice.

Sense-Making of Educational Policies and Reforms

Several factors can contribute to whether a reform is successfully implemented. Conventional explanations suggested that factors affecting implementation stem from how policies are designed as well as an individual's ability and willingness to execute the reform (Spillane et al., 2002b). The sense-making framework posits that other variables such as one's beliefs, prior knowledge, experiences, contextual influences, and policy representations affect how individuals develop meaning regarding reforms and influence the process involved in reform implementation (Spillane et al., 2002b). Studies noted that teachers can be involved in the sense-making of reforms (Coburn, 2001, 2005). Additionally, Spillane et al. (2002a) study found

that school leaders also can participate in the sense-making of policies. Sense-making experiences may vary based on one's existing knowledge, beliefs, context, and how the reforms are explained to them. Additionally, the influence of these constructs may explain why certain issues occur when individuals attempt to implement reforms (Spillane et al., 2002b).

Impact of individual cognition (beliefs, experiences, and prior knowledge). Teachers relate to policy based on their understanding and views regarding instruction, content areas, and how students learn (Spillane, 1998a). Their current practices also influence how they respond to reforms (Spillane, 1998a). Additionally, their experiences and existing understanding are used to develop new knowledge regarding policies (Spillane & Callahan, 2000). Spillane (1998a) noted that teachers may develop different ideas about a policy due to their experiences and variations in prior knowledge. Although some prior knowledge regarding a reform may help teachers relate to a policy, studies found that familiarity can negatively affect implementation (Spillane & Callahan, 2000; Spillane & Zeuli, 1999). Spillane and Zeuli's (1999) study on the process involved in teachers reforming their math practices, found that some reported being familiar with certain standards, but several of the participants failed to implement them during their instruction. Spillane and Zeuli (1999) noted that implementing policy extends beyond having knowledge of policy components, instead individuals may need more time to develop new knowledge and understand how this information will affect their practices in the classroom. Due to an awareness of reform ideas, some district leaders in Spillane and Callahan's (2000) study also focused on familiar scientific concepts and failed to recognize other aspects associated with the policy. Thus, their school districts were not able to develop an understanding of the essential components of the reform or implement it as intended (Spillane & Callahan, 2000).

Certain beliefs that individuals hold also can influence how policies are carried out and interpreted (Spillane et al., 2002a). Spillane et al.'s (2002a) research on the sense-making experiences of school leaders tasked with implementing policy related to school accountability, found that some principals and teacher leaders had strong beliefs about engaging in this reform. They believed that test score data should be used to monitor instructional practices and achievement progress (Spillane et al., 2002a). These beliefs caused the principals and lead teachers to clearly examine and understand practices associated with the policy reform. Additionally, their beliefs focused their efforts on instructional methods that aligned with the goals of the policy (Spillane et al., 2002a).

Impact of situated cognition (context). Context in the sense-making framework encompasses organizational structures which includes patterns of social interaction in schools (Spillane et al., 2002b) and one's specific professional knowledge and affiliations (Spillane, 1998b; Spillane et al., 2002b). These contextual factors can influence one's sense-making experience (Spillane et al., 2002b). Coburn's (2005) research which focused on how principals influenced teacher's sense-making when implementing reading policy, found that the teachers developed new understandings and strategies when they collaborated with their peers. Coburn (2001) also studied the sense-making process of teachers and found that collaboration helped them to implement new practices and understand messages communicated in the policy. Hence, school environments that have opportunities for teachers to engage policy with their colleagues supports their understanding and implementation of the reform goals.

Professional connections and affiliations also are contextual factors that influence sense-making (Spillane, 1998b; Spillane et al., 2002b). Spillane (1998b) research on how two school districts carried out reading policy, found that district administrators had different professional

connections, which influenced their understanding of the reading reform. This study noted that the administrator's professional connections influenced their preference of instructional practices in reading (Spillane, 1998b). Conversely, their choice of instructional methods varied which influenced their understanding of the policy and caused them to interpret it in different ways (Spillane, 1998b). This research demonstrated that one's professional affiliations has serious implications for sense-making and can cause individuals to produce different interpretations of the same policy.

Impact of policy representations. Policy representations are the written communications and spoken messages used to explain or articulate a policy (Spillane et al., 2002b). Policies can be communicated in professional workshops, through legislature, or standard documents (Spillane et al., 2002b). Spillane et al. (2002b) suggested that policies should communicate the core elements associated with a reform. Thus, the means that policy ideas are explained and presented may determine how elements of a reform are implemented. In Spillane and Zeuli's (1999) study, state and national standards were resources that several teachers used to inform their instruction when implementing math policy; however, some of the participants did not modify their teaching practices. This finding suggested that a detailed explanation of the standards when communicating the policy could have supported better implementation. In Coburn's (2005) research, state reading policy guided the teacher's instructional practices. Some of the methods used to support implementation were professional development sessions, reading materials, and collaboration with colleagues. One significant finding in this study was that school principals placed emphasis on certain practices when communicating the policy based on their preferences and knowledge about reading instruction (Coburn, 2005). Thus, these factors influenced the messages that were understood by teachers (Coburn, 2005).

In Spillane et al.'s (2002a) investigation, teachers in two schools received dissimilar messages about accountability policy. Teachers in both schools were aware of the intent of the reform; however, one of the school principals did not communicate the urgency to focus on the district policy. Due to the lack of communication, it is likely that the teachers were unclear about what was needed to reform their practices. Conversely, in another school, the message of the policy was heavily imposed. The teachers in standardized testing grades, were given test preparation materials and received relevant professional development (Spillane et al., 2002a). These materials and professional development helped to articulate the goals of the policy. This research demonstrated that how policies are communicated and supported can determine how teachers understand reforms.

History and Background of Formative Assessment

Origin of formative assessment. Burke and Depka (2011) noted that formative assessment is a process that involves the use of assessments to determine student progress and taking that information about student learning to inform future instruction. The earliest reference to what is currently called formative assessment evolved from the work of Bloom (1968) and Bloom, Hastings, and Madaus (1971). Initially, the term formative evaluation was utilized by Scriven (1967) (as cited in Bloom et al. 1971) to describe the improvements made to a curriculum. However, Bloom et al. (1971) used formative evaluation to explain the process involved in improving curriculum, learning, and instruction. In formative evaluation, a series of test are administered to students during an instructional unit to determine mastery of specific skills (Bloom et al., 1971). The results are not used for grading purposes, but to detect areas of weakness and to identify how instruction should be modified (Bloom et al., 1971). When most students fail to master certain skills, Bloom et al. (1971) recommended that teachers provide

additional instruction to the entire class using an alternative instructional method. Bloom et al. (1971) also suggested that individual students who did not achieve mastery should receive detailed feedback and practice activities to develop their understanding of skills. Subsequent formative test are then given to assess whether they mastered the learning unit (Bloom et al., 1971).

The ideas of Bloom et al. (1971) established a framework for the application of formative assessment in today's classrooms. Their concept of formative evaluation identified the importance of using information from assessments to ascertain student's learning status without assigning grades. Also, Bloom et al. (1971) emphasized helping pupils develop their skills before documenting the final outcome of their learning in the summative evaluation. The formative evaluation process also solidified the necessity to provide struggling learners with specific recommendations and resources to improve their academic performance. In addition, Bloom et al. (1971) also introduced the need for teachers to examine their instructional methods for quality and to revise these practices when necessary.

Characteristics of formative assessment. The purpose of formative assessment is to help improve instruction and academic achievement during the teaching process (Shepard et al., 2005). It is known as assessment for learning because it does not involve evaluating student work with grades; instead, activities are used as practice to help increase competency with specific skills (Chappius & Chappius, 2007, 2008). Additionally, during formative assessment learning goals should be communicated to students (Chappius & Stiggins, 2002; Clarke, 2014; Moss & Brookhart, 2009), as well as the specific criteria that will be used to evaluate their performance (Moss & Brookhart, 2009). Different assessments also are used to collect evidence of learning. Activities may be planned, implemented instantaneously during instruction, or embedded in the

teaching curriculum (Shavelson et al., 2007). Also, the results of the assessments are used to address the academic needs of the students (Black, Harrison, Lee, Marshall, & Wiliam, 2004). Additionally, the information from the assessments are utilized for modifying teaching or to plan practice activities (Dirksen, 2011). In formative assessment teachers also give students feedback about their work (Chappius & Chappius, 2007, 2008).

Student involvement also is a feature of formative assessment (Clark, 2005; Heritage, 2007; Popham, 2008; Moss & Brookhart, 2009). Students are accountable for their individual academic achievement (Cizek, 2010). Pupils also collaborate with teachers to discuss individual progress and specific plans to improve (Moss & Brookhart, 2009). In addition, students utilize feedback to identify their academic status (Burke & Depka, 2011). They also may develop individual academic goals (Moss & Brookhart, 2009), and self-assess to monitor their performance (Cizek, 2010). Lastly, pupils can engage in peer assessment by evaluating the progress of other students (Wiliam, 2011). This process involves pupils assessing another student's work in relation to the criteria for the activity.

Formative assessment activities. Several formative assessment activities can be used to collect evidence of learning and monitor progress. During a lesson, teachers can use questioning to assess student's level of understanding (Burke & Depka, 2011; Shepard et al., 2005; Wiliam, 2011). Responses may be solicited by allowing students to record them on dry erase boards. Also, simple observations can be used to monitor students' practicing a skill after it is introduced. ABCD cards and learning logs are other examples of formative assessment activities (Wiliam, 2011). Cards labeled A, B, C, or D, which correspond to answers for multiple choice prompts are given to students after the teacher poses a question (Wiliam, 2011). Students then hold up the letter card that represents their answer. Learning logs require students to provide

written responses to specific prompts following a lesson (William, 2011). The written entries are then read by the teacher to determine student's understanding of content. Dirksen (2011) also described another example of a formative assessment which is "pair-and-share activities" (p. 29). This involves students discussing content or working on an activity with peers (Dirksen, 2011). Teachers may observe students during this peer work to assess their understanding. William (2011) also mentions exit passes which are cards students use to record responses to questions posed by the teacher. To evaluate student understanding using exit passes, the teacher collects the cards, observes student responses, and uses the information to decide how instruction should proceed.

Shavelson et al. (2008) suggested that three types of formative assessment methods may be used during the instructional process. These practices may vary and include formal and informal methods (Shavelson et al., 2008). According to Shavelson et al. (2008) assessment that involves teachers taking advantage of unplanned instances during a lesson to assess the progress of students is considered informal or "on the fly" (p. 300). This type of assessment may also include quickly checking on the progress of student learning by asking unplanned questions. Shavelson et al. (2008) also noted that activities developed in advance to identify students learning status are called "planned for interaction" (p. 300). Activities in this category may include exit tickets or other assignments that were previously planned. Lastly, Shavelson et al. (2008) affirmed that activities that are placed in the curriculum to assess whether students have achieved certain learning goals are formal or "embedded in the curriculum" (p. 301). These assessments also identify what students have learned prior to proceeding to a subsequent instructional activity (Shavelson et al., 2008).

Occasionally teachers may use assessment activities and need to identify the learning

progress of all students. Wiliam (2011) recommended that teachers gather responses from each student simultaneously as opposed to questioning pupils individually. This practice is called an “all-student response system” (p. 87). By using this method teachers have access to the learning status of all of their students during an instructional lesson or at the end of a lesson.

Formative assessment issues. Although formative assessment is useful to improve student learning, literature suggested that it is entrenched with several issues. Moss and Brookhart (2009) noted that it “is rarely a consistent part of the classroom culture” (p. 1). In addition, Cizek (2010) affirmed that an issue involved in implementing formative assessments is having time for developing as well as carrying out the activities. Bennet (2011) also noted that most teachers lack the skill and knowledge to implement formative assessment. After conducting an examination of formative assessment literature, Black and Wiliam (1998) concluded that most teachers fail to have a clear understanding of the practice. Chappius & Chappius (2007, 2008) suggested that the lack of understanding may be due to the many definitions that have been given to formative assessment. Popham (2008) noted that a shared definition for the practice does not exist. Additionally, Marzano (2010) suggested that there is no common agreement concerning how formative assessments should be utilized. Marzano (2010) also noted that some are adamant that formative assessments should be documented for grading purposes and others believe this should not occur. Additionally, some teachers perceive formative assessment to be an additional task that supplements their normal classroom procedures (Moss & Brookhart, 2009). Thus, they neglect to understand that it should be embedded in their daily instructional routines.

Studies also identified several issues that teachers experienced in the process of implementing formative assessments. Research found that some teachers had difficulty deciding how to continue instruction after receiving results from an assessment (Furtak, 2011) and that

giving students feedback about their work is problematic due to time limitations (Buck & Trauth-Nare, 2009). Research also noted that students were reluctant to demonstrate their understanding of certain concepts because they did not understand the purpose of formative assessment (Buck & Trauth-Nare, 2009). Lastly, some teachers also attempted to implement formative assessment without adequate knowledge of the content they were teaching (Aschbacher & Alonzo, 2006). Some of the issues found in research studies are explained in greater detail in the subsequent section.

Formative assessment studies. Several research studies identify the experiences of teachers with formative assessments and some of the challenges that are evident throughout the literature. These studies also identify critical aspects of formative assessment practice. The research also demonstrates that teachers can use a range of formative assessment activities in their classrooms.

Several studies have explored teacher experiences with using questioning as a formative assessment method (Ruiz-Primo & Furtak, 2007; Torrance & Pryor, 2001; Volante & Beckett, 2011). Ruiz-Furtak and Primo (2007) investigated how middle school teachers used informal formative assessment methods such as questioning during a four-step assessment cycle as students participated in scientific investigations. The cycle involved teachers eliciting responses and students responding to the inquiries (Ruiz-Primo & Furtak, 2007). Following, teachers were to acknowledge the responses and use the information to improve learning (Ruiz-Primo & Furtak, 2007). This research found that the participants did ask various questions; however, some of them failed to have the students explain their responses in more detail or allow pupils the opportunity to respond (Ruiz-Primo & Furtak, 2007). Thus, some of the participants acquired little information regarding the student's status of learning. This study proposed that using

questions that required students to clarify and explain their ideas will better assist in determining their understanding (Ruiz-Primo & Furtak, 2007). Additionally, Ruiz-Primo and Furtak (2007) research affirmed the importance of using questioning that thoroughly identifies student's level of understanding so that the information can be used to guide instructional decisions and improve learning.

Torrance and Pryor's (2001) research with teachers in primary schools also demonstrated how questioning was used as an assessment practice. Although this strategy was useful, teachers noted that questions which prompted students to clarify their responses intimidated some pupils and caused them to believe that their responses were incorrect (Torrance & Pryor, 2001). Thus, Torrance and Pryor (2001) suggested that teachers implement questions that students would perceive as helpful to developing their understanding. These questions should encourage students to elaborate further on their responses (Torrance & Pryor, 2001). Additionally, a key finding in this study was the importance of implementing questioning while conducting observations of students completing task. The observations should inform the selection of questions students are asked about their work activities (Torrance & Pryor, 2001). Torrance and Pryor (2001) concluded that combining these assessment methods helped teachers better respond to student learning needs.

Brookhart, Moss, and Long (2010) research investigated the process involved in teachers' examining their formative practices while assessing the literacy skills of primary grade students. Six teachers worked with university researchers to investigate how their formative assessment behaviors evolved during ongoing collaboration with peers and observations of their practices. Some of the participants used letter identification activities to assess Kindergarten student's alphabet recognition and others observed primary grade students reading abilities

(Brookhart et al., 2010). While examining their existing methods, the participants noted that they had been engaged in formative assessment practices because they often observed students reading behaviors and provided immediate feedback (Brookhart et al., 2010). However, one issue noted in the research was that the participants realized that they needed to begin giving students more detailed feedback about their progress (Brookhart et al., 2010). The participants also acknowledged that it is critical to involve students in the formative assessment process and that it is necessary to dialogue with pupils about their performance (Brookhart et al., 2010).

Another study examined how primary grade teachers utilized observations, running records of reading behaviors, and written samples of work to assess student's literacy skills (Dixon & Williams, 2003). This information was either used to focus small group instruction, organize groups, or individualize instruction. Although these activities were used in reading and writing, this investigation found that most teachers failed to use formative assessment information in the area of oral language (Dixon & Williams, 2003). Some of the participants expressed that they were not knowledgeable of the content and the developmental stages regarding oral language (Dixon & Williams, 2003). Dixon and Williams (2003) proposed that this likely hindered their ability to assess students accurately. Thus, one important finding in this investigation was that teachers need to have adequate content knowledge and skill to effectively assess student's progress of learning.

Dixon and Williams (2003) also noted that components involved in formative assessment were not discussed throughout the participants narratives. The participants gave descriptive accounts of monitoring students literacy skills; however, they often neglected to discuss the necessity of communicating learning goals to students or the need to give them feedback about their work (Dixon & Williams, 2003).

Aschbascher and Alonzo's (2006) study investigated the usefulness of science notebooks as a formative assessment method while elementary teachers utilized them in their classrooms. Students used the notebooks to record drawings or record responses to prompts relating to science inquiry investigations (Aschbascher & Alonzo, 2006). Although the notebook entries could be used to identify how students were understanding science concepts, Aschbascher and Alonzo's (2006) research had similar findings to Dixon & William's (2003) study because some of the teachers also were not thoroughly knowledgeable of the specific content the students were supposed to learn. Thus, the participants were not able to effectively gauge student understanding when entries in the notebooks were examined (Aschbascher & Alonzo, 2006). This study also found that the teachers gave students different levels of support during instruction. These practices affected the responses that students recorded in their notebooks and influenced how useful their work was in identifying their level of understanding (Aschbascher & Alonzo, 2006).

Inquiries also explored the process involved in a sixth-grade teacher using student illustrations combined with written statements as a formative assessment tool (Buck & Trauth-Nare, 2009). This activity was used to determine student's understanding of science concepts. This inquiry recognized the importance of giving students feedback about their work, yet the participant had concern about implementing this practice due to time limitations (Buck & Trauth-Nare, 2009). The teacher also expressed concern about having to give students feedback when also needing to begin teaching new skills in the curricula (Buck & Trauth-Nare, 2009). Additionally, a significant finding in this study was the unwillingness of some students to reveal their understanding of the science material because they were unaware of the purpose of formative assessment (Buck & Trauth-Nare, 2009). Once this process was explained, some

students were more eager to demonstrate their conceptual knowledge (Buck & Trauth-Nare, 2009). This inquiry affirmed that involving students in the formative assessment process as suggested in the literature may increase their enthusiasm for demonstrating their learning.

Furtak (2011) research also examined nine science teacher's experiences with formative assessment methods after their participation in professional development. The participants utilized an assessment activity known as "Predict-Observe-Explain" (POE) (Furtak, 2011, p.12) (as cited in White & Gunstone, 1991). The POE assessment involved the students responding to a scientific investigation by making predictions, observing the activity, and explaining their thoughts (Furtak, 2011). These activities allowed the teachers to examine the students thought processes and reflections during science inquiries. In addition, exit tickets also were used as an assessment method (Furtak, 2011). Furtak (2011) noted that although the teachers used exit tickets, this practice mostly was utilized to review skills and not to identify emerging understandings. However, one major finding of this research was that teachers were unsure of how they should continue their instruction after receiving data about student progress (Furtak, 2011). Teachers also had uncertainty about when they should proceed to teaching new content or provide additional instruction with current skills (Furtak, 2011). This study concluded that some teachers may struggle with making instructional decisions after they have received feedback or data from formative assessment activities.

Building Capacity for Formative Assessment Practice

The following section of the review will focus on how to develop teacher's capacity to utilize formative assessments. To successfully implement formative assessments, certain elements should be communicated to teachers in the process of implementation. One critical factor to consider when attempting to develop formative practices is what teachers already know

and understand. Hammerman (2009) concluded that identifying teacher's assessment beliefs and experiences "is a first step in creating a vision for the design and implementation of formative assessment tools and strategies in the classroom" (p. 10). Brookhart et al.'s (2010) study which focused on reading teacher's formative assessment practices, allowed the participants to examine their beliefs about the practice and discuss these views with their peers. Heritage (2007) noted that although some teachers may have experience using formative assessment, they must understand its role in the instructional process and acknowledge it as a valuable tool to improve learning achievement. Literature affirmed that formative assessment should be implemented as a component of ongoing classroom instruction (Heritage, 2007; Shepard et al., 2005; Tuttle, 2009). Thus, when teachers discuss their experiences and views, this information may identify whether they recognize it as a primary element of teaching.

To implement formative assessment effectively, the National Research Council (2001) recommended that three questions guide the implementation process. The questions are: "where are you trying to go? where you now? how can you get there?" (p. 26). According to the National Research Council (2001) the questions also "provide a framework for achieving powerful classroom assessment" (p. 26). When working with pupils, teachers can utilize these prompts to help students identify the learning target, their current progress, and how to reach the academic goal. This framework also emphasizes the involvement of students throughout formative assessment. Literature concluded that pupil participation in this process is essential (Cizek, 2010; Chappius & Stiggins, 2002; Moss & Brookhart, 2009). Buck and Trauth-Nare's (2009) research confirmed that students should be informed about the purpose of the formative assessment. Also, studies found that students should be involved in discussing what constitutes quality work with the teacher and other pupils (Torrance & Pryor, 2001).

To effectively implement formative assessment teachers also need to have a repertoire of the many existing activities that can be used in their classrooms (Heritage, 2007). One finding in the literature is that other teachers are valuable resources for gaining specific strategies (Bell & Cowie, 2001; Brookhart et al., 2010; Wylie et al., 2012). Bell and Cowie (2001) noted that a component of teacher's professional development is the sharing of formative assessment practices. In Brookhart et al. (2010) research teachers examined their own formative practices and they also discussed their understandings and exchanged assessment strategies with other teachers. Wylie et al. (2012) suggested that the knowledge other teachers have regarding formative assessment is beneficial for their peers. Wylie et al. (2012) noted that teachers can learn about formative assessment practices by conducting observations of other teachers, interviewing their peers, and by collecting examples of activities their colleagues used in their classrooms. According to Wylie et al. (2012) with the proper support teachers can jointly develop the skills to implement formative assessment.

In the process of using formative assessments, teachers also need to implement several practices. Moss and Brookhart (2009) recommended that teachers communicate learning expectations to students and have knowledge of how to monitor their progress in relation to the the goal. Torrance and Pryor's (2001) research proposed that identifying the learning expectations and criteria that represents quality work is crucial when using formative assessments. The study also recommended that teachers clearly explain the criteria at the start of instruction and revisit it during the lesson (Torrance & Pryor, 2001). To adequately determine learning progress, studies also noted that teachers need to have familiarity with the content and skills they want to assess (Aschbacher & Alonzo, 2006; Dixon & Williams, 2003). In addition, it is critical that teachers dialogue with students about their progress and essential for pupils to

utilize the feedback they are given (Brookhart et al., 2010). Torrance and Pryor's (2001) research also affirmed that feedback given to students should specify how well they performed on task and provide specific strategies to help them improve their performance. In addition, literature noted that it is beneficial to engage students in conversations about the feedback they have received (Buck & Trauth-Nare, 2009; Torrance & Pryor, 2001). Brookhart et al.'s (2010) study also suggested that it is important keep recorded notes of student progress to provide pupils with adequate feedback.

Conclusion

Studies that focus on sense-making in educational policies demonstrated that implementation of reforms can be influenced by beliefs, prior knowledge, contextual factors, and policy representations. When examining formative assessment studies, it is evident that teachers implemented many different strategies to determine student learning progress including questioning and observations. Several of the investigations indicated that teachers encountered dilemmas in the process of implementing the assessments. Some teachers were unclear about the learning content and could not properly assess student understanding. Another issue found in research related to the time needed to give students feedback about their work. To develop teacher's capacity to implement formative assessments, the literature suggested that several factors should be addressed. One important factor to consider is teacher's prior knowledge and beliefs. This information may indicate what teachers already understand and help determine the training that is needed. To implement formative assessments effectively, literature also recommended that certain practices should be utilized. This information should be communicated to teachers when they are directed to implement formative assessments.

Chapter 3 – Methodology

Philosophical Worldview

When developing research proposals, Creswell (2009) urged that individuals provide a philosophical basis for their ideas. These sentiments are considered worldviews or paradigms and often help to determine the design of a study (Creswell, 2007). This research embraced the social constructivist worldview. From this perspective “individuals seek understanding of the world in which they live and work” (Creswell, 2009, p. 8). Several different meanings also may be developed from their experiences (Creswell, 2009). Ponterotto (2005) noted that from the constructivist stance, there can be many interpretations regarding a phenomenon which are influenced by one’s experiences, certain context, exchanges that occur between the researcher and the study participants, and within their environment. Thus, the aim of this type of investigative process is to utilize the participant’s perceptions and views to thoroughly understand their experience (Creswell, 2007, 2009). Creswell (2009) also noted that the researcher’s interpretation of the participant’s accounts often is influenced by his/her background and own personal experience. Ponterotto (2005) suggested that it is impossible for the investigative process to be isolated from researcher’s experiences and views. Instead their biases and ideals can be used to connect with the study participants (Ponterotto, 2005).

The constructivist paradigm supported my inquiry because I focused on the experiences of teachers engaged in implementing formative assessments. The primary research question that guided this study was: What are teacher’s experiences with formative assessments? The participants had different involvements with formative assessments which were influenced by their background, beliefs, and certain context. I relied on the participants stories to understand their experiences. Additionally, my role as a classroom teacher who also utilized formative

assessments, helped me to better understand the accounts of the participants and identify the factors that influenced the implementation process.

Research Design

Based on the purpose of this study and the chosen worldview, a qualitative research design was most appropriate. Qualitative research is useful for investigating the meaning humans give to a certain problem (Creswell, 2007, 2009). It is concerned with the perspectives of the participants, including what they think and why they hold certain views (Fraenkal & Wallen, 2009). A qualitative design was crucial in guiding this inquiry because it allowed the participants to give personal accounts of their experiences with formative assessments. Additionally, it helped to establish the meaning they made of their individual experiences. Taylor, Bogdan, and DeVault (2016) noted that every point of view is valuable to obtain a range of different perspectives. In addition, qualitative research considers the context that influences a person's response to certain issues (Patton, 2015). It recognizes that one's surroundings, including their family life or work environment may affect how they develop meaning about certain events and occurrences (Creswell, 2007).

The qualitative research design also has other distinct characteristics. Fraenkal and Wallen (2009) noted that the researcher makes interpretations throughout the investigation. Creswell (2007) stated that interpretations are made based on "what they see, hear, and understand" (p. 39). Data is obtained from observations, interviews, and print documents relevant to the issue being investigated (Patton, 2015). Additionally, the data analysis process is inductive (Creswell, 2007; Fraenkal & Wallen, 2009). This involves organizing gathered information to identify patterns and establish themes (Creswell, 2007). The findings often are

presented descriptively which may include the use of direct quotes from interviews, documents, and other data sources (Merriam & Tisdell, 2016).

Research Tradition

The methodology chosen for this research was narrative inquiry. Narrative inquiry focuses on examining individuals lives in a manner that values their experience (Clandinin, 2013). According to Daiute (2014) narrative inquiry also emphasizes the meaning person's give to an experience based on their perspective. It can reveal the intricate details surrounding significant events in one's life (Webster & Mertova, 2007). Pinnegar and Daynes (2007) stated that "narrative inquiry begins in experience as expressed in lived and told stories" (p. 5). According to Clandinin (2013) in narrative research a person's experience may be explored "by listening, observing, living alongside an other, and writing and interpreting texts" (p. 18). This investigative method also focuses on describing a persons story as a whole including the many factors which shape their narrative (Webster & Mertova, 2007). It also recognizes that each person's narrative also is influenced by the different stories found in their cultural, institutional, and social experiences (Clandinin, 2013).

Narrative inquiry is a solid approach that researchers can use to examine a persons life experiences portrayed through personal accounts and their individual story (Webster & Mertova, 2007). According to Connelly and Clandinin (1990), it is frequently used in educational studies. Thus, it was an appropriate methodology for this research. Also Webster and Mertova (2007) stated that narrative inquiry is suitable to investigate an individuals experiences associated with teaching and student academic achievement. In this research it was used to examine the experiences of elementary teachers with formative assessments. The participants were able tell their own stories and give accounts of their experiences with the practice.

Participants

The participants in this study consisted of five full-time elementary school teachers who engaged in implementing formative assessments during the 2015-2016 and 2016-2017 year. They were recruited from a single elementary school in an urban school division in the Southeast region of the United States.

Recruitment and Participant Access

Before the recruitment of participants took place, approval to conduct research was needed from the school division and the principal of the school where the participants were situated. Additionally, approval was needed from Northeastern University's Institutional Review Board (IRB). Prior to receiving an official approval letter from the school division, a meeting was held between myself and school division personnel to discuss the details of my proposal. Following this approval, the school principal also granted permission in writing to recruit and interview participants. IRB granted official approval once both letters were received from the school division and the school principal.

Recruitment of participants began in November 2017 and extended through January 2018. Teachers were sent the approved recruitment letter by email to request their participation in the research study. The letter stated that eligibility to participate required that they be full time teachers who engaged in implementing formative assessments during the 2015-2016 and 2016-2017 school year. Additionally, the letter explained that participants would receive a \$5.00 Starbucks gift card for participating once their interview was complete. Five teachers who had been working at the local school for several years responded with an interest in participating. All of the participants that responded were eligible for participation in the research and were selected to participate.

Limitations

Originally this research called for six participants; however, I was only able to recruit five. I had access to a smaller number of teachers who would qualify to participate in this study because other teachers who would have been eligible were no longer working at the school site. This issue was a limitation and may have contributed to the inability to recruit the sixth participant.

Data Collection

Data was collected using semi-structured interviews. All of the interviews were conducted in the participants classrooms. The interviews were held over an 8-week period. Interviews were transcribed by a transcription service. Most of the interviews lasted an hour and some were shorter in duration. Each interview was audio recorded on two devices. Using the semi-structured method, I had a set of questions to guide the interview, but I also asked unplanned questions to gather additional needed information. According to Bold (2012), using this format may yield responses that are in narrative form. Additionally, by utilizing the semi-structured method I could better understand the accounts of the participants.

Prior to beginning the interviews, I reviewed the purpose of the research and discussed the consent forms. I also, attempted to develop a rapport of trust and ensure that the participants were comfortable (Smith, Flowers, & Larkin, 2009) before proceeding to gain consent. Additionally, I answered any questions regarding the study or their participation. Following this process, written consent was obtained. To guide each inquiry, I used an interview protocol which consisted of the questions that each participant was asked (Creswell, 2009). I recorded the pseudonym for each participant, the date, time and location of the interview on the protocol.

The interview protocol was designed to gain a “sense of the whole” (Connelly & Clandinin, 1990, p. 5). Thus, the questions were structured to build an entire story of each participant’s experience including background information such as years of teaching experience, prior knowledge and formative assessment training, specific accounts of using formative assessments, and other factors that influenced how the assessments were implemented. During the interviews, I frequently used probing as recommended by Rubin and Rubin (2005) to encourage the participants to give additional details or clarify a response. I concluded the interviews once each question had been addressed in detail and after I believed a complete story of each person’s experience was achieved. After each interview was complete, the participants were given the gift card incentive. To record some of my thoughts, understandings, and emerging ideas during the data collection I utilized the reflexive journal.

Data Management and Storage

To maintain confidentiality during research, Frankel and Wallen (2009) noted that data should not be accessible to other individuals. Several safeguards were used protect the identity of the participants and maintain confidentiality. Once the interviews were transcribed, the data was stored on a personal computer, which was protected by a secured password. Pseudonyms were recorded on electronic and hard copies of transcripts. Additionally, audio recordings, copies of transcripts, and signed consent forms were stored in a locked file cabinet. Audio recordings and copies of transcripts will be destroyed at the end of the study. Signed consent forms will be maintained for three years after the study, then destroyed as outlined by Northeastern University’s Institutional Review Board (IRB).

Data Analysis

Using the cognitive sense-making framework as a lens I aimed to identify pertinent themes that described the participants experiences with formative assessments. To analyze and reveal the findings in narrative studies, Bold (2012) noted that there is no primary method that must be used. Thus, to analyze the data I chose to utilize in vivo, focused, and axial coding. The first procedure known as in vivo coding was used to develop codes from a phrase or specific word found in the participants exact statements (Saldaña, 2009). Then I used focused coding which helped to organize similar units of data and form categories (Saldaña, 2009). This process is also similar to open coding described by Corbin and Strauss (1990). The last coding procedure used was axial coding (Charmaz, 2006; Corbin & Strauss, 1990). This process helped to establish main categories and finalize categories and subcategories (Charmaz, 2006).

To initiate the process of developing themes, I began the analysis of data by listening to the individual audio recording. I listened to the audio recording to familiarize myself with the data and to correct any errors made during the transcription process. Next, I read the transcript to become familiar with the account of the participant (Creswell, 2009). Then, I manually coded the individual transcript, giving attention to each individual line of text. I developed the first set of codes using in vivo coding (Saldaña, 2009). These codes were recorded based on phrases or certain words used by the participant (Saldaña, 2009). As recommended by Charmaz (2006), when conducting in vivo coding I gave attention to text which carried significant meaning. I looked for segments of data that I thought was pertinent to answering the research question. I also considered the segments of text that “call for bolding, underlining, italicizing, highlighting, or vocal emphasis if spoken aloud “(Saldaña, 2009, p.75). To manage the large number of codes developed from each individual transcript, I recorded them in a word document. Before moving

to the next phase of coding, I analyzed the codes that were recorded by moving through each list looking for emerging patterns and similarities.

Following, I engaged in focused coding described by Saldaña (2009). Using focused coding I analyzed the existing codes and grouped them together based on similarities (Saldaña, 2009). After developing a category, I assigned a preliminary heading to describe each group (Saldaña, 2009). By utilizing focused coding, I was able to organize the data and observe the emerging categories and supporting codes. I then manually assessed the frequency of codes to determine their significance. Several codes that did not fit into any of the categories or those that were insignificant were eliminated during this process.

The last coding process was axial coding (Charmaz, 2006; Corbin & Strauss, 1990). In axial coding main categories are established and categories are linked to subcategories (Charmaz, 2006). I began this process by analyzing the existing categories developed during the previous coding phase. I also investigated whether additional categories needed to be established (Corbin & Strauss, 1990). Following, I engaged in an in-depth analysis by observing categories and the supporting codes. At times I re-named categories to better describe the developing theme. I then used a table to record the categories and supporting codes. The codes were labeled with each participants pseudonym. This created a visual to analyze and assess codes that were generated from each participant.

During this process I also refined categories and made decisions about which were best suited to answer the research question. I also examined themes for their alignment to the theory and observed the number of codes associated with each participant. Thus, several categories were eliminated during this process. When necessary I developed subcategories, which were connected to a major category (Charmaz, 2006; Corbin & Strauss, 1990; Strauss, 1987). Saldaña

(2009) stated that “some categories may contain clusters of coded data that merit further refinement into subcategories (p. 11). The next process involved organizing the final themes and subthemes along with the participants raw statements to validate their inclusion in the findings of this study. Lastly, the categories established during the axial coding process became the final themes and subthemes used to present the final narrative.

Validity, Credibility, and Trustworthiness

To increase the legitimacy of the findings, it is recommended that researchers identify issues that may affect the validity of their study, as well as strategies to make their inquiry more credible (Creswell, 2009; Maxwell, 2005). One threat to validity in qualitative research is bias (Maxwell, 2005). Maxwell (2005) noted that researchers should not avoid excluding their own biases, but rather consider how these preconceptions affect the study findings. As a former teacher in the setting of the participants, I have undergone my own personal experiences with formative assessments. Yet, it was imperative that my involvement did not reduce the validity of any experiences of the participants. Thus, in the process of communicating the study results, I aimed to use “rich, thick description” (Creswell, 2009, p. 191). This strategy ensures that the participants’ authentic experience is explicitly communicated in the findings, regardless of my bias. To support the themes generated in this research, I included various perspectives (Creswell, 2009). In one instance I chose to develop a subcategory that was only supported by the experiences of two participants. Creswell (2009) noted that the inclusion of different views makes the research “more realistic and richer” (p.192)

Also, Maxwell (2005) suggested that continued involvement in the setting where the issue is being investigated can help exclude premature claims. Creswell (2009) noted that more time spent at the research site increases the investigators understanding of the issue being studied

and the validity of the findings (Creswell, 2009). Although I did not spend prolonged time in the setting as a researcher, I had extensive time at the site as a teacher. I had prior knowledge of the participants and the characteristics of the school. This information helped me to have a deeper understanding of the participant's accounts and as noted by Creswell (2009) facilitated the development of more credible findings.

Additionally, to enhance trustworthiness I maintained a reflexive journal as recommended by Lincoln and Guba (1985). A reflexive journal shares resemblance to a diary but is used to record not only different self-reflective information, but also methodological choices. Lincoln and Guba (1985) noted that the journal can be used to reflect on what is occurring during the study and what is being understood as the research proceeds. This journal may increase the trustworthiness of this study because it documents accounts that can justify the interpretative decisions made during data analysis and the choices that influenced the final outcomes of the study.

Protection of Human Subjects

To ensure the ethical treatment of the participants in this research, this study followed the procedures outlined by Northeastern University's Institutional Review Board (IRB). During the initial search for participants, an overview of the study was provided in the recruitment letter and an explanation of the right to participate voluntarily. Potential participants were assured that their identities would be protected. Pseudonym's were used instead of the participants actual names. Consent forms explained the nature and purpose of the study to make certain that participants understood the research procedures. Interviews did not begin until I read the consent forms to the participants, answered all of their questions, and obtained their signatures on each document.

This research was not likely to harm the health or safety of participants, yet it did present a potential risk. Since this study involved teachers having to discuss their experiences with formative assessments some weaknesses in their practices was likely to be disclosed in the research. However, the participants were assured that their statements would not be given to school administrators, nor would their identity be disclosed in the study findings.

Conclusion

This research which was grounded in the social constructivist worldview, aimed to examine the experiences elementary teachers had with formative assessments. Using narrative inquiry, each participant was be able to explain their individual experiences with the practice. The semi-structured interview format served as a guide, but allowed me to ask supplementary questions to develop each participants story. My professional experiences with implementing formative assessments was useful in the data collection and data analysis process. Thus, I was able to better understand the participant's ideas and locate key aspects of their experiences in the data.

To comply with IRB guidelines, I communicated that participation in this research was voluntary and that the interviews would not begin without signed consent. I informed the participants that they may withdraw at any time. To minimize any uncertainty about personal views and statements about their experiences with formative assessments being shared with the school principal, I assured the participants that this information would be kept confidential. Additionally, the participants were informed that pseudonyms would replace their actual names to protect their identity.

Chapter 4 – Analysis of Findings

The purpose of this narrative study was to examine the experiences of elementary teachers with formative assessments. The five participants in this study were all full-time teachers who were involved in implementing formative assessments during the 2015-2016 and 2016-2017 school year. The research question that guided this study was: What are teacher's experiences with formative assessments? The theory which served as a lens to conceptualize this research was Spillane et al. (2002b) cognitive sense-making framework. Narrative inquiry was the research method used to capture the participants stories. The data was obtained using semi-structured interviews. Five themes emerged from the analysis of data based on the stories shared by the participants. The themes are: (a) initial confusion, (b) understanding developed over time, (c) various formative assessments, (d) peer work and training, and (e) barriers to implementation. These themes describe the participants experiences with formative assessments from the start of the implementation process and throughout.

Prior to discussing the themes and findings of this inquiry, there will be a narrative profile for each participant. After the narrative profiles will be a discussion of the five themes. Lastly, this chapter will conclude with a final synthesis of the themes and a section to discuss some of the issues noted in the reflexivity journal.

Participant Profiles

Five teachers from a single urban elementary school volunteered to take part in this research and share their experiences with implementing formative assessments. To develop an understanding of their prior knowledge regarding formative assessments, I requested that the participants discuss any relevant coursework or training they received in their teacher preparation program. This information along with a discussion of their background and educational history

will be discussed in each narrative profile below.

Carol. Carol has been teaching for over three years. After she volunteered to participate in the study, she expressed an eagerness to help with anything I needed or be available to talk further if necessary. When asked about what attracted her to the teaching profession, Carol stated that it was due to the enjoyment of working with young children. She expressed that one difficult part of teaching is knowing that students may have academic ability, but they are not always able to demonstrate this on formal assessments. Carol stated that she enjoys finding new creative ways to teach and appreciates utilizing hands on projects. I observed this to be true as I was often intrigued by the many innovative ways she engaged her students. Although Carol is somewhat still new to teaching, she seemed comfortable during the interview and willing to share her honest experience.

Prior to becoming a teacher, Carol mentioned that she had a different career outside of the teaching. Carol has a bachelor's degree and is currently certified to teach Pre-K through fifth grade. In her teacher preparation program, she recalled some discussion on formative assessment; however, she stated that she did not have a course that went into depth about the instructional practice.

Tracy. Tracy has been teaching for more than 10 years. She stated that she always had a desire to become a teacher. She mentioned that she enjoys observing students who have had learning difficulties finally grasp the skills that are being taught. Tracy appreciates being able to reach her students, even if it is only one of them. She stated that one of the difficult parts of teaching is dealing with student behavior and lack of parent support. Tracy mentioned that she has been challenged this year with students that exhibit some behavioral issues; however, she was surprised at the number of teachers who have expressed that she has a good class.

Although Tracy always wanted to be a teacher, she began her education and training in the teaching profession later in life. She had an extensive career in another field prior to teaching. Her educational background includes both a bachelor's and master's degree. She is certified to teach Pre-K through sixth grade. When asked to describe any training or coursework that she had in her teacher preparation program dealing with formative assessments, she stated that she did not have any. She mentioned that she was introduced to the practice once she began teaching.

Alicia. Alicia has been teaching for over three years. Alicia mentioned that she always had a desire to become a teacher. When asked about what attracted her to the teaching profession, she stated that it is because she enjoys shaping young minds and helping students become productive adults. I recall seeing Alicia on many occasions prepare for her lessons by gathering a variety of resources. She often utilized many high engagement activities. At the start of the interview, Alicia was concerned about answering the questions correctly. To make her more comfortable, I told her to simply reflect on what she does every day with her students. She became more comfortable as the interview progressed and was able to share very detailed accounts of her experiences without hesitation.

Prior to becoming an educator, Alicia had a long career and educational training in a field not related to teaching. She decided to enter graduate school and study to become a teacher. Currently, Alicia is certified to teach Pre-K through sixth grade. She mentioned that she had a course in her teacher preparation program that described different types of assessment such formative and summative assessment.

Danielle. Danielle has been teaching for more than five years. She mentioned that she always had a love for working with children. Additionally, Danielle stated that she especially appreciates working in schools that serve students from low socio-economic backgrounds. She

enjoys forming relationships and connecting with this population of students. I noticed that Danielle always interacted with her students respectfully and with a smile. She was attracted to teaching due to an enjoyment of watching students learn new ideas. Danielle stated that the least enjoyable aspect of teaching is the paperwork.

Danielle mentioned that her undergraduate education and prior work experience is in a field outside of teaching; however, she realized that she was supposed to be an educator. She went back to school and received a master's degree in the educational field. Her certification is Pre-K through third grade. Danielle recalled some mention of assessment in her teaching coursework, but no specific instruction on formative assessment.

Jackie. Jackie has more than 15 years of experience as a classroom teacher. I noticed that she has a unique classroom with many artifacts and displays. She stated that she became a teacher because of having great teachers when she was in school. In the early part of the interview, Jackie mentioned that she appreciates when she has students who also want to become teachers. Prior to the interview, I recall that she was eager to participate in the research study and willing to assist in any way. A few times during the interview, I utilized prompting to help her focus on recalling the experiences that she had with using formative assessments. I did this because I was certain that she had more detailed experiences that could be discussed. Consequently, she was able to recall and share more rich in-depth accounts.

Along with many years of experience as a classroom teacher, Jackie also has additional educational credits beyond her master's degree. Her certification is Kindergarten through sixth grade. When asked about her prior knowledge and training regarding formative assessments, Jackie described a test and measurement class in her undergraduate program and some mention of the practice.

Below is a discussion of the themes that emerged in this research study. The themes describe the participant's experiences with formative assessments. Each theme is supported by stories or specific accounts shared by the participants.

Initial Confusion

Four of the five participants shared stories which demonstrated that they experienced some initial confusion when directed to begin implementing formative assessments. During the interviews the participants discussed how the directive to implement formative assessments was shared with them and they described their understanding of the practice. The participants gave different accounts of what was explained to them; however, all of their stories demonstrated that they experienced some confusion.

Carol recalled being initially asked to bring examples of formative assessments to planning and data meetings. This caused her to be confused about whether the activity had to be a product. She also expressed that there was an assumption that teachers knew what formative assessments were.

It was more like that we would have to bring to our planning meetings some student work, some proof of the assessments, that we're giving out the assessments. Maybe that's why I thought everything had to be written or had to be down on paper, so that I could show that I was following the directive.

She also said,

I was under the assumption that it had to be a product, since we had to bring it with us to our data meetings and our planning meetings, that I had to have something concrete. I asked Carol if she had a good understanding when teachers were initially asked to implement formative assessments. She stated,

Not at first, because I really wasn't sure...You know, we would do a graphic organizer, and they would complete it. Some of them would write pages and pages, and others that wouldn't, and I'd say, "Oh. These are, just wrote a few sentences. They must not be doing well." But then, when you looked at it, the ones that wrote pages and pages were not even talking about the (what they were being asked)...That it wasn't the amount of work. It was the quality of work that I should have been looking at. It was more like I was looking for them to produce completed products, and that's not really what I should have been looking for.

Tracy recalled being introduced to implementing formative assessments during a professional development. Initially, she was confused overall about what was being asked.

I think they (administrators) told us at a professional development day. They explained what they wanted us to do, but I don't think they actually...I don't think we actually all understood it. Because a lot of us were like, "What are they talking about?"...

I asked Tracy to describe her initial understanding. She demonstrated that she wasn't certain what formative assessments were because she couldn't distinguish the difference between formative and summative practices.

...I don't think a lot of us had a good understanding. I think we were still kind of like, "Well, do you want us to do this or do you want us to do this?" And then they said formative, and I'm like, "Okay, but is this formative or is this summative?" You know, that kind of thing. And I think they did clarify it, but then a lot of us were still like, "So you're telling us you want us to do all this?" And it was like, "Yes." And we're like, "Oh, okay."

Danielle clarified how she recalled being introduced to using formative assessments, yet when asked if she had a good understanding initially she stated that she did not. She originally thought that using formative assessments was an additional task that she had to do instead of a practice that is embedded in the regular teaching process.

I think I was told that I'm going to use a formative assessment so that throughout the lesson, and at the end of the lesson I really knew who got the objectives and who needed that remediation... That's where, they said formative assessments is so you know now, what they know...

However, I asked if she had a good understanding when she was initially directed to implement formative assessments and she stated,

No, not initially. I was like, what? What do you want me to do?... You want me to do what? I thought it was more work. You want me to do extra work...

She also said,

This extra thing. I'm like, Oh. And in fact, had been doing it, but didn't know that's what I was doing... I'm like, Okay what are we doing? I thought it was more.

When Jackie was asked to recall how the directive to implement formative assessments was explained to her she mentioned that she was aware that had she had to implement the practice; however, she didn't understand what it involved. She didn't understand that her role involved helping students improve their learning. Jackie stated that she was told,

... We're going to do formative assessments...

However, she mentioned,

... I was under the impression that it basically was nothing but mostly modeling. Then, I found out, no, no. It means bringing in the kids. It's not all about me. It's about them, and

getting them up the steps.

Additionally, Jackie also confused formative assessments with formal testing. She also mentioned that her initial response was,

... “I'm going to make up a test. I'm going to make up a ten question test”.

Understanding Developed Over Time

All five participants shared stories that demonstrated that their understanding of formative assessment practices developed over time. This was evident because when asked to describe formative assessments, they were able to clearly articulate what the practice was. They were either able to differentiate their understanding from the initial confusion they experienced or realize the usefulness of formative assessments as opposed to formal testing.

Carol demonstrated how her understanding developed over time because she no longer confused formative assessments with only a product or written activities. She described formative assessments as,

...a tool to go through and check on the learning or comprehension of the students, if they're following on pace. For example, in my lesson plan, if I wanted to accomplish them to understand the difference between a synonym and an antonym, and I would give them different, maybe a sort or maybe a...I would say a word, and they would write or say a synonym or antonym, just to check to make sure that they understood what I was trying to teach, and then, if not, see where I needed to reteach.

Carol also described other activities that she could use to gauge students learning. She confirmed this by clarifying,

That it could be (the other formative assessment activities could be), like, the whiteboard (answers on the whiteboard), or the Kahoot!,(multiple choice web based program) or

something else.

Tracy described using formative assessments as a process of gathering data on student learning and using that information to guide instruction. She demonstrated that her understanding developed over time because she could differentiate formative and summative practices. She described the practice as,

...more as an ongoing learning because you know you're collecting the data and then you're taking the data and you're looking it over, and you say "Okay, this child, and this child, and this child", and you're remediating those children that are struggling. And so, that's kind of like your formative assessment. You're taking that data and you're remediating them, and then maybe retesting them again. So, you're using that... So it's to help teach them also, ... for remediation.

Although Alicia wasn't initially confused about implementing formative assessments, she was able to clearly describe the practice and understand that using formative assessments was useful to identify student learning instead of frequent formal testing. Her initial instructional practices involved mainly testing students instead of implementing formative assessments. Prior to implementing formative assessments Alicia said,

I wasn't doing a lot of formative assessments when I first came here. Just basically giving them a test, seeing what they knew, and if they didn't know it, try to reteach it and then move on. But with the formative assessment, it's like it makes it easier to know what they need help with.

Although Alicia initially utilized mostly formal testing procedures with her students, she was able to describe formative assessment practices which demonstrated how her understanding evolved.

It's a way that I can assess my students to know exactly where they are, what they're getting, what they're not getting, what I need to do to help them get it. I use that, just my little clipboard saying, okay, he got it. Check mark. He didn't.

She also said,

...We have to do formative assessment just to know where our kids are at daily. Because since everything does tie in together, you have to know...Who can move on and who can't, who you need to say, Okay, "let's slow it down and teach it a different way for them." Formative assessment gives you the snapshot of what's actually going on in your classroom at that time...I think that as far as administering formative assessment in my class and then taking the data back and then reteach it, I think it helps me be a better teacher, because I'm not actually giving grades,...

Danielle realized that using formative assessments was a component of the teaching process. She acknowledged that she can identify the learning status of her students' while teaching a lesson. She said,

For me it's just a quick way to know whether or not your students got what you're teaching...By giving them the formative assessments I really was able to get a little deeper in there. I could see it first hand. I can immediately have (data) ... I can pull groups immediately by picking up the formative assessments, especially in Math.

Initially, Danielle thought that using formative assessments was an extra task she needed to do along with her regular instructional routines. She realized that it wasn't additional work and demonstrated how her understanding progressed. She stated,

...But no it wasn't extra work, it was just part of it (normal teaching routines)...It became part of it.

Jackie demonstrated that her understanding of using formative assessments developed over time because she realized that her role involved identifying her students learning status and helping them master skills. She viewed the practice as a tool to increase learning achievement and prepare her students for students standardized test.

She stated,

It's like a spot check...My definition of describing formative assessments is methods that can be used to bring in aids such as white boards or other materials that can help to increase scores...

Jackie also said,

To see whether or not they have mastered the skill, but until they actually have the big test (standardized test) in front of them again, if they're not overwhelmed by, oh, its (the formative assessment activity is) another test,.. it's the means that I use to help me to get to the point of where they can master the skill. It's taking little steps at a time...

She was also able to differentiate formative assessments from formal testing.

...they take away some of the starch and harshness of giving them always a test, a test, a test, a test. I feel that both are to reach the same goals, and that is to get the child to master the skills. Formative assessments make learning and retaining what they've learned a little funner as compared to the written tests...

Various Formative Assessments

All of the participants shared stories of their experiences with different formative assessments. They provided specific examples and stories that described how they used the activities in their classrooms. Although they may have implemented different formative assessments, their responses indicated that they all utilized these activities to monitor student

learning and progress. Some of the participants also described how they used data from their formative assessments to guide additional instruction with individual students or in whole and small groups.

Carol began discussing her experience with formative assessments by sharing a few examples.

I would use exit tickets. I tried using a program, Kahoot, where they would go through ...

I would have questions, and the answers would be there, like a multiple choice...I would use sorts, if they were able to sort out synonyms or antonyms or fact families, answers on their whiteboards, their individual whiteboards, you know, think, work out a problem. If we were doing math, they would show on, say, base 10 blocks or the manipulatives, the answers, or how they go to the answer.

Carol also shared a story of a specific time she used an exit ticket as a formative assessment activity during Math. She also discussed how she re-taught the lesson because the data showed that the students lacked an understanding of the skill.

Well, I know I had one, in math, with place value. We'd been working on place value. I had an exit ticket where they had four questions, so we were trying to get 70%. If they got three out of the four, then I would know that they understood the concept...It was, like, on a paper...Yeah. It was on a piece of paper... In, like, a Four Square...Each square had a different type of place value problem, one where they were drawing base 10 blocks, one where they write a number in expanded form... I thought they understood fairly well when we were going over the lesson, because they seemed to be on track, and everybody was displaying on their whiteboards the correct answer. Then, when we were doing it individually on our formative assessment, I found that I had some that had misconception about the digits and values, and so I went back and did the same

lesson again the next day but focused strictly on that you only had one digit for each value, each place, making sure that they understood that you needed to move, a 10 to one ratio, move the 10 over to the tens place or the tens to the hundreds place so that we have the correct amount.

Tracy described how she would use simple observation as a formative assessment during a Math lesson,

Well, what I do is, I have them write down the problem and work the problem out on paper... If I say 15 minus 7. So, then they have to write their 15 little circles, and take off seven. So, I walk around and I'm watching and I'm looking to see, Oh, he didn't get it, no, that's not the right answer. Go back and look at that again... That kind of thing where it's more they're doing hands on or they're doing, you know, they're working with manipulatives and hands, paper and pencil, and then I'm walking around, looking at them, helping them, and seeing what they're doing...

I asked how she would use the data from her observations. She stated,

...if I see a lot of kids struggling with that, with the same problem, then I'll stop and we'll go back over it. And then I'll reteach it. If it's only one or two, then I'll just work with them individually.

Tracy also mentioned evaluating individual students sight word ability as a formative assessment. She took anecdotal notes during the assessment and used the data to focus her instruction the following day.

Well, during guided reading, that's the only one where I give them words, I might, I take anecdotal notes and jot down what words were they able to get, what words... Actually, I jot down what words they're struggling with... So I know that next day, I'm going to give

them those words again...

She continued to discuss how she uses the data to target specific words the students don't recognize.

With the sight words, basically with the sight words, the next day I give them the same words again. And I continue to give them the same words until they are able to get all of them. And I only give them, maybe five words. I give them five words to start out with. If they get all five of them, then I'll give them five more. But if they didn't, if they missed three of them, then I'll make sure that they know those three before I give them five more. We'll just continue until they get them all.

Alicia described many formative assessments that she uses, she began by discussing the show me wallet. The show me wallet was not a traditional paper and pencil activity, but involved students using colored cards that correspond with letters A, B, C, or D to show their answers.

A show me wallet is just a wallet and it has two-Two folders... It has two pockets. It has two pockets and then it has A, B, C, or D and they'll have a question on the board. I tell them it's a secret. Nobody's supposed to see their answers except for me. What they'll do is they will... They will show me, whatever the question is, they'll show me what they think the answer is, but they don't show it until I asked them to show me. Nobody else can see what their answer is. You know how it's other kids, they like to look at other people and see... What they're thinking. They can't show anybody but me. When I say, "Show me your wallet," everybody shows me their wallet. There different colors so if all yellows are not up, I know that the ones who have blue, I know that they missed the question...

She also described using graphic organizers, manipulatives in math, and exit tickets.

...Whatever we are learning, there's graphic organizers for everything... Math, we use manipulatives to make sure that they understand what they're doing...Exit tickets, yes, we do exit (tickets) ... Just basically on whatever we're teaching.

Alicia also described an activity called three, two, one that would be used after a lesson.

The students would record responses to correspond with each number.

Three, two, one.... Three things that they learned from the...from the activity. Two things that they...That they want to know and that one thing that they have a question about...

She then shared a story of a time when she used the show me wallet with a poem to assess skills such as drawing conclusions and making inferences.

...I had the poem up and everybody had their poem front of them as well. I had questions on the board just to see exactly what they gained from the poetry and drawing conclusions...We just had our show me wallets and the questions were on the board, answers A, B, C, or D-... The answers was up there and then of course, they had to choose their answer and then they had to tell me why they chose their answer... They had questions and then the choices were up there as well...Then they're telling me why they choose whatever. If they got it wrong, I didn't let anybody know who got it right or wrong in the beginning. I just asked different people. I asked one that got it right, why did you choose that answer, and then I asked one that got it wrong, why did they choose(that answer)... If all of them had A, B, C, or D, different ones, I asked different ones just to see what they were thinking and why they chose that.

I asked Alicia how she used the data specifically from the students with incorrect responses, she stated,

Once I had that data, if I knew that I had to go back and reteach to those students, a lot of it was just because they're having difficulties with reading so they couldn't (read it) ...

Even though I was saying the question, I read it to them, going back and trying to think and then put it all together. So sometimes I just try to put it with them in another way...because they might not understand...what the others understand...So when I come back in small group, I had to bring them in small group... I pull them because they don't understand, I know that they don't understand whatever we're teaching. Drawing conclusions, making (inferences), they don't understand what that is. A lot of them don't understand because of their reading level...

Alicia continued to discuss re-teaching and re-assessing in a small group.

Then you either reteach it, present it to them a different way. Break it down. Then reassess them because I even reassessed during small group you know to make sure that they got what I was teaching...

Danielle began describing her experience with formative assessments by discussing how she used exit tickets and thumbs up and down,

I do exit tickets a lot. I will have a sheet of paper on the board ... I guess that's like an exit ticket too when you use the sticky notes... Math. Let's see how I normally do math. I do exit tickets because I'll have a little index card where they can answer...I might put up four questions and on the index card they'll answer the questions...We do the simple formative assessments where they give a thumbs up and they give a thumbs down.

She also mentioned using graphic organizers

...We use a lot of graphic organizers...especially in reading.

Additionally, she described an activity that was similar to the show me wallet, known as ABCD cards,

I would have the envelope and it'd have A, B, C, D. I ask a question that's a multiple choice question...They would raise their card. Say A is the answer they would raise the A.

Danielle also mentioned another formative assessment activity called quiz-quiz trade. During this activity students posed questions to other students, then she listens to their responses.

I have a card and I have a question on it or it can be a math problem. They go around the room with that question, and they ask somebody... They'd ask the person a question and the person had to answer it. Once the person answered it then they give that person their card and they trade cards and they go around the room and ask somebody...This is all observation...I'm listening. I'm not really interacting with them.

Jackie shared several examples and specific stories which described her experience with formative assessments. She discussed a formative assessment activity which involved the students recording unfamiliar words. These words are used to target instruction and the students later use them in sentences.

...Another thing, also I love reading to my students. If there are vocabulary words that they're not sure of, and it might be a word that we would have had to cover for the week. What I do also is with introducing the vocabulary to the students, at the beginning of the week, I do not tell them what the words are. I might read a passage, or I might read something from a novel. Then, if there's a word they don't understand, they have to write the words down... A lot of the times, they are the words that are vocabulary words that

the students are not sure of. That's one way of assessing, and then from there, we go on to using those words in sentences.

Jackie also mentioned using graphic organizers.

I use a lot of graphic organizers, and you know what? The children like graphic organizers, the older ones, because they view it as something that's fun, something that's more artistic than it is the actual written work. Sometimes, with the graphic organizers, I have them to draw the illustrations rather than writing the one-...writing the one or two words out.

She also described using questioning as a formative assessment. She prefers this method versus written activities.

I use more oral responses than I do the written...I prefer the verbal interaction rather than the written...What I usually do is during the weekends when I'm making my preparations, it's usually a matter of reading the passage or whatever, then putting what questions I think I need to ask...

Jackie shared another activity which involved the students having a mock courtroom. She observed the students acting out their individual parts and also utilized questioning to assess their understanding of specific History standards.

...What we did with the Declaration of Independence is they had sort of a mock courtroom. We the mock courtroom, it was a matter of having jewelry... I'm sorry, a jury...And having the judge. Then, having the audience...They had to come up with reasons why they felt that person should have been punished for not paying their taxes...So, what we did was try to use interactive activities where they had to act out the parts... Then, I threw out a few questions to them. I threw out a few questions such as,

"Why did this person that's on trial, why did they leave England?" They talked about taxes, but why did they think it was not right to pay taxes? Why was it such a hardship for them to come to this new place, America, and have to pay taxes? Why did they not want to do that? ...

Jackie also discussed how she uses small groups to addresses areas of difficulty based on data from formative assessments.

But, when I think of formative assessment, I think of looking, testing a student and then looking at the areas, not the benchmark, but the standards that they might be weak in. Then, it's a matter of using the small group, using small groups, then doing a lot of remediation in the small groups...Once again, a lot of it is finding the weaknesses, finding the areas, and then working with them in small groups and a lot of repetition.

Peer Work and Training

All five participants shared stories of how they collaborated with their peers in the process of implementing formative assessments and they described specific professional development that they received. Their work with peers and the training they received both supported their formative assessment practices. The participants shared different experiences that included planning formative assessment activities with their teammates in grade level meetings and discussing samples of completed student work. The participants were often required to pick a formative assessment activity that the entire grade level would use and discuss how their students performed during a data meeting. They often analyzed the data together and discussed how instruction should proceed. The participants also described some form of professional development or training that they engaged in. They gave examples of formative assessment activities they were given and discussed the usefulness of the trainings.

Carol discussed how her grade level planned the formative assessments they would use during the week. She described how her team would collaboratively select the formative assessment activity they would utilize to discuss the learning progress of all of their students. They also shared examples of student work on different levels of performance. Although the teachers did not normally use the assessments for grading purposes, they would judge student's work using a grading scale as a point of reference.

Well, we have our weekly planning time, and we would plan out using the pacing guide as well as we were teaching that week, and we would actually pick... For reading, we'd pick a graphic organizer that we would be using as a formative assessment, and then we would pick a math exit ticket or problem or something that, as a team, everyone would give... As a grade level, we did a lot of work, what formative assessments we would use for a topic or a skillset, and then what we would be looking for. Like, this would be on an A paper or a B or a C or a D, maybe, and was this exact things that we were looking for it to have, I mean, to have all these different points... Everyone would bring in some examples... They did bring in different examples, like different levels,...

She also described the usefulness of professional development given at the school.

...It was useful to understand what I'm looking for (in the) formative assessment...they could give me more ideas of ways to asses.

Carol also described activities she was given in a training sessions.

...We were given examples of formative assessments that we could use, like, graphic organizers that we could use, some activities that we could use to count as formative assessments, not necessarily paper and pencil, such as an activity that I still use in the

classroom...Sorting fiction and nonfiction with using the hula hoops, putting the books in the fiction pile, nonfiction. What's the same? What's different?

Tracy described how her teammates used formative assessment data to analyze how their students performed. They also made instructional decisions together.

With our grade level, we talk about...We more use it for data, we talk about, "All my kids did really well on it," or, "I had several kids who really still struggling with it." And then we kind of discuss it and then we decide, do we want to keep working on that area or do we want to move on?

Tracy recalled a training with other staff members to help clarify the difference between formative and summative assessment.

...I think there might have been one where we were all together and we had to write down on a chart (chart paper)...What did we think a formative assessment was and write those things down on the chart paper. And then they (workshop presenters) would go over and say, "No, this one isn't a formative, this is more summative," that kind of thing...Compare and contrast.

Alicia shared how she collaborated with her grade level during planning meetings to decide the formative assessment activities that would be used during the week. She also discussed how they analyzed the data from certain assessment activities and discussed strategies to help students who struggled with the skill.

We plan which ones we were going to use and we say we were going to use whatever the following week. After we come back, after we did our formative assessments we bring them in and we would discuss, you know, well this group of kids knew this and this group of kids didn't and what we need to do to go back and reach those other students who didn't get it. And so we

use those formative assessment to planning and to instruction (for planning and instruction), what we needed to do for our instruction for small group or in our classroom.

She also mentioned that teachers took advantage of formative assessment activities that appeared to be beneficial for other teachers in their classrooms. These activities were discussed during planning meetings.

...So we were able to go back, if it was working, if something was working in one room if they (teachers) were doing something that somebody else wasn't doing, like the show me wallets, some teachers wasn't doing that. I think I got that from Ms. ____... She had it in training, or whatever. I saw it, I liked it. Then I implemented it in my class even though some of the teachers in my grade level, they wasn't using it but after a while, they saw the benefits of it or whatever and we use that for data (used it to discuss student progress in a data meeting).

Alicia also described examples she received during training.

...Of course, the graphic organizers. They pushed that really big because the nonlinguistic representation, they started that last year...The exit tickets were recommended...Well, I remember it was that group that came in, I can't remember who was here...they gave us some ideas on formative assessment. A lot of them, they were big on, when I tell you graphic organizers...

She also discussed another training by a someone on the faculty,

...and then our____, She gave good training on... Assessment...That's where I did get the exit tickets, because she said they didn't have to be an actual piece of paper they had. They can just jot something down real quick just to let us know or put on a sticky or

something...She gave us different ideas. Now, the ones I took back with me was, of course, the exit tickets, the three, two, one, the show me wallet...

Danielle described planning formative assessments in reading and math that would be used in their instructional lessons and for discussion during data meetings.

When it comes to math and reading formative assessments in our planning. We have to say what are we gonna be using as the formative assessment that we're going to collect the data on. We do that every week...We would get together and we would say, what kind of formative assessment can we have in Math? We have one person who does the math plan. We would collaborate and say, "What would make a good formative assessment for whatever objective?"...We'd talk about doing that. Then for reading as well, we'd discuss objectives and what would be a good formative assessment whether it's a graphic organizer for that objective.

Danielle continued to discuss how she and her teammates worked collaboratively during data meetings to analyze data and share strategies to help students who had difficulty with certain skills.

...We were good together as a team. Whoever did the math (plans), whoever did the reading (plans) would make note of that so that in the lesson plans they'd make sure that we knew what the formative assessment was...the following Tuesday, we'd come together and we would look at that data...We didn't want to collect data (for the purpose of the data meeting) on all of them...We tier our kids. We'd talk about the glows. What the kids understood and then what the kids had trouble with. Then we'd talk about the ones that are having the difficulties, the tier 3, tier 2, what can we do to remediate on the objective...We would come with ideas, even if you didn't write the plans. One teacher

might have one way of doing it and her kids got it so we look at that data. This teacher of her 17 kids, 15 got it. What did you do different?...That person would share if they did something different..

Danielle also stated how she valued the professional development that she was offered and she discussed a specific training she attended.

We had some good PD's (professional development)...Yeah, we had some PD's on formative assessment...I remember they just give you a lot of examples. I need examples... I don't know if one time they gave us different objectives and we had to figure out, what would be a good formative assessment? Yeah, we did have that... They gave us objectives. We had to figure out what would be some good formative assessments for this objective.

She also shared how she was given graphic organizers in trainings and taught how to use them in more than one subject.

I know that I was given a lot of graphic organizers...We were told that we should be able to use them in all subjects...But for me in math, we had one where we were taught how to use with word problems...How to use the four square. I can use the four square not only in the math word problems but also use the four square in writing... Instead of the problem being in the middle for math, we'd have the topic. Then we'd have our intro, idea, one idea, another idea and then our closing.

Jackie mentioned that she asked for examples of formative assessments that teachers in other grade levels were using to help strengthen her practices. She stated that she asked, ...what are some examples that you're using for the formative assessments?...It was sharing and finding out some of the things that they were doing, and I mean going from

different grade levels... It was a matter of guiding, showing each other, sharing...

Jackie also discussed how members of her grade level planned and shared formative assessment ideas. She discussed how her grade level collaborated during planning meetings. They discussed formative assessments they used or those they would like to implement.

Last year, a lot of brainstorming. A lot of getting together and sharing ideas...A lot of the times, what we would do is talk about some of the things that we might have done in our classroom or something that we had read about, something we would like to see if it would work.

Jackie also described professional development at the school, which she states did help strengthen her understanding of formative assessment practices.

...We had a few at the school. They were never the PDs that lasted for the two hour, for half day, or whatever. It was always during our resource or whatever. We were getting them in small chunks, but it was to the point of where, yes, I got it. Yes, I did understand (formative assessment practices)...We had expertise from some of the instructional people that would come in and give us examples. We had the expertise from people from _____ that would come in and help share examples with us.

Barriers to Implementation

Based on the participants accounts, one of the major barriers to implementing formative assessments was student behavior. They all described ways that student behavior affected the process of implementing formative assessments. Another issue only experienced by two participants, was the lack of time to both implement formative assessment activities and provide additional instruction to students when needed. Although this theme was not evident in all of the

participants stories, it is worthy of discussion due to its influence on their ability to address the learning needs of their students.

Student behavior. The five participants described how student behavior in their classroom affected how they used formative assessments. The participants mentioned that the classroom environment often consisted of students ridiculing their peers when they had incorrect responses. Thus, some students were reluctant to share their answers to questions posed by teachers. One participant noted that at times some students would not complete formative assessment activities. Another described how students often became disengaged when questions were repeated for other students.

Carol described how poor behavior and inattentiveness affected how she implemented formative assessments.

Well, if we were having a very off day as far as behavior, then my planned formative assessment, let's say the graphic organizer, I would decide that this would not be the day, because they are not going to produce what I know they could produce.

She also said,

...I would ask questions throughout the lesson, and if it was the same type of question, like synonym, synonym, synonym, they're like, "We've already answered that question."...sometimes the students would be, their stamina for asking that question, that same question over and over, again, they would lose interest. It's like, "I've already answered your question, so I'm going to daydream while you finish asking the questions to all these other students."...

Tracy discussed how student behavior at certain times of the day impacted her ability to utilize formative assessments.

I think it has to do with the day and how the children are acting. During the morning time, it's a little bit easier. Afternoon, after lunch, it gets a little bit more difficult to implement a lot of the formative assessment... Yeah, time of day. After lunch, it's kind of like, they've lost their minds. In the morning, I guess they're still not awake yet or they're just still mellow yet. But come after lunch, it's like, if you get through a lesson, you feel, "I got through that lesson. Thank you. Thank you guys for being so good, we got through this lesson." But if we don't get through a lesson, it's like, "Well, just chalk it up, move on to the next lesson and tomorrow will be another... We'll pick up where we left off."...

Alicia shared how student behavior hindered the types of formative assessments she was able to use.

...You would like to get your kids up and moving and doing stuff and doing with the Formative assessments but with the behavior being the way that it is, it was just impossible to do a lot of things...

She also said shared how some students were reluctant to share responses to questions due to being ridiculed by other students.

...If you could actually get through without someone disrupting your class and whatever. If it was a, I'm not going to say a safe environment, but just the environment where the students felt like they could express themselves without being ridiculed and whatever.

Alicia also discussed how some students did not have the confidence to demonstrate their understanding. Thus, it was difficult to determine whether they were learning certain skills.

They still want to I say not use their own brain. Even with the show me wallets...they're trying to see what the other person (has for their answer), even when I say show me your wallet, they still...They're not sure of themselves.

Danielle shared how students with poor behavior refused to complete formative assessment activities. When she was required submit formative assessment data to administrators, she stated that she did not have data to document their progress.

Behavior has been an issue...Either they'll do it or they just won't do it at all. So I don't even get the data on them...There's been times where I had to put on my sheet ...Sometimes we have to submit that data. We choose each week for math this is what we're gonna submit. For reading this is what we're gonna submit. I have students...that won't even do it. They won't do the assessment...I have to put on there that they didn't do it. I can't just...I don't just want to put a zero. I'll just have a note or asterisk saying that this student didn't even do it.

Danielle also mentioned that some students would be disruptive and throw objects in the classroom while she was teaching a lesson and implementing formative assessment. She stated, ...Last year, throwing things. That was a huge problem...I had kids in here that would throw objects around the room.

I asked what she would do in these instances.

In the beginning I was stopping a lot. It was lot of wasted time...Over time, I was able to get my kids trained to where those couple outliers they just completely ignore them. They could be doing all sorts of things. They just were completely like...They shut those kids out. Over time, I didn't have as much problems but just getting those kids to ignore those behaviors.

Jackie shared how behavior affected how she implemented formative assessments, especially during whole group instruction. She mentioned how some students wanted to laugh at

others for having incorrect responses. Other students would be afraid to share their answers due to fear of being embarrassed or being laughed at.

The laughing at, if someone comes up with a wrong answer, wanting to laugh. Oh, yeah.

Wanting to laugh... Sometimes a shut down, also... A shut down, not wanting to say anything... Not wanting to give their answer.

She also mentioned that while implementing formative assessments in whole group, some of the students that were over-age would act out because they felt inadequate. She mentioned that she prefers small group instruction to avoid this behavior.

...last year, I had several that were definitely over-age. I had one little boy that was reading on the second grade level. He just couldn't get it. He used to like acting out, acting out a lot. Sometimes they act out the way they function, the way they feel about fitting in with the others, whether other students are average students or above average. Just like I said, that's one of the drawbacks of the whole group instructions, but for the small group instructions, they had people that are like them (on their same academic level) because they're tiered...

Lack of time. Two participants discussed how a lack of time affected how they implemented formative assessments. Both participants discussed how a lack of time impacted their ability to provide additional instruction and stay current with the instructional pacing. Another mentioned that it was difficult to find the time to implement formative assessments.

Carol stated that after obtaining data from formative assessments, there was not enough time to develop additional mini groups to address skills that students needed. She also described the challenge of needing to work with students who required additional help when having to stay current with the instructional pacing.

...For reading, we would give a formative assessment, but then I'd already have my groups set for guided, that I wouldn't have time to break apart these little mini groups when they only needed help on one skill...Like, I might have some from a low group and some from a high group that are missing the same skill, but because of the time constraint in that reading block, I did not have like an extra 15 minutes dedicated to where I could mix the groups and say, "I need to work on the synonyms with this group," or "I need to work on main idea with these."

She also described how it was difficult to quickly address skills a few students needed during Math and keep current with the instructional pacing.

...and then the other challenge would be the remediation part. If your day is already full, and you notice, you know, you had...I went back and retaught a whole lesson, because I had several students that were missing, part of the place value, but if I had only a few, I found it hard to find a time to get with that few the next day to clear it up and still stay on pacing.

Alicia mentioned that sometimes there was not sufficient time to implement formative assessments. Additionally, she stated that she did not always have the time to re-teach when a large number of students needed additional instruction. She mentioned that she had to keep current with her daily schedule and with the instructional pacing.

...Well, sometimes not having enough time in the day to...I mean, do the formative assessment, then so it's like a day goes by, whatever, for me to get... It's quick data, sometimes. Sometimes I can't go and reteach because the time constraints where it's time for me to move on to another subject...

I asked Alicia what she does when she has a large group of students who need additional instruction.

Well, what happens then, a lot of times you try to go back and reteach and do it a different way. Get somebody a math person in here, interventionists somebody to help you if you can't when you have a large group. But...it's hard for you to stop because your pacing continues on and you're not supposed to be more than a week behind on your pacing...

Synthesis of Themes

The final themes that emerged in this research depict the experiences of the five participants with formative assessments. The themes are (a) initial confusion, (b) understanding developed over time, (c) various formative assessments, (d) peer work and training, and (e) barriers to implementation.

The theme *initial confusion* describes a lack of understanding that four out of five participants discussed when they were initially asked to implement formative assessments. They shared stories which demonstrated that they were confused about what formative assessments were or what was involved in implementing them. The next theme, *understanding developed over time*, established that there was a progression of all five participants understanding of formative assessments. The four participants who were initially confused about formative assessments were able to articulate what the practice was in relation to their prior understanding. The fifth participant, who was not originally confused demonstrated how her understanding evolved. She described the importance of using formative assessments as opposed to her prior summative practices. The participants also confirmed that their understanding developed over time because they gave descriptive accounts of how they used formative assessments during their

instruction. They discussed the relevancy of using formative assessments to monitor learning progress and to guide future instruction.

The next theme, *various formative assessments*, depicts the wide range of formative assessments that all of the participants implemented in their classrooms. The participants gave different examples of assessment activities that they used to gauge student learning such as exit tickets, simple observations, and graphic organizers. They also shared stories which described how they utilized the activities with their students. The theme *peer work and training* was evident throughout all of the participants accounts. Collaborative work and training supported how they used formative assessments in their classrooms. The participants worked with their peers to plan formative assessments, analyze formative assessment data, or to discuss how future instruction should proceed. The participants also engaged in professional development. They shared stories that described a training they attended or they discussed examples of formative assessments they were given to use in their classrooms.

Lastly, the theme *barriers to implementation* had two subthemes, which are *student behavior* and *lack of time*. All of the participants noted that student behavior affected how they implemented formative assessments. They shared accounts related to poor behavior hindering their ability to use the practice and how some students were belittled as a result of the responses they gave during a lesson. It was also noted that some students refused to complete formative assessment activities or would be disengaged during the lesson. Two participants discussed how a lack of time impacted the process of using formative assessments. One participant mentioned that time was not available during reading instruction to form additional groups when students needed supplementary instruction. Another stated that a lack of time during the instructional day hindered her ability to utilize formative assessments. Both participants discussed the dilemma of

needing to provide additional instruction to students, but not having sufficient time because they had to keep current with the instructional curriculum.

All of the themes described are based on accounts involving five participants who were directed to implement formative assessments in their classrooms. After a thorough analysis of the data, the themes that emerged depicted the participants experiences from the start of having to implement formative assessments and throughout the process. Initially there was some confusion followed by a better understanding of the practice. The development of the participants understanding was evident based on how they described the purpose of formative assessments. The participants further depicted their experiences throughout the implementation process by sharing stories that described the various formative assessments they used in their classrooms. They also gave accounts of how collaborative work with peers and training supported their practices. Lastly, their stories demonstrated that they encountered some barriers while using formative assessments. The participants described issues surrounding student behavior and two participants discussed how a lack of time affected how they implemented formative assessments.

Reflexivity Notes

While drafting my proposal, my positionality from the role of a student and teacher at the time reflected my personal experiences with formative assessments. I knew that there would be similarities in the experiences of the participants and myself because I was a teacher in the same setting. Although the data confirmed this, while in the position of researcher I was led to revisit my formative assessment practices. I realized that there are many formative assessment strategies that can be utilized across grade levels. Most of the activities can be modified for younger students if needed. During the interviews, I took mental note of the activities the teachers

described. I realized that teachers should implement different activities on an ongoing basis to keep students engaged in the learning process. Thus, as a practitioner and change agent this is something I would communicate to other educators.

I also realized that some teachers who administer yearly standardized testing are utilizing formative assessments to better prepare students for those rigorous evaluations. Educators in grade levels known as “testing grades” are often criticized for teaching to the test. However, based on some of the participants statements, I found that their instruction was focused on specific standards and formative assessment data was used to identify where the academic weaknesses were. The participants addressed skills in small groups to help their students reach mastery and perform better on standardized tests. One participant described formative assessments as the way to help improve student performance on these tests. Thus, I specifically noted that these study participants were not only focused on improving test scores, but also on utilizing ongoing formative assessment data to improve learning and increase academic achievement on these examinations.

Other issues that were noted during this research was the number of teachers who had no prior instruction on formative assessment and the frequency of accounts that demonstrated some initial confusion. I was shocked to find out that while some of the participants were in their teacher preparation, they did not receive any instruction on the practice. One participant felt like her program did her a disservice. Another believed that she would have benefited from some coursework in college. During the data analysis I was also surprised to discover that several of the participants appeared to be confused when they were asked to implement formative assessments. As a teacher, I did not experience any confusion and was able to effectively utilize

formative assessments in my classroom. However, I assumed that the participants were likely to have the same experience.

Although I appreciated hearing the different stories the participants shared regarding implementing formative assessments, I noted that some important methods involved in using the practice were not mentioned. These methods will be discussed in the subsequent chapter, along with other recommendations to improve practice at the school level. Additionally, I will make recommendations that are needed to strengthen pre-service teachers' knowledge at the higher institution level in teacher preparation programs. I will also discuss my next steps as an educator.

Chapter 5 – Implications

This research study focused on the experiences of five elementary teachers with formative assessments. The research question that guided this study was: What are teacher's experiences with formative assessments? The themes that were generated in this research are: (a) initial confusion, (b) understanding developed over time, (c) various formative assessments, (d) peer work and training, and (e) barriers to implementation. This chapter will include a summary of themes in relation to the theoretical framework and the literature, as well as other theories relevant to this study. Additionally, I will suggest topics related to this research that are worthy of further investigation. I will also make recommendations pertaining to strengthening formative assessment practices at the school level and in higher education institutions.

Summary of Themes in Relation to the Theoretical Framework

Spillane et al. (2002b) cognitive sense-making framework was used to conceptualize this research. This framework suggests that individual cognition (prior knowledge, experiences, and beliefs), situated cognition (contextual factors), and the role of representations (policy representations) influence how individuals understand and interpret educational policies (Spillane et al., 2002b). These factors can affect how teachers carry out certain school related directives and policies. Thus, the sense-making framework served as a lens to understand how the participants experienced implementing formative assessments. Several themes that were generated in this research related to the theoretical framework and contributed to a greater understanding of the complex issues involved in executing instructional policies in classrooms. A discussion of the themes in relation to the theory will be discussed below.

The first theme, *initial confusion* is related to the individual cognition component of sense-making. The individual cognitive component of the sense-making framework recognizes

that prior knowledge and experience can influence how individuals interpret educational policy (Spillane et al., 2002b). This theme relates to this part of theory because one of the five participants who was not initially confused about formative assessments had prior coursework and experience with the practice. This participant also mentioned that she would often reflect on her previous coursework while she implemented formative assessments in her classroom. This prior knowledge appeared to contribute to her understanding during the implementation process. Contrarily, the individual cognition element of sense-making also suggest that some individuals may believe they are knowledgeable of aspects of a policy, but they lack a thorough understanding (Spillane et al., 2002b). However, the participant with prior knowledge appeared to use this information as a guide during the implementation process because she was familiar with the foundational elements of the practice.

The theme *initial confusion* also is linked to the policy representations component of the framework. Spillane et al. (2002b) noted that how a policy is communicated influences how it is interpreted. Several participants experienced confusion and also made dissimilar statements about how they were directed to begin implementing formative assessments. One participant recalled being asked to bring the activities to planning meetings which caused her to believe the assessments had to be a product. The other participants had different explanations regarding what they were told and also experienced a lack of clarity about what formative assessments were. This suggest that the participants may have benefited from a clearer message at the start of the implementation process. Thus, a more explicit message about what formative assessments were and how they should be implemented may have contributed to a better initial understanding.

The next themes *understanding developed over time* and *peer work and training* were related to the situated cognition element of sense-making. This part of the framework suggests that contextual factors in the local school can contribute to how individuals understand policy. Contextual factors may include norms of social interaction in the school's organizational structure. In the school environment there were several established patterns of social interaction such as ongoing peer engagement in grade level and data meetings, and in professional development.

The theme *understanding developed over time* is related to the situated cognition component because the participants frequently discussed formative assessment activities with members of their grade level. This interaction may have helped to develop their understanding of the practice. *Peer work and training* also was connected to this part of the theory. Collaborative work and social interaction during professional development were ongoing routines that also influenced how the participants understood using formative assessments. Several of the participants worked with their peers to plan and share formative assessment activities. Some of them also jointly discussed the results from formative assessments and shared strategies to help students improve their performance. Additionally, the participants interacted with presenters and their peers during professional workshops and training. Thus, both themes demonstrated a relationship to the situated cognition element of sense-making.

The theme *various formative assessments* is evident in the policy representations component of the sense-making construct. The formative assessments that several of participants utilized reflected the message that was communicated through ongoing professional development. They were given examples of many different formative assessments and several of their stories illustrated the activities they used. Hence, the range of formative assessments the

participants utilized appeared to echo the message they received regarding the acceptable practices they should implement in their classrooms.

Lastly, the theme barriers to implementation, did not directly relate to elements of the theoretical framework. This theme had two subthemes which are *lack of time* and *student behavior*. Although this theme encompassed the environmental factors that affected the participants ability to implement formative assessments, it did not influence their understanding or interpretation regarding formative assessments.

Summary of Themes in Relation to the Literature

The review of literature in this research includes sense-making studies, formative assessment literature, and other studies on formative assessment. Several of the themes identified in this study relate to the literature. Thus, there is evidence of some alignment between the themes and the literature review.

Several studies demonstrate alignment to both themes *peer work and training* and *various formative assessments*. Sense-making studies found that when individuals collaborate with their peers they are able to better understand policy (Coburn, 2001, 2005). Literature also noted that teachers can help develop the formative assessment practices of their peers (Bell & Cowie, 2001; Brookhart et al., 2010; Wylie et al., 2012). Additionally, formative assessment literature also recognizes many activities such as observations, questioning, ABCD cards, and exit tickets that were also found throughout the *various formative assessments* theme. Studies noted that questioning (Ruiz-Primo & Furtak, 2006; Torance & Pryor, 2001) and observations (Dixon, 2003) were used to assess student learning and monitor their progress. Other strategies such as ABCD cards and exit passes were recommended by Wiliam (2011) to gather evidence of student

learning. These activities were described in the participants stories. The show me wallet, which was mentioned in one of the participants stories, was also similar to the ABCD cards activity.

The theme *barriers to implementation* and the subtheme *lack of time* relate to an issue found in literature. Cizek (2010) extensive work on formative assessment noted that time may not be available during the teaching day implement the practice. One of the participants described this issue in her story. Buck & Trauth-Nare (2009) research also found that being able to give students feedback about their work was difficult due to time restrictions. Although this problem was not found in this study, two participants stated that they had difficulty finding time to provide students with additional instruction when needed. Both Buck & Trauth-Nare's (2009) finding and the issue described by the participants identify a greater problem not found in the literature review. This issue relates to teachers not having adequate time to meet the learning needs of students after obtaining data from formative assessments.

Additional Theories Relevant to this Research

Bandura's (1982, 1986) self-efficacy theory and the concept of triadic reciprocal causation (Bandura, 1986; Wood & Bandura, 1989) found in social cognitive theory are both relevant to this research study. Bandura (1982) defines self-efficacy as the judgment an individual makes about his/her ability to perform certain task pertaining to a specific situation. Triadic reciprocal causation suggests that personal and cognitive factors such as beliefs, behavioral factors, and environmental occurrences interact in a reciprocal manner and influence human functioning (Bandura, 1986; Wood & Bandura, 1989). The variables may not influence one another equally or at the same time (Wood & Bandura, 1989). Both self-efficacy theory and triadic reciprocal causation were considered as possible theories to conceptualize this study prior

to selecting the sense-making framework. Their relevancy to this study will be discussed in greater detail in the subsequent paragraphs.

Efficacy theory is relevant to this research because the participants' beliefs about their ability to implement formative assessments, or their sense of efficacy likely influenced their practices. Those with greater levels of efficacy often foresee success and these thought patterns guide their behavior (Bandura, 1989). Contrarily those with low levels of efficacy imagine failure and these thoughts hinder how well they perform (Bandura, 1989). Bandura (1982) also noted that efficacy beliefs can influence the effort individuals give to a task. Although the participants experienced some confusion when they were directed to begin utilizing formative assessments, their stories later demonstrated that they had a strong belief in their ability to implement the practice. The detailed accounts of their experiences with formative assessment activities indicated confidence in their ability to use them. Their efficacy beliefs may have increased due to the training they received and based on support from their peers.

Triadic reciprocal causation (Bandura, 1986; Wood & Bandura, 1989) also was relevant to this research. All of the variables such as personal factors and beliefs, certain behaviors, and occurrences in the environment likely interacted and influenced the participants' experiences with formative assessments. Evidence of the variables within triadic reciprocal causation were found in the participants' accounts. The personal factors were the participant's prior knowledge and experiences regarding formative assessment. Additionally, the participant's stories reflected their beliefs about using the practice. They acknowledged the practice as a tool to monitor learning or to guide future instruction. Their behaviors involved being actively engaged in using formative assessments, sharing ideas, and participating in professional development. Lastly, poor student behavior was an environmental factor that affected how they were able to utilize the practice.

Although many of the factors described influenced the implementation process, it is also likely that relationships between these variables may have interacted in ways that affected the participants experiences.

Areas for Further Research

The findings from this research identify other subsequent inquiries that would be worthy of investigation. One inquiry that would be beneficial to examine is the relationship between using formative assessment data and learning outcomes. Some of the participants in this study discussed how they utilized formative assessment data; however, the relationship between the usage of this information and results on summative test is unknown. It would be useful to identify whether their targeted instruction based on formative data improves achievement on regular classroom test and standardized assessments. To determine how using formative assessment data is connected to learning outcomes would require an intricate process of both tracking the use of this information and the supplementary instruction provided to certain students.

It also would be meaningful to identify how teachers involve students in their own process of learning when using formative assessments. The participants mentioned working with students in small groups and how the pupils engaged in formative assessment activities. They also described formative assessment activities that involved students working with their peers. However, this study did not identify more specific ways that students were involved in improving their own learning. Thus, it would be worthy to investigate the tools and resources teachers give students so that they are active participants in their personal learning achievement.

Future Recommendations

To strengthen teacher's formative assessment practices attention should be given to

what occurs at the school level and in higher education institutions. At the school level, professional development is needed to advance how teachers utilize formative assessments. The findings in this research noted that several participants received professional development which provided many examples of formative assessment activities they could use in their classrooms. Future professional development should continue to provide teachers with these resources. However, teachers should be encouraged to use a range of different activities to keep students engaged in the learning process. Additionally, professional development should emphasize the importance of explaining the learning goal in the beginning of a lesson. The participants discussed using formative assessments during a lesson, but did not mention whether they explained the learning goal to students. It is unknown if this was regularly implemented; however, future training should stress the necessity of using this practice. By regularly explaining the learning goal teachers will be certain that students can identify the skill they should focus on during the lesson. Additionally, teachers will be able to better identify what the learning needs are after obtaining formative data.

Teachers also need to receive professional development on how to give students appropriate feedback about their performance on formative assessments. During this research the participants did not thoroughly discuss the types of feedback they gave students; therefore, I am uncertain about whether they understand the significance of this practice. Thus, I recommend training that will explain the purpose of giving students feedback after obtaining data from formative assessments. Additionally, professional development should provide teachers with examples of different ways to communicate grade level appropriate feedback to their students.

Another recommendation is professional development which focuses on ways to track student's progress from formative assessment data. Tracking student's progress helps to monitor

their learning and inform how instruction should proceed. This data can be used to determine instructional decisions for whole group and small group instruction. Some of the participants discussed using this method, but it was not found in all of their stories. Professional development should focus on the importance of utilizing this practice, but also give teachers a variety of tracking methods that are easy to use in their classrooms.

To advance how formative assessments are utilized, other recommendations focus on improving practice in higher education institutions. Several participants discussed that they did not receive any specific instruction on formative assessment in their teacher preparation program. One participant stated that she recalled some discussion on formative assessment; however, she believed a course that described the practice in detail would have been beneficial. Only one of the participants in this research described a course she had in her teacher preparation program that discussed both formative and summative assessment. Thus, teacher preparation programs should include coursework and training that will help pre-service teachers develop a thorough understanding of formative assessment practices. Pre-service teachers should be introduced to different formative assessment activities and receive training on how to use them. Additionally, they should be expected to implement formative assessments during student teaching. These foundational experiences in teacher preparation programs will help educators have a deeper understanding and more successful experiences with formative assessments in their classrooms.

Next Steps

My research study will be used as a mechanism to focus future efforts geared towards improving the instructional practices of pre-service teachers and elementary teachers in Pre-K through 5th grade settings. This focus will not only affect their practices, but possibly impact the

learning outcomes of their students. When the information they receive is translated into action in the classroom, the achievement of their students can be improved. Thus, in effort to develop the practices of pre-service teachers I hope to work in higher education institutions to cultivate both practical knowledge and skill in best practices in teaching and learning. I also hope to develop pre-service teacher's capacity to implement formative assessments in their classrooms. My goal is to become an agent of change and communicate the importance of teachers having a solid understanding of the practice prior to becoming in-service teachers. Hence, curriculum changes in teacher education coursework and new guidelines for student teaching experiences may be required.

Additionally, I also would like to partner with local school divisions to offer instructional support to their teachers. I would like to work with small groups of teachers so that I can establish relationships with them through discussions about their background, experiences, and preference of instructional practices. I think this will help teachers become more open to receiving the instructional support and modify their practices if necessary. This research demonstrated that teachers may be more likely to share their experiences, beliefs, and views about their instructional methods when a rapport is established and they feel comfortable.

Lastly, I would like to share information about formative assessment and instructional practices with a broader educational audience through publications and presentations. I hope that teachers I am not able to personally work with will be able to access my published articles and the presentations that I conduct. This information can be utilized to develop their understanding and skill. Additionally, it can be used to improve both their practices in the classroom and the learning achievement of their students.

Definition of Terms

1. All student response system: A process of gathering responses from each student simultaneously as opposed to questioning pupils individually (Wiliam, 2011).
2. Accountability policy: Policies that focus on schools being responsible for student achievement.
3. Cognitive sense-making framework: A framework used to understand how individuals interpret and understand educational policy (Spillane et al., 2002b). Components of the framework are individual cognition, situated cognition, and role of representations (Spillane et al., 2002b).
4. Criteria: The information that is used to evaluate proficiency of student work.
5. Exit tickets: A notecard or piece of paper that students use to record answers to questions posed by the teacher, normally at the end of a lesson.
6. Feedback: Information teachers gather about student learning; information teachers give back to students about their learning progress.
7. Formative assessment: A process that involves utilizing assessments to determine student progress and taking this information about to learning inform future instruction (Burke & Depka, 2011). The term formative assessment often is used interchangeably with formative assessments and also is known as assessment for learning.
8. Formative assessments: Activities used to identify student progress and adjust instruction based on learning needs (Burke & Depka, 2011).
9. Graphic organizer: a document that students use to organize information and demonstrate their understanding of concepts.

10. Individual Cognition: The prior knowledge, beliefs, and experiences held by an individual (Spillane et al., 2002b).
11. Learning goals: The learning target that teachers aim for students achieve.
12. Role of representation of policy: How policies are designed and communicated to individuals (Spillane et al., 2002b).
13. Sense-making: How individuals interpret and understand.
14. Show me wallet: An envelope that contains colored cards labeled A, B, C, D for students to use when providing answers to multiple choice questions.
15. Situated cognition: Contextual factors that can include organizational structures, the history of an organization, and professional affiliations and specializations (Spillane et al., 2002b).
16. Summative assessment: When students are assessed for grading purposes to assign grades or to confirm whether they are performing at proficient levels (Shepard et al., 2005).

Appendix A

Interview Protocol

Interview Protocol

Participant (Pseudonym): _____ Interview Date: _____

Time of Interview: _____ Location: _____

General Questions

- 1) What grade level do you teach?
- 2) Why did you become a teacher?
- 3) How many years have you been teaching?
- 4) What do you like/dislike about teaching?
- 5) Describe your education, certifications, licensure, and endorsements.
- 6) Did you receive specific instruction on formative assessments in your college coursework or teacher preparation program? If so, please describe this experience.
- 7) What types of directives or specific instructional policies do you have experience with other than formative assessments?
- 8) How would you describe formative assessments?
- 9) How would you describe your level of expertise with formative assessments?
- 10) How do you feel about having to implement formative assessments?
- 11) What types of formative assessments do you use in your classroom?
- 12) Give examples of a specific time when you used a formative assessment? What was the learning outcome? How did you use the information from the assessment?
- 13) What are the challenges to using formative assessments? Cite specific incidences if possible.

Questions guided by the Sense-Making Cognitive Framework

Individual Cognition

- 14) What are your beliefs about the value of formative assessments?
- 15) What prior knowledge did you have about formative assessments before you were directed to implement them in your classroom? How was it obtained?
- 16) What experiences did you have with formative assessments prior to the directive?

Situated Cognition

- 17) What specific opportunities (if any) are you given to collaborate with peers regarding the use of formative assessments? (exchanging ideas, experiences in the classroom).
- 18) What classroom factors affect how you implement formative assessments? Cite specific examples of how.
- 19) What school factors affect how you implement formative assessments? Cite specific examples of how.
- 20) What other factors do you believe affect how you implement formative assessments? Cite specific examples of how.

Policy Representations:

- 21) How was the directive to implement formative assessments explained to you? Describe whether or not you believe you had a good understanding of the policy.
- 22) What specific practices were recommended to help implement the policy?
- 23) Describe any relevant training that you have received to help in your implementation process?
- 24) How supportive was school administration in the implementation process? Explain why or why you do not believe administration was supportive.

Appendix B

Recruitment Email Invitation

Email Invitation

Dear _____

My name is Kimberly Tazewell. I am a doctoral student at Northeastern University. I am contacting you to request your participation in the research I am conducting. I am aware that teachers have been directed to implement formative assessments for several years at your school. I would like to develop an understanding of the factors involved in your experience with using formative assessments. The title of my study is “Teacher Experiences with Formative Assessments: A Narrative Analysis”. The purpose of this study is to examine your experiences with formative assessments. This research will give you the opportunity to tell the story of your experience with this assessment practice.

To be eligible to participate in this study you must be:

- 1) A full-time classroom teacher who engaged in implementing formative assessments during the 2015-2016 and 2016-2017 school year.

Participation in this research is completely voluntary. If you volunteer to participate your role includes taking part in a 60-minute face to face interview which will be audio recorded. Interviews will not take place until you have given consent. Your identity will not be disclosed during this research. Pseudonyms or false names will be used when reviewing and reporting the findings to protect your identify. As a result of participating in this research, you may be able to reflect on your formative assessment practices, as well as indicate your strengths and areas you want to improve. In addition, you will receive a \$5 Starbucks gift card once you complete the interview.

I hope you are willing to join this study. Please email me to indicate if you are interested in participating or if you have any questions at tazewell.k@husky.neu.edu. Emails sent to any other email address must be deleted with no reply per Northeastern IRB.

Thank you in advance for your consideration.

Sincerely,

Kimberly Tazewell, Doctoral Candidate

tazewell.k@husky.neu.edu.

Northeastern University, College of
Professional Studies Boston, MA.

Appendix C

Informed Consent to Participate in Research Study

Northeastern University, College of Professional Studies

Name of Investigator(s): Principal Investigator: Dr. M. Billye Sankofa-Waters, Student Researcher: Kimberly Tazewell

Title of Project: Teacher Experiences with Formative Assessments: A Narrative Analysis

Informed Consent to Participate in a Research Study

You have been invited to take part in a research study. This form will tell you about the study, but the researcher will explain it to you first. You may ask any questions that you have. When you are ready to decide, you may state whether you want to participate or not. You do not have to participate if you do not want to. If you decide to participate, you will be asked to sign this statement and you will be given a copy to keep.

Why am I being asked to participate in this research study?

You are being asked to participate in this study because you are a full-time classroom teacher who engaged in implementing formative assessments during the 2015-2016 and 2016-2017 school year.

Why is this research study being done?

The purpose of this research is to examine the experiences of teachers with formative assessments.

What will I be asked to do?

If you decide to take part in this study, you will be asked to participate in a face to face interview which will be audio recorded. You will be asked some questions about your background and your experiences with formative assessments. Your role is to provide responses to the questions being asked.

Where will this take place and how much of my time will it take?

You will be interviewed at the school site or other location based on your preference. The interview will take about one hour.

Will there be any risk or discomfort to me?

This research does not foresee any threats to your health or safety. You will be asked to disclose personal experiences with formative assessments, however; your identity will be protected and your statements will not be given to school administrators.

Will I benefit by being in this research?

There will be no direct benefit to you for taking part in this study, however; you may be able to reflect on strengths and weaknesses in your formative assessment practices.

Who will see the information about me?

Your identity will not be disclosed during this research. Pseudonyms or false names will be assigned to you during this research. The information you provide during the interview process will be stored on a computer secured by a password. In addition, audio tapes of interviews, copies of transcripts, and signed consent forms will be stored in a locked file cabinet. In rare instances, authorized people may request to see research information about you and other people in this study. This is done only to be sure that the research is done properly. We would only

permit people who are authorized by organizations such as the Northeastern University Institutional Review Board or [REDACTED] to see this information.

Can I stop my participation at any time?

Your participation in this research is completely voluntary. You do not have to participate if you do not want to and you can refuse to answer any question. Even if you begin the study, you may quit at any time. If you do not participate or if you decide to quit, you will not lose any rights, benefits, or services that you would otherwise have as an employee of [REDACTED].

Who can I contact if I have questions or a problem?

If you have any questions about this study, please feel free to contact the Student Researcher, Kimberly Tazewell by email at tazewell.k@husky.neu.edu. You can also contact Dr. M. Billye Sankofa-Waters, the Principal Investigator by email at b.sankofawaters@northeastern.edu.

Will I be paid for participation?

You will be given a \$5 Starbucks gift card once you complete the interview.

Who can I contact about my rights as a participant?

If you have any questions about your rights in this research, you may contact Nan C. Regina, Director, Human Subject Research Protection, Mail Stop: 560-177, 360 Huntington Avenue, Northeastern University, Boston, MA 02115. Tel: 617.373.4588, Email: n.regina@neu.edu. You may call anonymously if you wish.

I agree to take part in this research.

Signature of person agreeing to take part

Date

Printed name of person above

Signature of person who explained the study to the
above and obtained consent

Date participant

Printed name of person above

Appendix D

School Division Approval Letter

November 7, 2017

Kimberly Tazewell
Doctoral candidate, Northeastern University
Tazewell.k@husky.neu.edu

Approval is granted to conduct the proposed study, *Teacher Experiences with Formative Assessments: A Narrative Analysis*, in fulfillment of requirements for the degree of Doctor of Education from Northeastern University. The proposed study meets the technical criteria following the [REDACTED] Research and Survey Policy [REDACTED] and must follow the stipulations below:

- Voluntary participation allows each participant—principal to decide individually whether to participate or withdraw at any time, without question, consequence, or follow-up.
- All participants and schools will remain anonymous in data and survey collection, and reporting results. Identifiable characteristics or linkage to the identity of any individual or school is prohibited.
- Approval does not constitute commitment of resources or the endorsement of the study or its findings by the school district or the School Board.
- Data collected and results will not become part of any principal, school, or district record. All research records must be locked in a secured location.
- The researcher will email a copy of the final report for the school district, and report any changes or problems while conducting the study, to [REDACTED].

We look forward to your findings and contribution to instructional practice, program services, and achievement for *ALL* students.

Sincerely,

[REDACTED]

[REDACTED]

Appendix E

Principal Approval Letter

November 7, 2017

Kimberly Tazewell
Doctoral candidate, Northeastern University
Tazewell.k@husky.neu.edu

Approval is granted to conduct the proposed study, Teacher Experiences with Formative Assessments: A Narrative Analysis, in fulfillment of requirements for the degree of Doctor of Education from Northeastern University. The proposed study meets the technical criteria following the [REDACTED] Research and Survey Policy [REDACTED] and must follow the stipulations below:

- Voluntary participation allows each participant—teacher to decide individually whether to participate or withdraw at any time, without question, consequence, or follow-up.
- All participants and schools will remain anonymous in data and survey collection, and reporting results. Identifiable characteristics or linkage to the identity of any individual or school is prohibited.
- Approval does not constitute commitment of resources or the endorsement of the study or its findings by the school district or the School Board.
- Data collected and results will not become part of any principal, school, or district record. All research records must be locked in a secured location.

The researcher will email a copy of the final report for the school district, and report any changes or problems while conducting the study, to [REDACTED]

We look forward to your findings and contribution to instructional practice, program services, and achievement for ALL students.

Sincerely,

[REDACTED]

[REDACTED]

References

- Aschbacher, P., & Alonzo, A. (2006). Examining the utility of science notebooks for formative assessment purposes. *Educational Assessment, 11*(3-4), 179-203.
<https://doi.org/10.1080/10627197.2006.9652989>
- Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist, 37*(2), 122-147.
- Bandura, A. (1986). From thought to action: Mechanisms of personal agency. *New Zealand Journal of Psychology, 15*(1), 1-17.
- Bandura, A. (1989). Human agency in social cognitive theory. *American Psychologist, 44*(9), 1175-1184.
- Bell, B., & Cowie, B. (2001). Teacher development for formative assessment. *Waikato Journal of Education, 7*, 37-49. <https://doi.org/10.15663/wje.v7i1.430>
- Bennett, R. E. (2011). Formative assessment: A critical review. *Assessment in Education: Principles, Policy & Practice, 18*(1), 5-25.
<https://doi.org/10.1080/0969594X.2010.513678>
- Black, P., Harrison, C., Lee, C., Marshall, B., & Wiliam, D. (2004). Working inside the black box: Assessment for learning in the classroom. *Phi Delta Kappan, 86*(1), 8-21.
<https://doi.org/10.1177/003172170408600105>
- Black, P., & Wiliam, D. (1998). Assessment and classroom learning. *Assessment in Education: Principles, Policy, & Practice, 5*(1), 7-74. <https://doi.org/10.1080/0969595980050102>
- Bloom, B. (1968). Learning for mastery: Instruction and curriculum. *Evaluation Comment, 1*(2), 1-12. Retrieved from <https://files.eric.ed.gov/fulltext/ED053419.pdf>

- Bloom, B. S., Hastings, J. T., & Madaus, G. F. (1971). *Handbook on formative and summative evaluation of student learning*. New York: McGraw-Hill.
- Brookhart, S. M., Moss, C. M., & Long, B. A. (2010). Teacher inquiry into formative assessment practices in remedial reading classrooms. *Assessment in Education: Principles, Policy & Practice*, 17(1), 41-58. <https://doi.org/10.1080/09695940903565545>
- Bold, C. (2012). *Using narrative in research*. London: Sage Publications.
- Buck, G. A., & Trauth-Nare, A. E. (2009). Preparing teachers to make the formative assessment process integral to science teaching and learning. *Journal of Teacher Education*, 20, 475-494. <https://doi.org/10.1007/s10972-009-9142-y>
- Burke, K. (2010). *Balanced assessment: From formative to summative*. Bloomington, IN: Solution Tree Press.
- Burke, K., & Depka, E. (2011). *Using formative assessment in the rti framework*. Bloomington, IN: Solution Tree Press.
- Chappuis, S., & Chappuis, J. (2007, 2008). The best value in formative assessment. *Educational Leadership*, 65(4), 14-19. Retrieved from <http://www.ascd.org/publications/educational-leadership/dec07/vol65/num04/The-Best-Value-in-Formative-Assessment.aspx>
- Chappius, S., & Stiggins, R. J. (2002). Classroom assessment for learning. *Educational Leadership*, 60(1), 40-43. Retrieved from <http://www.ascd.org/publications/educational-leadership/sept02/vol60/num01/Classroom-Assessment-for-Learning.aspx>
- Charmaz, K. (2006). *Constructing grounded theory: A practical analysis guide through qualitative analysis*. London: Sage Publications.

- Cizek, G. J. (2010). An introduction to formative assessment: History, characteristics, and challenges. In H. L. Andrade & G. J. Cizek (Eds.), *Handbook of formative assessment* (pp. 3-17). New York, NY: Routledge.
- Clarke, S. (2005). *Formative assessment in action: Weaving the elements together*. London: Hodder Murray.
- Clarke, S. (2014). *Outstanding formative assessment: Culture and practice*. London: Hodder Education.
- Clandinin, D. J. (2013). *Engaging in narrative inquiry*. New York, NY: Routledge.
- Coburn, C. E. (2001). Collective sensemaking about reading: How teachers mediate reading policy in their professional communities. *Educational Evaluation and Policy Analysis*, 23(2), 145-170. <https://doi.org/10.3102/01623737023002145>
- Coburn, C. E. (2005). Shaping teacher sensemaking: School leaders and the enactment of reading policy. *Educational Policy*, 19(3), 476-509. <https://doi.org/10.1177/0895904805276143>
- Connelly, F. M., & Clandinin, D. J. (1990). Stories of experience and narrative inquiry. *Educational Researcher*, 19(5), 2-14. <https://doi.org/10.3102/0013189X019005002>
- Corbin, J., & Strauss, A. (1990). Grounded theory research: Procedures, canons, and evaluative criteria. *Qualitative Sociology*, 13(1), 3-21. <https://doi.org/10.1007/BF00988593>
- Creswell, J. W. (2007). *Qualitative inquiry & research design: Choosing among five approaches* (2nd ed.). Thousand Oaks, CA: Sage Publications.
- Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches* (3rd ed.). Thousand Oaks, CA: Sage Publications.

- Daiute, C. (2014). *Narrative inquiry: A dynamic approach*. Thousand Oaks, CA: Sage Publications.
- Dirksen, D. J. (2011). Hitting the reset button: Using formative assessment to guide instruction. *Phi Delta Kappan*, 92(7), 26-31. <https://doi.org/10.1177/003172171109200706>
- Dixon, H., & Williams, R. (2003). Teachers' understanding and use of formative assessment in literacy learning. *New Zealand Annual Review of Education*, 12, 95-110.
- Fraenkel, J. R., & Wallen, N. E. (2009). *How to design and evaluate research in education* (7th ed.). New York, NY: McGraw-Hill.
- Furtak, E. M. (2011, April). "*Flying blind*": *An exploration of beginning science teachers' enactment of formative assessment practices*. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA. Retrieved from http://spot.colorado.edu/~furtake/Furtak_AERA2011_FINAL.pdf
- Geiser, J. S. (2014). *Turning around schools: A view from school leaders as policy implementers* (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses Global. (UMI No. 3617074)
- Hammerman, E. L. (2009). *Formative assessment strategies for enhanced learning in science, K-8*. Thousand Oaks, CA: Corwin Press.
- Heritage, M. (2007). Formative assessment: What do teachers need to know and do? *Phi Delta Kappan*, 89(2), 140-145. <https://doi.org/10.1177/003172170708900210>
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Newbury Park, CA: Sage Publications.
- Marzano, R. J. (2010). *Formative assessment & standards-based grading*. Bloomington, IN: Marzano Research Laboratory.

- Marzano, R. J., & Brown, J. L. (2009). *A handbook for the art and science of teaching*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Maxwell, J. A. (2005). *Qualitative research design: An interactive approach* (2nd ed.). Thousand Oaks, CA: Sage Publications.
- McNair, S., Bhargava, A., Adams, L., Edgerton, S., & Kypros, B. (2003). Teachers speak out on assessment practices. *Early Childhood Education Journal*, 31(1), 23-31.
- Merriam, S. B., & Tisdell, E. J. (2016). *Qualitative research: A guide to design and implementation* (4th ed.). San Francisco, CA: Jossey-Bass.
- Moss, C. M., & Brookhart, S. M. (2009). *Advancing formative assessment in every classroom: A guide for instructional educators*. Alexandria, VA: Association for Supervision and Curriculum Development.
- National Research Council. (2001). Assessment in the classroom. In J. M. Atkin, P. Black, & J. Coffey (Eds.), *Classroom assessment and the national science education standards* (pp. 23-58). Washington, DC: National Academy Press.
- Patton, M. Q. (2015). *Qualitative research & evaluation methods: Integrating theory and practice* (4th ed.). Thousand Oaks, CA: Sage Publications.
- Pinnegar, S., & Daynes, J. G. (2007). Locating narrative inquiry historically: Thematics in the turn to narrative. In D. Jean Clandinin (Ed.), *Handbook of narrative inquiry: Mapping a methodology* (pp. 3-34). Thousand Oaks, CA: Sage Publications.
- Popham, W. J. (2008). *Transformative assessment*. Alexandria, VA: Association for Supervision and Curriculum Development.

- Ponterotto, J.G. (2005). Qualitative research in counseling psychology: A primer on research paradigms and philosophy of science. *Journal of Counseling Psychology*, 52(2), 126-136.
<http://dx.doi.org/10.1037/0022-0167.52.2.126>
- Quinn, J. R. (2009). *Teacher sense-making and policy implementation: A qualitative case study of a school system's reading initiative in science* (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses Global. (UMI No. 3372905)
- Rubin, H. J., & Rubin, I. S. (2005). *Qualitative interviewing: The art of hearing data* (2nd ed.). Thousand Oaks, CA: Sage Publications.
- Ruiz-Primo, M. A., & Furtak, E. M. (2007). Exploring teachers' informal formative assessment practices and students' understanding in the context of scientific inquiry. *Journal of Research in Science Teaching*, 44 (1), 57-84. <https://doi.org/10.1002/tea.20163>
- Saldaña, J. (2009). *The coding manual for qualitative researchers*. London: Sage Publications.
- Schmidt, M., & Datnow, A. (2005). Teachers' sense-making about comprehensive school reform: The influence of emotions. *Teaching and Teacher Education*, 21(8), 949-965.
<https://doi.org/10.1016/j.tate.2005.06.006>
- Scriven, M. (1967). The methodology of evaluation. In R. W. Tyler, R. M. Gagne, & M. Scriven (Eds.), *Perspectives of curriculum evaluation* (pp. 39-83). Chicago, IL: Rand McNally.
- Shavelson, R. J., Young, D.B., Ayala, C.C., Brandon, P.R., Furtak, E.M., Ruiz-Primo, M. A., ...Yin, Y. (2008). On the impact of curriculum-embedded formative assessment on learning: A collaboration between curriculum and assessment developers. *Applied Measurement in Education*, 21, 295-314. <https://doi.org/10.1080/08957340802347647>
- Shepard, L., Hammerness, K., Darling-Hammond, L., Rust, F., Baratz Snowden, J., Gordon, E., ...Pacheco, A. (2005). Assessment. In L. Darling-Hammond & J. Bransford (Eds.),

- Preparing teachers for a changing world: What teachers should learn and be able to do* (pp. 275-326). San Francisco, CA: Jossey-Bass.
- Smith, J. A., Flowers, P., & Larkin, M. (2009). *Interpretive phenomenological analysis: Theory, method and research*. London: Sage Publications.
- Spillane, J. P. (1998). A cognitive perspective on the role of the local educational agency in implementing instructional policy: Accounting for local variability. *Educational Administration Quarterly*, 34(1), 31-57. <https://doi.org/10.1177/0013161X98034001004>
- Spillane, J. P. (1998). State policy and the non-monolithic nature of the local school district: Organizational and professional considerations. *American Educational Research Journal*, 35(1), 33-63. <https://doi.org/10.3102/00028312035001033>
- Spillane, J. P. (2004). *Standards deviation: How schools misunderstand education policy*. Cambridge, MA: Harvard University Press.
- Spillane, J. P., & Callahan, K. A. (2000). Implementing state standards for science education: What district policy makers make of the hoopla. *Journal of Research in Science Teaching*, 37(5), 401-425. [https://doi.org/10.1002/\(SICI\)1098-2736\(200005\)37:5%3C401::AID-TEA2%3E3.0.CO;2-D](https://doi.org/10.1002/(SICI)1098-2736(200005)37:5%3C401::AID-TEA2%3E3.0.CO;2-D)
- Spillane, J. P., Diamond, J. B., Burch, P., Hallett, T., Loyiso, J., & Zoltners, J. (2002). Managing in the middle: School leaders and the enactment of accountability policy. *Educational Policy*, 16(5), 731-762. <https://doi.org/10.1177/089590402237311>
- Spillane, J. P., Reisner, B. J., & Reimer, T. (2002). Policy implementation and cognition: Reframing and refocusing implementation research. *Review of Educational Research*, 72(3), 387-431. <https://doi.org/10.3102/00346543072003387>

- Spillane, J. P., & Zeuli, J. S. (1999). Reform and teaching: Exploring patterns of practice in the context of national and state mathematics reforms. *Educational Evaluation and Policy Analysis*, 21(1), 1-27. <https://doi.org/10.3102/01623737021001001>
- Strauss, A. L. (1987). *Qualitative analysis for social scientist*. Cambridge, UK: Cambridge University Press.
- Taylor, S. J., Bogdan, R., & DeVault, M. L. (2016). *Introduction to qualitative research methods: A guidebook and resource* (4th ed.). Hoboken, NJ: John Wiley & Sons, Inc.
- Torrance, H., & Pryor, J. (2001). Developing formative assessment in the classroom: Using action research to explore and modify theory. *British Educational Research Journal*, 27(5), 615-631. <https://doi.org/10.1080/01411920120095780>
- Tuttle, H. G. (2009). *Formative assessment: Responding to your students*. Larchmont, NY: Eye On Education.
- Webster, L., & Mertova, P. (2007). *Using narrative inquiry as a research method: An introduction to using critical event narrative analysis in research on learning and teaching*. New York, NY: Routledge.
- White, R., & Gunstone, R. (1992). *Probing understanding*. New York, NY: Routledge.
- Wiliam, D. (2011). *Embedded formative assessment*. Bloomington, IN: Solution Tree Press.
- Wood, R., & Bandura, A. (1989). Social cognitive theory of organizational management. *Academy of Management Review*, 14(3), 361-384.
<http://psycnet.apa.org/doi/10.2307/258173>
- Wylie, E. C., Gullickson, A. R., Cummings, K. E., Egelson, P. E., Noakes, L. A., Norman, K. M., & Veeder, S. A. (2012). *Improving formative assessment practice to empower student learning*. Thousand Oaks, CA: Corwin Press.

Volante, L., & Beckett, D. (2011). Formative assessment and the contemporary classroom:

Synergies and tensions between research and practice. *Canadian Journal of Education*,
34(2), 239-255. Retrieved from <https://files.eric.ed.gov/fulltext/EJ936752.pdf>