A PHENOMENOLOGICAL STUDY OF MIDDLE SCHOOL TEACHERS' IMPLEMENTATION OF FORMATIVE ASSESSMENT PRACTICES IN A SEMI-RURAL NORTHWEST GEORGIA DISTRICT

by

David Wallace Thacker

Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

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ABSTRACT

The purpose of this study was to understand middle school teachers' implementation of formative assessment (FA) practices. The study used a transcendental phenomenological design to understand these practices, centering on the teachers' lived experiences with the phenomenon of FA practices. Four essential questions guided the research and concentrated on middle school teachers' implementation of FA practices, perceptions about FA theory and its practices, the obstacles hindering implementation, and beneficial resources and professional learning experiences. The study focused on the lone concept of FA practices and the shared lived experiences that shaped meaning for the participants, 17 middle school teachers as co-researchers from four schools. Data were collected through a screening protocol, semi-structured individual interviews, a focus group, and school- and district-generated site documents. The data were collected, organized, analyzed, and interpreted based on Moustakas's (1994) transcendental phenomenology model and a theoretical framework based on formative assessment theory (FAT) (Black & William, 1998a, 1998b; Bloom, 1968; Marzano, 2010; Sadler, 1989; Scriven, 1967), social constructivism (Vygotsky, 1962, 1978), and experiential learning (Dewey, 1897). Four themes were identified. First, the study found that middle school teachers' implementation of FA practices is evolving with new experiences and social-cultural interactions. Second, teachers desire to know their students academically, socially, and emotionally through FA practices. Third, they need the development of common language and shared expectations for FA practices. Fourth, middle school teachers want leaders to collect their feedback and provide differentiated professional learning.

Keywords: assessment of learning, assessment for learning, formative assessment, formative assessment practices, formative feedback.

Copyright Page

Dedication/Acknowledgments Page

This work is dedicated to all teachers, especially middle school teachers, who were once children with the dream to be responsible for their own classrooms and for influencing the development of the children in them. As one of those teachers, I always sought to be an example for my students of the kind of person they could strive to become, and I am flooded with memories of the exhilaration on the faces of students who learned something new, pushed through to a personal achievement, or used their learning to help someone else.

I also dedicate this work to my family who has supported my pursuit of this life-long dream. First, for my wife Tawnia, I do not possess the words to describe my appreciation for her sacrifices that have allowed me to live in this moment. From the cups of coffee brought into my office without being asked, to her ability to pick up the slack while I have worked, to her prayers over me, I am forever thankful. For my children, Ashley, Austin, Adam, and Camden, my hope is that you will pursue God and pursue the dreams He has birthed in you. For my mother, I thank her for being my first teacher and inspiring me always to be a reflection of God's love.

Finally, I dedicate this work to colleagues close and far who have encouraged me, cried with me, laughed with me, and listened to my rants. I am thankful for those who took my calls at all hours to share of themselves and their vast knowledge regardless of how small or large the request. To my dissertation chair who believed in me, prayed for me, and pushed me to finish, I am enormously thankful for your mentoring in pursuit of this accomplishment.

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List of Abbreviations

Claim, Set-Up, Evidence, and Tie-In (CSET)

Depth of Knowledge (DOK)

Economically Disadvantaged (ED)

English as a Second Language (ESL)

English Learners (ELs)

Formative Assessment (FA)

Formative Assessment Practices (FAPs)

Formative Assessment Theory (FAT)

Georgia Department of Education (GaDOE)

Georgia Professional Standards Commission (GaPSC)

Individualized Education Program (IEP)

Institutional Review Board (IRB)

National Assessment of Educational Progress (NAEP)

Professional Learning Communities (PLCs)

Response to Intervention (RTI)

Sheltered Instruction Observation Protocol (SIOP)

Socioeconomic Status (SES)

Students with Disabilities (SWDs)

Summative Assessment (SA)

Teacher Assessment on Performance Standards (TAPS)

Teacher Keys Effectiveness System (TKES)

Zone of Proximal Development (ZPD)

CHAPTER ONE: INTRODUCTION

Overview

Formative assessment practices are not a new addition to educational best practices adopted by middle school teachers. Scriven (1967) first introduced them as evaluation tasks to improve student learning. However, teachers' perceptions and understandings of formative assessment practices are too often disconnected from the instruction enacted (Doubet, 2012; Frey & Schmitt, 2010). This study explored the factors that influence middle school teachers' implementation of these assessment practices. This first chapter details the background for the problem, the situation to self for the researcher, the problem statement, and the purpose statement. Following these sections, the chapter conveys the significance of the study, the four research questions, the research plan, the delimitations and limitations of the study, and definitions relevant to the study. The chapter concludes with a summary.

Background

Research on formative assessment practices promotes the need to clarify existing instructional gaps between theory and practice. Among the factors contributing to this chasm are the misconceptions among teachers and administrators alike (Bell, Leusner, & Sondergeld, 2010; Frey & Schmitt, 2010). Furthermore, a key study conducted by Dorn (2010) identified various historical, cultural, organizational, and political obstacles that have prevented the instructional shift to FA practices. Removing these obstacles benefits student growth and achievement by closing the gap between educational research and instructional practice and creates a level of professional accountability that emphasizes instructional improvement (Dorn, 2010; Doubet, 2012).

The literature on formative assessment practices establishes a strong rationale for their use with all students, by focusing on the overall benefits of these teaching and learning practices, clarifying the purposes of assessment and the most effective types, and aligning assessment and instructional practices**.** Studies by Ginsburg (2009), Morrissette (2011), and Volante and Beckett (2011) posited the importance of describing teachers' current knowledge and understanding of formative assessment practices to drive instructional decisions and align theory and practice. Additional studies demonstrated specific classroom benefits with the implementation of formative assessments, such as prediction of success, mastery of learning outcomes, and increased reliability and validity of internal assessments (Peterson & Siadat, 2009; Tempelaar et al, 2012). Additional research noted the use of formative assessment improves instructional strategies, increases differentiation, and informs flexible grouping techniques (Black & Wiliam, 1998a, 1998b; Doubet, 2012; Frey & Schmitt, 2010).

In addition, Dorn (2010), and Doubet (2012), found that the public, or non-educators, demonstrated a significant lack of understanding related to these issues, including classroom-based decision-making, especially decisions centered on formative assessment practices. An absence of individuals and groups committed to true assessment reform exists because an entrenched culture focused on little more than test preparation pervades the nation's educational reform movement (Dorn, 2010; Doubet, 2012; Poe, 2012). Ultimately, Dorn concluded schools that integrate formative assessment practices into their professional learning community are able to succeed in closing the gap between research and practice. Further, teachers who received professional support during implementation of FA practices increase student growth and achievement among those they teach (Dorn, 2010; Poe, 2012). Extricating obstacles, such as misguided educational reform initiatives and hyper-focused emphasis on high stakes testing,

paved the way for the creation of a deep level of professional accountability focused on instruction (Dorn, 2010; Doubet, 2012; Poe, 2012). Therefore, this qualitative phenomenological study sought to understand how teachers perceive these obstacles and how professional support and learning influenced their overall implementation of FA practices.

According to Creswell (2013), qualitative research grounds itself in the following framework:

> Qualitative research begins with assumptions and the use of interpretive/theoretical frameworks that inform the study of research problems addressing the meaning individuals or groups ascribe to a social or human problem. To study this problem, qualitative researchers use an emerging qualitative approach to inquiry, the collection of data in a natural setting sensitive to the people and places under study, and the data analysis that is both inductive and deductive and establishes patterns or themes. The final written report or presentation includes the voices of participants, the reflexivity of the researcher, a complex description, and interpretation of the problem, and its contribution to the literature or a call for change. (p. 44)

A transcendental phenomenological design (Moustakas, 1994) was used to describe in detail the meaning middle school teachers ascribe to their implementation of formative assessment practices in the natural setting of four middle schools. The theoretical framework guiding this study included formative assessment theory, social constructivism, and experiential learning. These theories connect via the social, collaborative nature of adult learners (Bailey & Jakicic, 2012; Wiliam, 2011). Careful analysis occurred to reveal patterns and themes and honor the voices of the middle school teachers. The participants' voices constructed a narrative that

contributed their perspectives to help close the gap between the alignment of instruction and practice regarding the phenomenon of formative assessment implementation.

Situation to Self

I currently serve as the Middle School Curriculum Director in a medium-sized semi-rural public school district. In this role, I guide and facilitate the curriculum work of various middle school teams including principals, content area lead teachers, gifted teachers, and other support staff. Further, I collaborate with the elementary and high school curriculum directors and other area directors to support, implement, and monitor district curriculum initiatives related to professional learning, new teacher induction, and other initiatives outlined in the district strategic plan. I also represent the district at state and regional conferences and events. I conduct and facilitate data analysis to improve academic achievement and plan collaboratively with the district's curriculum support staff, known as the Teaching and Learning Team, to implement and support district curriculum goals.

Previously, I served the school district as a Title I District Instructional Coach Coordinator. I worked directly with middle school administrators, leadership teams, teachers, and other district curriculum personnel to support the targeted priorities of five middle schools for improving student academic achievement. In that professional role, I provided various opportunities for teachers and others to participate in direct coaching to support the improvement of instruction through job-embedded professional learning, data analysis, collaborative planning, and mentoring.

Specific philosophical assumptions led me to choose the phenomenon of middle school teachers' implementation of formative assessment practices. First, ontological assumptions impact "the nature of reality and its characteristics" (Creswell, 2013, p. 20) and compel

researchers to report on and provide "evidence of multiple realities . . . in themes using the actual words of different individuals and presenting different perspectives" (p. 20). In this study, multiple perspectives exist even within the same school culture related to the four guiding research questions. Investigating these questions in the setting of four middle schools within one district requires identification of existing themes. Second, epistemological assumptions refer to "what counts as knowledge and how knowledge claims are justified" (Creswell, 2013, p. 20) and lead the researcher "to get as close as possible to the participants being studied" (p. 20). Consequently, entering the research site and recording the teachers' voices provided insight into their knowledge claims. Identifying and describing teachers' experiences and then using the learning from this work in my coaching role across the district further motivated me to conduct this study.

In addition, Vygotsky's (1978) social constructivism, a theory grounded in the concept that "just as a mold gives shape to a substance, words can shape an activity into a structure" (p. 28) shaped this qualitative study. As with students, adult learners benefit from interaction and collaboration with other adults. This activity of interaction, which uses words as its tool, gives shape and constructs meaning from the participants' shared experiences. I gave care and attention to honoring teachers' values and working with them as co-researchers to construct meaning from their responses to the research questions through interviews, analysis of site documents, and thematic coding.

Problem Statement

Research suggests a significant variance in middle school teachers' understanding of the purposes of assessment and the types of assessments used in their classrooms (Ginsburg, 2009; Morrissette, 2011; Volante & Beckett, 2011). This variance contributes to a gap in alignment

between the theoretical notion of assessment and enacted instructional practices. Furthermore, teachers struggle with perceiving student comprehension accurately and struggle creating greater efficiency in instruction, increasing differentiation of instruction, and using grouping strategies flexibly (Doubet, 2012; Frey & Schmitt, 2010).

If teachers were to implement formative assessments regularly, the benefits to education at-large begin with supporting the belief that all students can learn at high levels (Bell et al., 2010). Additionally, the epistemology that all students can learn counters other claims connecting poor achievement to a lack of ability (Bell et al., 2010). Formative assessment practices reduce apathy among students (Bell et al., 2010), and when implemented with fidelity formative assessment practices have a positive effect on student achievement (Bell et al., 2010; Black & Wiliam, 1998a, 1998b; Kurtz, Elliott, Wehby, & Smithson, 2010; Mehmood, Hussain, Khalid, & Azam, 2012; Poe, 2012). According to the literature, understanding the factors that hinder teachers from implementing formative practices consistently must occur before designing specific strategies to increase the use of formative assessment practices. In turn, these strategies require support and training through effective professional learning experiences (Bell et al., 2010).

Purpose Statement

The purpose of this transcendental phenomenological study was to understand the factors that contribute to teachers' implementation of formative assessment practices among middle school teachers in a semi-rural northwest Georgia school district. Formative assessment practices are generally defined as those assessment practices used by teachers as assessments for learning—a learning check-up during the learning process that informs teachers' decisions about future instruction (Bailey & Jakicic, 2012; Marzano, 2010).

Significance of the Study

According to Dorn (2010), the United States lags behind other developed countries by several decades with regard to using formative assessment consistently. The central reasons include historical, cultural, political, and even economic factors connected to our educational system (Dorn, 2010). Additionally, teachers need a targeted professional learning initiative in order to clarify understandings, remove misconceptions, and provide the necessary support for implementation of effective formative assessment practices (Buck & Trauth-Nare, 2009; Dorn, 2010). However, development of a clear description of current practice must occur before specific designs can be set in motion (Ginsburg, 2009; Morrissette, 2011; Volante & Beckett, 2011). Therefore, reformation of teaching practices across the nation must include effective implementation of formative assessment practices, so that teachers routinely assess what students know and are able to do and make instructional shifts to account for this knowledge. Understanding the need to transform instructional practices through continuous assessment for learning will benefit the local middle schools, other schools in the district, and education in general. Finally, current reformation of teacher evaluation systems emphasizes formative assessment practices as key elements of the standards by which professionals' effectiveness is evaluated. Georgia Department of Education's (GaDOE) Teacher Assessment on Performance Standards (TAPS) provides an example of the emphasis on formative assessments and their uses (see Appendix L for GaDOE TAPS Standards and Rubric). This study may provide insight for the sustainability of movement away from state-mandated summative assessments and toward FA practices.

Research Questions

According to Moustakas (1994), qualitative researchers who adopt a phenomenological design formulate their investigations with "a topic and question that have both social meaning and personal significance" (p. 104). The overall design of the research questions seeks to reveal the essence of the phenomenon "through careful, comprehensive descriptions, vivid and accurate renderings of the experience" (Moustakas, 1994, p. 105). According to Creswell (2013), research questions in a qualitative study "are open-ended, evolving, and nondirectional," (p. 138) and they "typically start with a words such as *what* or *how* rather than *why* in order to explore a central phenomenon" (p. 138). Creswell (2013) further recommends qualitative researchers use no greater than seven questions.

In this qualitative transcendental phenomenological study, the theoretical framework built from the inherent underpinnings of formative assessment theory, social constructivism, and experiential learning informed the development of all aspects of the research, including the research questions. Social constructivism embraces a framework that requires the researcher and co-researchers to interact meaningfully and purposefully (Vygotsky, 1978). These interactions occur most often through questioning, dialogue, and the reflective process. Further, formative assessment theory and experiential learning interject crucial aspects of mutual dependency, collaborative interaction, reflection, an environment of continuous assessment for learning, and the partnership aspect of learning (Black & Wiliam, 2009; Gutek, 2011; Sadler, 1989). Consequently, the following research questions correspond with the guidelines delineated by Moustakas (1994) and Creswell (2013) and guided this transcendental phenomenological study to understand formative assessment practices among middle school teachers:

1. How do middle school teachers in a semi-rural northwest Georgia school district describe their implementation of formative assessment practices?

Teachers desire for their students to learn at the highest levels and work to employ the very best instructional methods to move learning forward. However, implementing best practices does not guarantee teacher and student success. According to Wiliam (2011), "Even the best teachers fail. Talk to these teachers, and no matter how well the lesson went, they can always think of things . . . they will do differently next time" (p. 29). This level of reflection often leads to adjustments in instruction, the central tenet of formative assessment theory (Wiliam, 2011). The best teachers will consistently remain critical of their own practices because their internal target is set very high (Wiliam, 2011). In this pattern of lesson design, instruction, reflection, lesson redesign, and more instruction, what becomes important is the formative assessment process "by which instruction might be improved" (Wiliam, 2011, p. 38). Therefore, teachers should have a clear, shared definition they can describe and understand. As stated by Wiliam, formative assessment practices "should shape instruction—our formative experiences are those that have shaped our current selves—and so we need a definition that can accommodate all the ways in which assessment can shape instruction" (p. 40).

Guba and Lincoln (1994) stated, "Knowledge accumulates only in a relative sense through the formation of ever more informed and sophisticated constructions via the hermeneutical/dialectical process, as varying constructions are brought into juxtaposition" (p. 114). The inherent nature of the social constructivist framework aligns itself with the need for the researcher and co-researchers to interact in such a dialectical process. Further, formative assessment theory and experiential learning promote characteristics of mutual dependency, collaborative interaction, reflection, an environment of continuous assessment for learning, and

the partnership aspect of learning (Black & Wiliam, 2009; Gutek, 2011; Sadler, 1989). This study's data collection tools, including the screening protocol, individual interviews, and focus group interviews, reflect a substantial amalgamation of the aforementioned characteristics from formative assessment theory, social constructivism, and experiential learning as they all necessitate the dialectic between researcher and co-researchers. Guba and Lincoln (1994) argued, "One important mechanism for transfer of knowledge from one setting to another is the provision of vicarious experience" (p. 114). This transfer occurs during these research interactions.

2. What perceptions do middle school teachers have about how formative assessment theory and its practices influence their decisions to adjust instruction?

Teachers make decisions every day that influence the content students learn and the context in which the learning occurs. The process any teacher uses to reach instructional choices involves the teacher's perception of what students need to learn and how they need to learn it. Moustakas (1994) stated, "Perception is regarded as the primary source of knowledge, the source that cannot be doubted" (p. 52). This knowledge, in essence, becomes the truth the teacher uses to make decisions to implement formative assessment practices to adjust instruction and, ultimately, to influence student achievement. Further, Moustakas (1994) explained, "We experience the thing perceived as a one-sided 'adumbration' while at the same time apprehending and experiencing the thing as a whole object" (p. 53). In essence, what the teacher perceives through experience imprints an image, a scaffolded framework of the phenomenon's identity, on the teacher's consciousness. As the teacher engages in the process of reflection to make instructional determinations, "there are acts of memory relevant to [the] phenomenon that reawaken feelings and images and bring past meanings and qualities into the present"

(Moustakas, 1994, p. 53). With this knowledge, the teacher's power and influence to alter the path the learning, instruction, or assessments would have taken become paramount.

3. What obstacles do middle school teachers describe as hindering their implementation of formative assessment practices?

Every day, teachers must choose from a multitude of tools and strategies for instructional improvement from the latest technology or mobile application to the next best resource in reading comprehension to the finest assessment tool that promises high achievement on the state summative assessment. While these tools may correlate to improvement in learning, Fisher and Frey (2014) posited they do not "equip [educators] with the information they need to figure out what to do in the next five minutes. Only formative assessment practices can deliver timely data about what students understand" (Preface, vii). Teachers rarely receive the opportunity to choose which initiatives to implement but rather find themselves juggling schedules and instructional time to satisfy the newest trend or fad, which hinders their ability to implement formative assessment effectively. According to Fisher and Frey (2014), we as educators "have to pick and choose our initiatives wisely. Similarly, when our selected initiatives are conceptually linked, we know that we are more likely to implement them and see their widespread use" (p. 8). Teachers unilaterally refuse to give up practices with which they are comfortable unless the new practice (i.e. formative assessment practices) connects and resonates with what teachers value and know to be true both personally and professionally.

4. What additional resources and professional learning experiences would middle school teachers find beneficial to use formative assessment practices consistently?

Teachers, like many other professionals, choose their career paths for a variety of reasons, including the desire to make a difference in the lives of their students. Wiliam (2011)

reported, “The vast majority of teachers are trying everything they can to increase their students’ achievement” (p. 19). While the desire to increase overall student achievement is admirable, Wiliam further noted the enormous absence of “evidence that there are teachers who are holding onto a secret proven method for teaching fractions until someone pays them more money” (p.19). If true, then what do teachers need to use formative assessment practices effectively? Wiliam reported that all “teachers need professional development because the job of teaching is so difficult, so complex, that one lifetime is not enough to master it” (p. 29). Some teachers express great confidence in their own abilities to move student learning significantly. However, Wiliam asserted that “the only teachers who think they are successful are those who have low expectations of their students” (p. 29). Most educators leave classrooms daily thinking their teaching failed demonstrating that the very “best teachers fail all the time because they have such high aspirations for what their students can achieve (generally much higher than the students themselves have)” (Wiliam, 2011, p. 29). These teachers deserve to be immersed in a collaborative professional learning environment built on research “that shows a large impact on student achievement across different subjects, across different age groups, and across different countries, and that is the research on formative assessment” (Wiliam, 2011, p. 29).

Research Plan

This study embraced a qualitative phenomenological design, an approach that richly “describes the common meaning for several individuals of their lived experiences of a concept or phenomenon” (Creswell, 2013). Further, the phenomenological framework used builds on a synthesis of key aspects of Moustakas’s (1994) transcendental phenomenology model, including *epoche*, phenomenological reduction, imaginative variation, and integration of textural and structural “meanings and essences of the phenomenon or experience being investigated” (p. 36).

After submitting an application and obtaining approval from the Institutional Review Board (IRB) of Liberty University, I conducted a brief pilot study to test the data collection tools and practice interview skills.

As the first step to begin data collection, I sent the Screening Protocol Recruitment Letter (see Appendix C Screening Protocol Recruitment Letter) to all middle school academic teachers and then administered a self-developed screening protocol to teachers who consented. I used data from the screening protocol to generate a purposeful sample of 17 middle school co-researchers from four middle schools across a semi-rural northwest Georgia school district. I collected and triangulated data through a screening protocol, semi-structured individual interviews with all co-researchers, one focus group of eight of the co-researchers, and through a variety of school- and district-generated site documents. Using Moustakas's (1994) approach to data analysis that includes *epoche*, phenomenological reduction, imaginative variation, and structural-textural synthesis, I coded and analyzed the qualitative data with the aid of the ATLAS.ti software. I wrote a narrative of these findings to report and capture the lived experiences of the co-researchers.

Delimitations

In qualitative research, delimitations are characteristics of the study within the control of the researcher, such as choice of population to study and sampling procedures (Simon, 2011). These choices by the researcher set the parameters and limit the reach of the findings. For this study, the purposeful sampling process delimits (Heritage & Chang, 2012). Only middle school co-researchers in grades 6-8 from Whitaker Public Schools (pseudonym) who have experienced the phenomenon of formative assessment practices participated. This transcendental phenomenological study's data collection framework—a screening protocol, individual

interviews, a focus group, and site documents—supports the collaborative model of researcher and co-researcher inherent in the theoretical framework. Further, middle schools in the school district foster a professional environment where collegial conversation permeates team meetings. Consequently, the use of purposeful sampling to identify co-researchers aligns with the purpose of the study.

Definitions

1. *Assessment of Learning* - This phrase refers to summative assessments. Assessment methods are summative "if the assessment occurs after the learning is complete, and is used to give a grade or provide a final measure of student results" (Bailey & Jakicic, 2012, p. 14). Examples of summative assessments include but are not limited to mid-term exams, final exams, end-of-course assessments, end-of-grade assessments, state-mandated assessments, and other high-stakes assessments.
2. *Assessment for Learning* - This phrase refers to formative assessments and distinguishes them from summative assessments in that formative assessments are assessments for learning and summative assessments are assessments of learning. An assessment method is for learning "if the assessment occurs during the learning process, and the results will be used to help students continue to learn" (Bailey & Jakicic, 2012, p. 14). Examples of formative assessments include but are not limited to questioning techniques, student response systems (digital), response cards, mini whiteboards, exit passes, student conferencing, and observation (Wiliam, 2011).
3. *Formative Assessment (FA)* - Teachers intentionally implement formative assessments to determine what students know and are able to do during the instruction of the concept or skill. Teachers design formative assessments "to give meaningful feedback to students

and teachers and to improve professional practice and student achievement" (Reeves, 2009, p. 91). In order for an activity, strategy, technique, or assessment to be formative, a minimum of three criteria must be met. According to DuFour, Eaker, and Karhanek (2010), the first requirement is that "the assessment is used to identify students who are experiencing difficulty" (p. 63). Further, DuFour et al. argued, "Those students are provided additional time and support to acquire the intended skill or concept, and . . . are given another opportunity to demonstrate that they've learned" (p. 63).

4. *Formative Assessment Practices* - Formative assessment practices are generally defined as those assessment practices used by teachers as assessments for learning—a learning check-up during the learning process that informs teachers' decisions about future instruction (Bailey & Jakicic, 2012; Marzano, 2010).
5. *Formative Feedback* - This communication process occurs during the formative assessment itself and focuses the teacher and student on the language-rich aspect of the teaching and learning process. Formative feedback encompasses "information communicated to the learner that is intended to modify his or her thinking or behavior for the purpose of improving learning" (Shute, 2008, p. 154). Feedback includes both written and verbal communication and transforms teaching and learning from one-way communication to an interaction or exchange between learners that shifts a measured accountability for learning into the hands of the student (Bailey & Jakicic, 2012; Fisher & Frey, 2014; Shute, 2008; Wiliam, 2011).

Summary

Teaching and learning require purposeful planning, focusing on learning targets and outcomes, collaborating within professional learning communities, providing feedback,

reflecting, and assessing (both formative and summative) on the part of teacher and student alike (Bailey & Jakicic, 2012; Fisher & Frey, 2014; Wiliam, 2011). Research on middle school teachers' implementation of formative assessment practices must occur to close the gap between the theoretical tenets of formative assessment and the practical integration of these assessment practices into the fabric of teaching and learning models. According to Black and Wiliam (1998b):

> When anyone is trying to learn, feedback about the effort has three elements: recognition of the desired goal, evidence about present position, and some understanding of a way to close the gap between the two. All three must be understood to some degree by anyone before he or she can take action to improve learning. (p. 143)

Formative assessment, as assessment for learning, supplies the process whereby teachers and students enter a contractual understanding with one another to engage continuously in the process of evaluating what one knows against new learning. In this context, the co-learners share a mutual accountability for the cognitive and social demands of learning and affirm the practiced application of the concept or skill.

CHAPTER TWO: LITERATURE REVIEW

Overview

This literature review examines studies of formative assessment practices among middle school teachers and seeks to understand how these practices influence the teachers' instructional decisions. Formative assessment practices are generally defined as those assessment practices used by teachers as assessments for learning—a learning check-up during the learning process that informs teachers' decisions about future instruction (Bailey & Jakicic, 2012; Marzano, 2010). This chapter begins with the study's theoretical framework that includes formative assessment theory, social constructivism, and experiential learning followed by findings from the literature. Research suggested the use of formative assessment practices significantly benefits student learning and achievement (Black & Wiliam, 1998a, 1998b; Kurz, Elliott, Wehby, & Smithson, 2010; Poe, 2012). Consequently, this review of literature delineates significant areas of focus upon which the study's transcendental phenomenological design builds.

The overall findings from this study's literature review inform the areas of focus in this chapter. For example, a strong rationale existed in the literature for the use of FA practices (Ginsburg, 2009; Morrissette, 2011; Volante & Beckett, 2011). Further, analysis of literature revealed teachers need a common shared understanding of FA practices (Morrissette, 2011; Peterson & Siadat, 2009; Poe, 2012) that teachers must then connect to their overall assessment practices (Buck & Trauth-Nare, 2009; Ginsburg, 2009; Peterson & Siadat, 2009; Volante & Beckett, 2011). Also, several contributing factors to the instructional gap between FA theory and teacher practices emerged from the review, such as misconceptions among teachers and administrators and the public's lack of understanding about classroom decisions (Bell et al., 2010; Dorn, 2010; Frey & Schmitt, 2010; Prewett et al., 2012). The review continues with

discussion on how FA practices benefit student subgroups, such as English learners and students with learning disabilities (Cummins, 2011; Howard, 2012; Kurz et al., 2010; Meyen & Greer, 2010; Watkins & Lindahl, 2010). Finally, the chapter concludes with findings that suggested required elements for successful implementation of formative assessment practices (Buck & Trauth-Nare, 2009; Dorn, 2010; Ginsburg, 2009; Morrissette, 2011; Volante & Beckett, 2011) and an analysis of teacher resistance to change (Buck & Trauth-Nare, 2009; Dorn, 2010; Shute, 2008).

Theoretical Framework

The theoretical framework guiding this study encompasses formative assessment theory (Black & Wiliam, 1998a, 1998b), social constructivism (Vygotsky, 1962, 1978), and experiential learning (Dewey, 1897). These theories intersect via the social, interactive, and collaborative nature of adult learners (Bailey & Jakicic, 2012; Wiliam, 2011). Each theory offers insight into the thoughts, experiences, and practices of learners (those taught and those who teach) and informs the purpose and design of this study to understand the factors that contribute to teachers' implementation of formative assessment practices among middle school teachers in a semi-rural northwest Georgia school district.

Formative Assessment Theory

Formative assessment theory (FAT) originated as formative evaluation theory as used by Scriven (1967). Situated at the ground floor of the theory's development, this theory emphasizes that FA practices influence student learning when teachers implement them instructionally (Black & Wiliam, 1998a, 1998b). As stated by Scriven, formative methods for evaluation replaced those used formerly:

> In place of the older criteria and the dependent procedures we need new concepts of educational readiness, strengths on which to build, deficiencies to be attacked, and the like. These new concepts must be based on the assumption of dynamic potential in all or almost all human beings. The evaluation task is to describe or measure phases of this potential and difficulties to be surmounted that can help the individual and the educational institution in improving student learning. (p. 16)

Formative assessment theory affirms that teachers should regularly diagnose and assess student learning for mastery within the classroom (Bailey & Jakicic, 2012). Further, teachers' diagnosis and assessment of student learning must extend into the professional setting through collegial conversations and reflective learning experiences (Black & Wiliam, 2009; Buck & Trauth-Nare, 2009; Dorn, 2010; Ginsburg, 2009; Sadler, 1989). As discussed by Bailey and Jakicic (2012), these conversations occur through professional learning communities (PLCs) where teachers purposefully "focus on the collective impact their professional practice has on student learning, and that impact is measured along the way by collecting and responding to meaningful data" (p. 4). Further, Bloom (1968) originally referred to learning for mastery when evaluating student progress. Black and Wiliam (1998a, 1998b) conducted a meta-analysis that identified connected ideas from these studies as formative assessment theory.

When practiced with fidelity, formative assessment practices have a positive effect on student achievement and typically contrast with summative assessment in purpose and placement in relationship to the delivery of instruction (Black & Wiliam, 1998a, 1998b). Yet, even summative assessments (SA), in the context of formative assessment theory, can impact student learning more immediately. As explained by Taras (2005), "Most SA for formal assessment purposes requires feedback, therefore the only real requirement in order to integrate formative

assessment into practice is to engage the learners with using this feedback for learning in future work" (p. 475). This component of formative feedback then becomes instrumental in the application of formative assessment practices for students and teachers and helps teachers understand the cognitive demands required by formative assessment.

Bailey and Jakicic (2012) contended that "frequent and specific feedback deepens the conversations around student learning" (pp. 87-88) among teachers. Further, Bailey and Jakicic argued that "when students begin to make comparisons between their work and the indicators of quality, they are actually generating the feedback" (p 88). In essence, students embrace ownership and accountability for their own learning and even for self-assessment of that learning. Moreover, proponents of formative assessment theory view the connection between cognition and the social aspect of the learning environment as an interaction that "blends cognition and social interaction into a functional theoretical framework by situating individual cognitive development in a context of collective classroom activity" (Clark, 2010, p. 347). As a result, the interplay between formative assessment theory and the tenets of cognitive theory and social constructivism enhance the overall validity of formative assessment theory (Clark, 2010).

Therefore, advocates of formative assessment theory acknowledge the inherent value of the roles, collaborations, and interactions of all learners present during the knowledge acquisition and transformation process (Black & Wiliam, 2009; Clark, 2010). In fact, more recent research by Black and Wiliam (2009) positions teachers and students in a closely symbiotic relationship by stating:

> Since the responsibility for learning rests with both the teacher and the learner, it is incumbent on each to do all they can to mitigate the impact of any failures of the other (in

> the language of partnership law, teachers and learners are jointly and severally liable!). (p. 7)

Achieving this level of sophistication in the learning process demands collaborative interaction on the part of both the teacher and the students. Clark (2010) argued that "formative assessment is a process based on high-quality interactions between teacher/student and crucially between peers (the collaborative Zone of Proximal Development—ZPD) and not between a student and a software program" (p. 343). Ultimately, emphasis on teacher-student interactions brings focused attention to the partnership aspect of learning seen through related theories, including social constructivism and experiential learning, and to the importance of the classroom environment required for these formative practices to thrive.

Classrooms where implementation of formative assessment practices occur with fidelity are characterized by continuous assessment for learning, shared decision-making processes, clear learning targets, and both student and teacher monitoring of learning outcomes. Black and Wiliam (2009) argued that instructional practices are formative in classrooms when "evidence about student achievement is elicited, interpreted, and used by teachers, learners, or their peers, to make decisions about the next steps in instruction" (p. 9). Non-educators and others who espouse traditional roles of teachers and students assume mistakenly that the interpretation of achievement, or mastery, rests solely with the teacher as the trained professional. However, formative assessment theory affirms the belief that "students develop their pool of strategies by learning to revise and refine their own work in cooperation with the teacher, and by editing and helping other students to improve theirs" (Sadler, 1989, p. 140).

Formative assessment relies on the establishment of clear learning targets developed in conjunction with classroom instructional standards and the processes used by teachers and

students to make informed decisions about the next steps in learning. According to Sadler (1989), "to improve their performance, students need to know how they are progressing" (p. 142) in relationship to the set learning targets. Traditionally, teachers discuss this knowledge and communicate it to students through graded assignments, summative feedback from tests, and formal report cards. Formative assessment theory acknowledges the need to move from sole reliance on the teacher for progress monitoring to a mutual dependency. Sadler suggested that "the transition from teacher-supplied feedback to learner self-monitoring is not something that comes about automatically" (p. 143). On the contrary, Sadler delineated that "for an important class of learning outcomes, the instructional system must make explicit provision for students themselves to acquire evaluative expertise" (p. 143). In other words, students need targeted instruction, instructional scaffolding, and explicit modeling to understand the processes needed to become self-evaluators, and teachers need training through professional learning for successful implementation of formative assessment practices (Bailey & Jakicic, 2012; Black & Wiliam, 2009; Clark, 2010; Sadler, 1989). While formative assessment theory establishes the building blocks of this study's theoretical framework, social constructivism intersects formative assessment theory and contributes to the validity of its claims.

Vygotsky's Social Constructivism

Vygotsky's (1962, 1978) social cognitive theory emphasizes the role of the learner immersed in an activity within a cultural context as opposed to a perspective of isolation. Social constructivism originated from the fields of cognitive psychology and sociology. The theory derives meaning from complex perspectives that develop through social interaction as opposed to a narrow view developed via the intellect of an individual working in isolation (Gutek, 2011; Miller, 2011; Vygotsky, 1978). Further, collective views develop through social interactions in

the lived experiences of people where cultural and historical norms aid individuals in constructing meaning within an interactive setting (Gutek, 2011; Miller, 2011; Vygotsky, 1978). In addition, individuals' personal background contributes to the construction of meaning. Therefore, the processes connected to these interactions become central agents of any perceived transformation (Vygotsky, 1978). Whereas Piaget builds his constructivism on discovery learning (Piaget, 1970), Vygotsky's model views cognitive development through the lens of collaboration and interaction (Vygotsky, 1978).

Gutek (2011) clarified the significance of the correlation between the views of Piaget and Vygotsky. Gutek stated that "focusing on a child alone tends to encourage us to look for causes of behavior within the child rather than the culture" (p. 171). Such a polarized view ignores the collaborative relationship between the learner and the sociocultural interactions. Clark (2010) further noted the importance of connecting behaviorist and constructivist views and observed that sociocultural collaboration "facilitates meta-cognition by reinforcing the underlying principles of what was learned and closes the gap between the learner's current status and the desired learning goal" (p. 348). In these contexts, culture refers to a system of shared beliefs and values, knowledge and skills, relationships, customs, practices, symbols, social and physical settings, and even objects (Gutek, 2011, p. 172). Therefore, Gutek associated enculturation, children's participation in various activities within the culture, with these sociocultural interactions and eliminated the distinction between whether the gains in learning were results of a behavior or a construct because these gains include both views (p. 172).

Further, Vygotsky (1978) introduced the notion of ZPD and argued that "learning awakens a variety of internal developmental processes that are able to operate only when the child is interacting with people in his environment and in cooperation with peers" (p. 86).

Promoters of ZPD often compare the zone to scaffolding, described by Miller (2011) "as a temporary framework [that] supports workers and materials involved in work on a building" (p. 177). With this analogy, Miller described scaffolding in a context where those instructing the child "structure the interaction and adjust their degree of support according to how much help the child needs" (p. 177). Miller further explained that "the child actively constructs new knowledge and skills with the help of more skilled others" (p. 177). As a result, educators sometimes think of the support or scaffolding provided to the child as limited to the human resources or human-created resources, such as a remediation teacher, a computer program, or a graphic organizer.

However, as delineated by Brookhart (2007), formative assessment practices operate as an assessment process for learning where "formative classroom assessment gives teachers information for instructional decisions and gives pupils information for improvement" (p. 43). Therefore, the instructional process of implementing formative assessment practices serves equally as a scaffold or support. Clark (2010) emphasized the need "for practitioners, administrators and policy-makers [to] understand that formative assessment is a process based on high-quality interactions between teacher/student and crucially between peers (the collaborative zone of Proximal Development—ZPD) and not between a student and a software program" (p. 343). In this context, formative assessment functions as the gateway to enhanced learning for students. As detailed by Clark, "in the formative assessment classroom, students are building their understanding of new concepts and working together to assess the quality of their own and their peers' work against well-defined criteria" (p. 344). Consequently, the environment and inferred conversation or dialogue within the learning environment (peer-to-peer, learner-to-teacher, and teacher-to-learner) demonstrates a link to the social and collaborative learning trends inherent in Vygotsky's (1978) constructivist model (Brookhart, 2007; Clark, 2010; Miller,

2011). Viewed in this light, social constructivism aligns with the meta-cognitive demands of experiential learning highlighted by John Dewey (1897).

Dewey's Experiential Learning

During John Dewey's lifetime, the United States and the world changed drastically in terms of politics, economics, societal norms, and education (Gutek, 2011). These events contributed greatly to the development of Dewey's philosophical and educational theories. Consequently, Dewey (1987) viewed this constantly changing environment as the very catalyst responsible for "continually shaping the individual's powers, saturating his consciousness, forming his habits, training his ideas, and arousing his feelings and emotions" (p. 77). In fact, Gutek (2011) asserted that Dewey perceived change as "a process of interactions produced by the human connection to the natural and social environments" (p. 353), in such a manner that even growth itself occurred as "a process in which the child [or learner] interacted and responded to the environment" (p. 353). These ideas of change and growth, especially in the context of participation within a community, formed the basis of Dewey's experiential education theory (Gutek, 2011).

While Dewey's pragmatist philosophies espoused a number of appealing principles (reflection, collaboration, the unification of theory and practice, and community) for the contemporary educator, I see a significant flaw in Dewey's philosophy with the absence of the spiritual connection. As outlined by Gutek (2011), "Dewey, in developing his educational philosophy, emphasized the crucial importance of the collaborative group and of shared activities and experiences in creating social intelligence" (p. 345). Essentially, this view recognized that experience is a great teacher, especially when the experience is integrated with interaction. Consequently, construction of truth derived from experience can be verified. According to

Gutek, Dewey reconciled the dilemma between truth and experience and argued that "by acting on [an idea] and determining if the consequences of such action resolve the particular problem" (p. 358) a person could verify truth with experiential learning. I view this explanation as the missing spiritual connection. As stated in Genesis 1:27, "And God created man in his own image, in the image of God created he him; male and female created he them" (ASV). Since God created us all in His image, our human experiences reflect truth in much the same way we reflect God's image. Human experience might cause us to construct meaning out of that interaction, but that meaning should verify what is inherent within the world God created (Gutek, 2011).

Dewey is criticized for the specific view that constructivism solely focuses on how an individual constructs his or her own truth based on the social and cultural interaction (Gutek, 2011). This view is opposed to a biblical worldview in that it negates the idea of absolute truth and specific truth, such as the Bible. However, this critique fails to recognize that Dewey envisioned education and the school itself "as a miniature society that would be the catalyst for creating a new sense of community" (Gutek, 2011, p. 346). Dewey (1897) expressed his thoughts on education's failures in this statement:

> I believe that much of present education fails because it neglects this fundamental principle of the school as a form of community life. It conceives the school as a place where certain information is to be given, where certain lessons are to be learned, or where certain habits are to be formed. The value of these is conceived as lying largely in the remote future; the child must do these things for the sake of something else he is to do; they are mere preparation. As a result they do not become a part of the life experience of the child and so are not truly educative. (p. 78)

Further, Dewey believed "a genuine sense of community arose through three stages: common sharing, communication, and community itself" (Gutek, 2011, p. 362). Comparable to the theoretical underpinnings of formative assessment theory and social constructivism, Dewey's experiential learning upheld that "collaborative group problem solving, planning, and implementation reduce the isolation of the individual from others and through mutual activities produce an enriched social intelligence" (Gutek, 2011, p. 362-363). Therefore, this study focuses on the complimentary relationship between Vygotsky's and Dewey's theories, as well as the connection to social and collaborative learning trends represented in the literature about formative assessment practices.

Related Literature

The related literature on formative assessment practices integrates various instructional models, practices, and beliefs from a wide range of research studies and texts. Beginning with a grounded rationale for the use of FA practices, the literature review establishes the need for a shared common understanding among educators and the importance of connecting FA practices into the currently enacted overall assessment practices. Further, the literature review emphasizes the significant gap in alignment between existing theories on FA practices and the practices in use by teachers, schools, and districts. The review includes crucial discussion on the academic benefits to specified subgroups of students, primarily English learners and students with disabilities, and concludes with an overview of the components needed for successful implementation, along with the influence of teachers' resistance to change.

Rationale for Use of Formative Assessment Practices

Research indicated a strong disconnect in middle school teachers' understanding of the purposes and types of assessments used in their classrooms (Bell et al., 2010; Doubet, 2012).

Doubet (2012) identified that middle school teachers in one study "expressed comfort in asking students to repeat facts (Ks) and demonstrate skills (Ds) stressed during a lesson but admitted feeling less secure about crafting questions designed to tap into students' grasp of the lesson's driving understandings (Us)" (p. 33). Some teachers felt comfortable with the lower Depth of Knowledge (DOK) questions, yet struggled with those questions focused on assessing higher degrees of understanding. This variance contributed to a gap in alignment between assessment and instructional practices (Shute, 2008; Morrissette, 2011). However, regular use of formative assessment practices increased teachers' accuracy in diagnosing student comprehension, created greater instructional efficacy, expanded differentiation of curriculum, and generated more flexible grouping strategies (Doubet, 2012; Frey & Schmitt, 2010). When teachers persisted in using formative assessments, students experienced the educational benefits (Black & Wiliam, 1998a, 1998b). Often, a significant intangible benefit formed among teachers, described as the foundational philosophy that all students can learn at high levels (Bell et al., 2010; Black & Wiliam, 1998a, 1998b; Shute, 2008; Morrissette, 2011). This epistemology countered claims that low achievement correlates to lack of ability (Kurz et al., 2010; Marzano, 2010), and believing that all students can learn decreased apathy among students (Watkins & Lindahl, 2010). Further, these practices increased student achievement (Bell et al., 2010; Black & Wiliam, 1998a, 1998b; Mehmood et al., 2012).

The literature on formative assessment practices established a strong rationale for their use with all students, focusing on the overall benefits of these teaching and learning practices, clarifying the purposes of assessment and the most effective types, and aligning assessment and instructional practices**.** Several studies, such as those by Ginsburg (2009), Morrissette (2011), and Volante and Beckett (2011) posited the importance of describing teachers' current

knowledge and understanding of formative assessment practices to drive instructional decisions and align theory and practice. Further, Volante and Beckett noted that several reviews on formative assessment practices "supported the claim that the use of formative strategies such as questioning techniques, feedback without grades, self-assessment, peer assessment, and formative use of summative assessments can double the speed of student learning" (p. 240). Peterson and Siadat (2009) and Tempelaar et al. (2012) reported specific benefits when formative assessments occur routinely, such as prediction of success, mastery of learning outcomes, and increased reliability and validity of internal assessments.

Doubet (2012) chronicled the experiences of a middle school staff faced with the challenges of implementing a district-wide initiative focusing on differentiation. Teachers' fears of labeling students, confusion with how to scaffold and challenge students, and the ever-present time-to-cover-the-standards issue sparked school leadership to shift toward using formative assessment to initiate the move toward differentiation. Teachers already knew some aspects of formatives assessments, and their previous work with specific objectives using the KUD (know, understand, and do) model made strong, practical connections for the teachers. Teachers responded positively to using formative assessments, and specific feedback fell into four categories. The categories included improved accuracy in the perceptions of student comprehension, greater efficiency in instruction, increased differentiation of instruction and grouping, and enhanced comfort and ease with implementation. Doubet (2012) specifically delineated the power and positive impact of teachers using formative assessments and provided strong empirical evidence in support of formative assessments.

According to Bell et al. (2010), the obstacles to teachers' full implementation of formative assessment practices require investigation to be understood fully. Once the obstacles

are understood, educational leaders must design and implement targeted professional learning experiences "to help teachers learn about formative assessment . . . as student thinking becomes more visible and students increasingly take responsibility for their own learning" (Bell et al., 2010, p. 83).

Shift toward a Common Understanding of FA Practices

One significant theme across the research related to formative assessment practices is the need to construct a shared working definition of what is meant by formative assessment. Morrissette (2011) examined teachers' knowledge and understanding of the most commonly used formative assessment practices and developed a clear description of these practices among those in the study. Morrissette found that teachers in the study developed a set of "shared practices [that were] viewed as *conventions* of the teachers' culture, as practices of their professional group that enable them to engage in their day-to-day activities of supporting their students' learning through formative assessment" (pp. 256-257). These commonalities emerged within the context of those aspects of the instructional culture that teachers shared, accepted, and disputed (Morrissette, 2011). Peterson and Siadat (2009) supported educators' use of common vocabulary and encouraged a focus on the essential characteristics of authentic formative assessment. Further, Peterson and Siadat conducted close investigation of the philosophical frameworks underpinning formative assessment and noted that Vygotsky (as cited in Peterson & Siadat, 2009) felt that "only competent instructors are able to assess their students' Zone of Proximal Development, which he defines as the true range of knowledge, skills, and capabilities that a student possesses" (p. 94). Peterson and Siadat also addressed the importance of purposeful adjustments to teaching as a required component of FA practices and suggested that "formative assessment is more beneficial to low-achieving students and students with learning

disabilities" (p. 94). These students benefit most because FA practices are designed specifically to address gaps in students' conceptual understandings (Black & Wiliam, 1998a, 1998b; Marzano, 2010). Research by Shute (2008) and Tempelaar et al. (2012) suggested that educators who desire to close their students' achievement gaps must investigate the nature and structure of the formative feedback provided to their students, and teachers must reflect on how they interpreted the formative data to generate the feedback.

Furthermore, Dorn (2010), Poe (2012), and Volante and Beckett (2011) reported the presence of significant progress in educators' fidelity of implementation when teachers made formative assessment practices common practice. According to Poe (2012), teachers, in every classroom within the study, "had a clear focus on learning what the students knew" (p. 23). Poe found that understanding formative assessment practices created a dramatic shift that transitioned "educators from *assuming* [emphasis added] that learning is occurring in a classroom to *proving* [emphasis added] that learning has happened" (p. 23). Intangible benefits included creation of a classroom and school climate where teachers valued certain aspects of formative assessments, such as questioning techniques, feedback without grades attached, student self-assessment, peer-assessment, and using summative data in a formative manner (Peterson & Siadat, 2009; Volante & Beckett, 2011). Studies further revealed the need to develop professional learning that involved teacher practice rather than a model with a top-down, mandated approach (Peterson & Siadat, 2009; Poe, 2012; Volante & Beckett, 2011). Once implemented, this approach increased teachers' use of formative assessments and produced strategic instructional uses of the data from these assessments (Buck & Trauth-Nare, 2009; Dorn, 2010; Ginsburg, 2009). In turn, teachers benefited directly from knowing what students could and could not do proficiently because strategic interventions to address the gaps in mastery were implemented (Doubet, 2012; Foegen,

2008; Frey & Schmitt, 2010). When teachers adjusted their instruction as a result of the assessment, then the assessment resulted in formative feedback for the students (Clark, 2010; Poe, 2012).

Further, when teachers understood the degree to which each student had mastered a learning goal, teachers acted on this knowledge and "clearly plan to improve instruction the following day" (Poe, 2012, p. 23). As explained by Poe (2012), instructional improvement developed through the perspective of FA practices because "formative assessment allows for constant readjustment in teaching methods" (p. 23). In addition, formative assessment practices provided teachers with a platform for interventions (Graves, Brandon, Duesbery, McIntosh, & Pyle, 2011; Faggella-Luby & Wardwell, 2011; Prewett et al., 2012). The current emphasis on research-based interventions through the Response to Intervention (RTI) protocol challenges many teachers to juggle all the instructional demands and needs of their students. Formative assessment practices offer teachers multiple pathways to diagnose learning gaps that may become achievement gaps without appropriate identification (Dorn, 2010; Volante & Beckett, 2011). Morrissette (2011) proposed a theoretical rationale for viewing formative assessment through the lens of the actor and his or her know-how in practice. As described by Morrissette, this approach "does not adopt the position of an expert who has come to train practitioners, but instead that of a facilitator working to explicate practical knowledges" (p. 253). Consequently, this provides unique insight into teachers' views of educational practices and of other teachers in three areas—shared ways of doing, accepted ways of doing, and disputed ways of doing (Morrissette, 2011).

Connection to Overall Assessment Practices

Another component of the research is the connection to the overall phenomenon of assessment practices. Accordingly, many teachers do not monitor the frequency of formative assessments to assess students' conceptual development (Buck & Trauth-Nare, 2009; Ginsburg, 2009; Peterson & Siadat, 2009). In fact, Faggella-Luby and Wardwell (2011), who observed at-risk students in an urban middle school, found that "practices such as providing individual and corrective feedback, providing instructional models (via a think-aloud) when introducing a strategy, and using formative assessment to drive instruction were observed in fewer than 21% of instructional sessions" (p. 46). As a result, students failed to demonstrate mastery of skills even after the multi-layered interventions used in the study, which "underscores the extraordinary need for an instructional framework that will close the achievement gap" (Faggella-Luby & Wardwell, 2011, p. 47). Formative assessment practices provide the instructional framework to monitor student learning and enable teachers to develop instruction to address such gaps in achievement (Black & Wiliam, 1998a, 1998b).

Peterson and Siadat (2009) revealed that educators often misunderstand the intention of formative assessment practices and confuse them with summative assessments. Peterson and Siadat (2009) offered that "the focus of summative evaluation [assessments] is on factual knowledge and the final outcomes only" (p. 93). In contrast, Peterson and Siadat explained that "formative assessment involves systematic measurement of students' progress in the classroom and provides timely feedback to both the students and the instructor in order to guide their learning and teaching strategies" (p. 93). Clearly, educators need professional development in assessment practices, especially when assessments are used to adjust teaching and learning, which is central to the definition of FA practices (Dorn, 2010; Kurz et al., 2010). Further,

teachers require professional learning to use formative data effectively, to know when FA practices function best, and to learn what to do with the results (Frey & Schmitt, 2010; Volante & Beckett, 2011). Ultimately, authentic formative assessment succeeds when a philosophy is adopted that views the data collected as assessment for learning rather than assessment of learning (Bailey & Jakicic, 2012; Marzano, 2010; Wiliam, 2011). Teachers should, in turn, know the content expectations inherent in the standards, so that formative assessment can tell teachers whether the expectations were reached or not. If not reached, then the teacher may have learned where instructional gaps exist and could adjust instruction accordingly (Marzano, 2010; Volante & Beckett, 2011; Wiliam, 2011).

Contributing Factors to the Instructional Gap between Theory and Practice

Bell et al. (2010) promoted the need to clarify the instructional gaps between theory and practice. Among the factors contributing to this divide are the misconceptions among teachers and administrators alike (Bell et al. 2010; Frey & Schmitt, 2010; Prewett et al., 2012). Furthermore, a key study conducted by Dorn (2010) identified various historical, cultural, organizational, and political obstacles that have resisted the instructional shift to formative assessment practices. Among these is the public's lack of understanding related to classroom-based decision-making, such as those centered on formative assessments, the absence of individuals and groups committed to true reform, and a national culture of test preparation. Ultimately, Dorn (2010) concluded that the gap between research and practice must and can be closed when schools adopt professional accountability that emphasizes classroom-based decision-making built on regular formative assessment. It is important to remove the roadblocks to increased use of formative assessment to benefit student growth and achievement. Extrication of these obstacles could pave the way for the creation of a deep level of professional

accountability that emphasizes instructional improvement (Dorn, 2010; Doubet, 2012; Poe, 2012).

Foegen (2008) and Graves et al. (2011) provided insight into other components of a solid middle school instructional model designed to improve teacher practice and student achievement. Components, such as progress monitoring and response to intervention, depended upon connections to formative assessment practices in middle school (Graves et al., 2011). Foegen (2008) concluded that progress monitoring enhanced adjustments to teaching and learning made in the classroom when "the measures reflect changes in student performance that correspond to student learning" (p. 200). Foegen reported mixed results where certain measures indicated promise for one grade level but not for another grade. The study did analyze student performance—a key indicator in formative assessment. Frequently, these studies focused on applying progress monitoring and interventions as a means of supplemental instruction to provide support for students who are at-risk. Without formative assessment to diagnose where to begin with these students, the supplemental instruction lacked the power to target any specific instructional gap. Formative assessment supplied the means through which teachers connected their learning from progress monitoring with the data needed to differentiate instruction, address interventions through RTI, and re-teach content using alternate methods and best practices (Graves et al., 2011; Foegen, 2008).

Formative assessment practices and RTI share several unique characteristics, such as the use of student assessment data to inform instructional decisions and monitoring student progress toward mastery of specific learning targets (Graves et al., 2011; Faggella-Luby & Wardwell, 2011, Prewett et al., 2012). In general, RTI frameworks include "high quality general education instruction, universal (school wide) screening, progress monitoring, data-based instructional

decision making, tiered levels of interventions, and fidelity of implementation" (Prewett et al., 2012). Heritage (2008) articulated that FA practices "provide feedback to teachers and students during the course of learning about the gap between students' current and desired performance so that action can be taken to close the gap" (p. 2). As noted by Faggella-Luby and Wardwell (2011), "RTI is typically delivered via three tiers of increasingly intense instruction with varied duration, time, and frequency of intervention" (p. 36). RTI models address gaps in student mastery through a multi-tiered approach that provides Tier 1 instruction to all students (general education), Tier 2 instruction that differentiates supplemental instruction for struggling learners, and Tier 3 that supplies explicit instruction to meet individual student needs (Graves et al., 2011; Faggella-Luby & Wardwell, 2011, Prewett et al., 2012).

Complementing this model, Graves et al. (2011) concluded that "Tier 2 instruction, combined with evidence-based Tier 1 interventions, has a significant impact on students with and without learning disabilities" (p. 84). The study recommended referral to special education for students who did not meet Tier 2 reading goals (Graves et al., 2011). Researchers here neglected the importance of collaboration among middle school educators who administered the interventions (Graves et al., 2011; Faggella-Luby & Wardwell, 2011; Prewett et al., 2012). The study's instructors were graduate students unknown to the participants, and the aforementioned instructors likely had insufficient time to build relationships with them or come to understand fully their abilities and needs. In contrast, the students' classroom teachers, especially when collaborating with a team of professionals, have extensive opportunities to assess the students' performance formatively and adjust instruction to meet their needs (Peterson & Siadat, 2009; Shute, 2008). In the end, such formative practices coupled with evidence-based interventions

could be strong components of a middle school instructional model (Graves et al., 2011; Faggella-Luby & Wardwell, 2011; Prewett et al., 2012).

Formative Assessment Practices for Student Subgroups

Formative assessment practices provide teachers with the diagnostic tools to make informed instructional decisions for all students (Black & Wiliam, 1998a, 1998b; Marzano, 2010; Volante &Beckett, 2011). Peterson and Siadat (2009) explained that formative assessment "allows for continuous readjustment of teaching and learning strategies leading to an improvement of student academic achievement" (p. 100). While all students benefit from FA practices, every student does not enter the classroom with equal differences in proficiency toward grade-level standards. Students begin at different places on the continuum of learning and grow at different rates of progress. Some students achieve at high levels, and other students achieve at low levels. Volante and Beckett (2011) concluded that "formative assessment reduces the achievement gap by helping low achievers the most" (p. 240). Among students who often achieve at low levels are the student subgroups of English learners (ELs) and students with disabilities (SWDs).

Benefits of formative assessment for English learners. For student subgroups, such as English learners, feedback from formative assessments provides the opportunity to learn the mandated curriculum and achieve at levels comparable to native speakers (Faggella-Luby & Wardwell, 2011). Among the tools available to educators, the Sheltered Instruction Observation Protocol (SIOP®) is a specific instructional model designed to address the needs of students with low socioeconomic status (SES), especially high populations of ELs (Klingner, Boardman, Eppolito, & Schonewise, 2012; Janzen, 2008). The SIOP model relies on formative assessment practices because the model incorporates a strong emphasis in speaking, writing, reading, and

listening (SWRL). These four language skills require continuous assessment done collaboratively (student-to-teacher and peer-to-peer), a high level of literacy engagement, the use of formative assessment strategies to make the input more comprehensible, and varied instructional practices that address the needs of all learners (Clara & Amy, 2011; Janzen, 2008). As instructional components, the FA practices embedded in the SIOP® model enhance learning and achievement with ELs because of the emphasis placed upon moving students from where they are to where they need to be (Guccione, 2011). The SIOP model connects to Vygotsky's sociocultural approach and its ZPD in that they allow for interaction, which is central to formative assessment practices. When done in a sociocultural environment that demonstrates an appreciation and validation of the students' cultural backgrounds, students engage more readily in classroom practices and achieve at levels more comparable with native speakers (Cummins, 2011; Howard, 2012).

Cummins (2011) argued the United States educational system should implement formative assessment practices to gauge the "literacy achievement for both English learners (EL) and underachieving students generally" (p. 142). Logically, Cummins noted that ELs need to access the academic language at the core of content areas in order to increase achievement. This specific academic language "is found primarily in printed text rather than in everyday conversation" (Cummins, 2011, p. 142) and requires constant monitoring, a key component of formative assessment (Keeley, 2008). Cummins concluded that teachers and others in education who desire to increase student achievement "should ensure that ELLs and low-income students have the same opportunities and incentives to engage actively with literacy as their more economically advantaged peers" (Cummins, 2011, p. 146). Ultimately, routine formative assessment practices create classroom cultures where educators "are formatively assessing by

monitoring students' changing conceptions and adapting their teaching and assessment techniques to match their students' needs" (Keeley, 2008, p. 20).

Watkins and Lindahl (2010) suggested that formative assessment practices implemented by all content area educators offer the most beneficial gateway for allowing ELs appropriate reading instruction to increase literacy skills and overall reading achievement. Citing current achievement discrepancies between native English speakers and ELs, as reported on the National Assessment of Educational Progress (NAEP), Watkins and Lindahl noted that the "gap between ELLs' reading comprehension skills and those of their native English-speaking peers is especially evident when they read for information" (p. 23). Watkins and Lindahl reported that a majority of reading done in content area classrooms requires high level literacy skills in informational reading. Consequently, continuous monitoring through formative assessment to improve reading achievement within these content areas is paramount and "requires all educators, both mainstream content area teachers and English as a second language (ESL) specialists, in every state to assume responsibility for appropriately supporting the education of ELLs" (Watkins & Lindahl, 2010, p. 23).

Too often, educators misinterpret an EL's absence of verbal expression for an inability to function cognitively in many content areas. The implications of the arguments made by Cummins (2011) demonstrated the need for these traditionally low-achieving students to have "daily opportunities to listen to and discuss stories" (p. 145). This listening and discussing process is reciprocal between teachers and students and demands use of formative assessment to monitor student progress toward mastery (Cummins, 2011). Students benefit most when teachers implement these strategies from the students' first entrance into the classroom because this practice allows for early development and formative monitoring of the literacy skills (i.e.

predicting, summarizing key elements, citing textual evidence, etc.) needed to function academically (Cummins, 2011; O'Day, 2009). Moreover, teachers often avoid giving students opportunities in class to develop the academic language needed to improve verbal and written expression, such as think-pair-share, monitoring of student discussions, debates, and reflective writing (O'Day, 2009; Pease-Alvarez, Samway, & Cifka-Herrera, 2010). These social interactions in an academic context are necessary for ELs and other low-achieving students to develop literacy proficiencies.

Taboada, Kidd, and Tonks (2010) pointed out that formative assessment practices during literacy instruction "create the opportunity for students to pursue their interests and goals [which] contribute to . . . their engagement in literacy" (p. 47). Howard (2012) supported this idea and asserted formative assessment practices help monitor the use of "meaningful literacy events [which are] important in second language learning and literacy acquisition" (p.115). Teachers' use of formative assessment practices provides a framework for diagnosing proficiency that does not define students "by what they lack (i.e., their limited English proficiency)" (Cummins, 2011, p. 145) but rather assists teachers to "enable students to showcase their intellectual, literary, artistic, and multilingual talents in ways that challenge the devaluation of their cultures and identities" (p. 145). Use of formative assessment practices to monitor the classroom environment for ELs and low-achieving students promotes literacy achievement and mastery by increasing opportunities to engage in creative expression through writing, presenting, and collaborating with others (Cummins, 2011).

Formative assessment practices during literacy instruction support ELs through collaboration, understanding, and personal reflection (Janzen, 2008; Klingner et al., 2012). During formative assessment, teachers facilitate collaboration with their students by promoting a

classroom environment that allows for appropriate relationship building (Cummins, 2011; Howard, 2012). Doing so allows teachers direct access to students to determine the background knowledge ELs may already have related to specific content. FA practices help teachers increase background knowledge intentionally. Teachers should investigate this question during instructional planning in order to "discern which targeted strategies [formative assessments] to incorporate into their existing content area literacy instruction" (Watkins & Lindahl, 2010, p. 26). Furthermore, teachers must sincerely want to know and learn about the native cultures of their students. An authentic desire to know students' backgrounds helps teachers understand what ELs bring to the learning situation, such as "expectations of the school experience, age upon arrival in the United States, their parents' educational and linguistic backgrounds, living situations, socioeconomic status, and resources available to them outside of school" (Watkins & Lindahl, 2010, p. 25). Ultimately, teachers who have the expertise in working with ELs know that "instructional practices developed for monolingual, native English speakers do not address the language and literacy needs of [ELs]" (Pease-Alvarez et al., 2010, p. 327). Therefore, differentiation must be applied to choice of the formative assessment practices used with ELs and other student subgroups (Doubet, 2012).

Benefits of FA practices for students with high-incidence disabilities. Meyen and Greer (2010) explained that "with the evolution of inclusion and an emphasis on access to the general education curriculum for students with high-incidence disabilities, the need for instructional solutions that benefit all learners is becoming more and more crucial" (p. 50). High-incidence disabilities include learning disabilities, speech and language disabilities, emotional disorders, and other health impairments (McLeskey, Landers, Williamson, & Hoppey, 2012). For students with disabilities (SWDs), formative assessment data allows teachers to

assess quickly student progress and then make appropriate, informed adjustments to instruction based on the collected assessment information (Meyen & Greer, 2010). Such classroom practices align directly with the seminal description offered by Black and Wiliam (1998a, 1998b) that delineated formative assessment "as encompassing all those activities undertaken by teachers, and/or by their students, which provide information to be used as feedback to modify the teaching and learning activities in which they are engaged" (p. 7). Teachers of SWDs analyze and deconstruct standards in content area courses, dissect the inherent vocabulary, and design lessons and activities to activate learning and overall comprehension (Kurz et al., 2010; Marzano, 2010; Watkins & Lindahl, 2010). Ultimately, teachers desire and believe all their students are capable of learning, and these teachers know formative assessment "provides the ongoing feedback and stimulus for deep thinking that a high-stakes test once or twice a year cannot provide in time to inform instruction and affect learning" (Keeley, 2008, p. x). Dorn (2010) stated that for students with disabilities, "formative assessment is one of the most powerful tools available to guide classroom decisions" (p. 325).

In order for formative assessment practices to function for students with disabilities with fidelity across content areas, alignment between key instructional factors must happen (Doubet, 2012; Kurz et al., 2010; Marzano, 2010). Kurz et al. (2010) suggested that:

> alignment between curriculum standards, instruction, and assessment facilitates communication about the content students are expected to learn and the content teachers are required to teach and represents a necessary condition for assessment results to yield valid inferences about what students know. (pp. 131-132)

For this subgroup of students, such alignment creates an instructional reality where what is taught and assessed formatively is "the enacted curriculum for students with disabilities who

participate in the same large-scale assessments as their general education peers" (Kurz et al., 2010, p. 133). When the door to the classroom closes and instruction begins, educational leaders must determine if "students in special education classes have the opportunity to learn the standards-based content for which they are held accountable on large-scale achievement tests" (Kurz et al., 2010, p. 133). Formative assessment practices provide the vehicle for teachers to evaluate whether the students reach the appropriate level of proficiency and are ready to move ahead (Shute, 2008).

Specific strategies within the formative assessment toolbox, such as formative feedback, defined "as information communicated to the learner that is intended to modify his or her thinking or behavior for the purpose of improving learning" (Shute, 2008, p. 154), include students as co-decision makers in the formative assessment continuum. This environment of collaboration and self-reflection benefits students with disabilities because such practices establish a clear set of guidelines for the design and use of formative feedback (Shute, 2008). The process associated with formative feedback can then be modeled for students and can become an additional strategy as students and teachers work together to move learning forward. Specific types of formative feedback, such as the affirmation of student responses when accurate, the explanation of exemplar responses, and even hints, serve as avenues for teachers to differentiate for students with disabilities. Shute (2008) indicated that, "a struggling student may require greater support and structure from a formative feedback message compared to a proficient student" (p. 154). Additionally, formative feedback occurs more immediately during instruction as opposed to summative feedback that most often occurs in a summary format at the conclusion of the lesson or mini-lesson. Shute acknowledged the need for additional research, especially as it related to affective or emotional aspects tied to feedback and learning outcomes.

However, teachers should make specific philosophical adjustments when implementing formative assessments to inform instruction and learning. These adjustments include but are not limited to focusing the feedback on the work and not the student, focusing on cognitive elements of the how, what, and why of a task, and presenting the feedback in comprehensible chunks for the students.

Required Elements for Successful Implementation of FA Practices

Another significant finding present in the research involved targeting specific components needed for successful implementation of FA practices. The components included professional learning for teachers, effective teacher preparation, and removal of educators' resistance to change (Buck & Trauth-Nare, 2009; Dorn, 2010; Ginsburg, 2009; Morrissette, 2011; Volante & Beckett, 2011). Accordingly, middle school teachers implemented initiatives in the aforementioned areas with fidelity, which benefited all students by closing the gap for them in academic deficiencies (Kurz et al., 2010; Poe, 2012; Prewett et al., 2012).

Concerning the first need, targeted professional learning experiences, collegial coaching observations and facilitated group discussions can provide a platform for middle school teachers to discuss their practices and perceptions related to formative assessment (Buck & Trauth-Nare, 2009; Dorn, 2010; Ginsburg, 2009). During these discussions, teachers engage one another and share personal classroom experiences. In addition, teachers' voices give shape to professional learning experiences by increasing their own understanding, frequency of use, and consistent implementation of formative assessment practices (Sadler, 1989; Wiliam, 2011). Moreover, these professional learning experiences address a variety of formal and informal strategies and foster a professional environment built upon teacher expertise, support for innovative practices, and classroom flexibility that allows for innovative thinking (Buck & Trauth-Nare, 2009; Shute,

2008). Offering additional strategies to teachers through professional learning without intentionally guiding them to "focus on the processes necessary to transform teaching, learning, and the relationships within the classroom" (Buck & Trauth-Nare, 2009, p. 479) fails to influence them to change their classroom culture with regard to formative assessment.

Volante and Beckett (2011) emphasized that "it is imperative that researchers and teacher development providers gauge teachers' assessment perceptions before implementing teacher education reforms or professional development programs targeted at in-service teachers" (p. 241). From this perspective, Volante and Beckett analyzed interviews of 20 teachers—eight males and 12 females—from two school districts in Canada to determine teachers' overall knowledge about formative assessment strategies, the degree to which formative assessments are used in classrooms, and the main factors that contribute to the gap between theory and practice. A unique finding of their study indicated that no specific pattern emerged among the participants correlated to a lack of understanding, expertise, difficulty, or frustration with using formative assessments. The teachers who struggled with consistent implementation did not have similar professional learning experiences, come from the same institutions, or teach the same grade level or content area. Teachers valued certain aspects of formative assessments, such as questioning techniques, feedback without grades attached, student self-assessment, peer-assessment, using summative data in a formative manner, and professional development. Ultimately, the study concluded that the majority of educators struggle to implement formative assessment practices with fidelity. This conclusion highlighted the need for professional learning that involves teacher practice of FA rather than a top-down, mandated approach to increase teachers' use of formative assessment practices.

Dorn (2010) asserted that formative assessment does, in fact, appeal "to those who like to see teachers as professionals and intellectuals because decision-making can lie in the hands of skilled teachers" (p. 327). Consequently, teacher preparation remains crucial for successful implementation of formative assessment practices. Three essential areas of teacher preparation identified from the work of Buck and Trauth-Nare (2009), Morrissette (2011), Peterson and Siadat (2009), and Tempelaar et al. (2012). These components must be present to enable teachers to incorporate FA practices into their routine instructional strategies. First, all teachers require solid grounding in the implied understandings of students' conceptual development (Buck & Truth-Nare, 2009). Second, teachers must learn to maintain an instructional pace that presents all content standards to be addressed with depth of knowledge (Morrissette, 2011; Peterson & Siadat, 2009). Third, teachers must transmit to their students a clear understanding of the purpose and process of assessment practices (Tempelaar et al., 2012). Effective teacher preparation resulted in increased use of student-centered learning activities and more consistent feedback to students concerning their mastery of tangible learning outcomes, especially when accessing content of a highly conceptual nature (Morrissette, 2011; Peterson & Siadat, 2009; Tempelaar et al., 2012). Reaching this level of teacher preparation with formative assessment practices demands the ability to overcome implementation obstacles. Successful integration of FA practices into teachers' instructional pedagogies places control for what happens in the classroom in the hands of the experts—the teachers (Buck & Truth Nare, 2009; Morrissette, 2011; Peterson & Siadat, 2009; Tempelaar et al., 2012).

Teacher Resistance to Change

Buck and Trauth-Nare (2009) and Dorn (2010) argued that many educators are, in general, resistant to change, and this resistance must diminish for successful implementation of

formative assessment practices to occur. Too often, teachers develop emotional ties to the practices they have used for years and struggle to let go of the philosophical underpinnings associated with them (Buck & Trauth-Nare, 2009; Dorn, 2010; Shute, 2008). Much like their students, teachers benefit when provided formative feedback, defined "as information communicated to the learner that is intended to modify his or her thinking or behavior for the purpose of improving learning" (Shute, 2008, p. 154). In addition, teachers need specific philosophical adjustments to increase their use of formative assessments designed to inform instruction and learning (Buck & Trauth-Nare, 2009; Dorn, 2010; Shute, 2008).

Current trends in educational reform include additional layers of teacher accountability for the achievement levels of their students. This hyper-accountability influences many teachers to embrace practices that "overemphasize summative assessment and consider formative assessment an unnecessary addition to their workload" (Buck & Trauth-Nare, 2009, p. 477). Teachers choose not to fight the test-preparation bureaucracy that attaches accountability measures to educators' performance evaluations and instead have become entrenched in instructional practices featuring primarily whole group instruction, student questioning at the recall level, and superficial attention to student misconceptions (Buck & Trauth-Nare, 2009; Dorn, 2010; Shute, 2008). However, when provided an atmosphere that is both collaborative and supportive, teachers who have been given time to reflect on their instructional practices and beliefs "more readily reevaluate learning goals, adjust their pedagogy, and provide specific guidance to students" (Buck & Trauth-Nare, 2009, p. 478). These same teachers embrace formative practices and are able "to implement high quality assessments and use assessment outcomes effectively" (Buck & Trauth-Nare, 2009, p. 478) and become the educational reformers in their own classrooms and schools. In this context, formative assessment becomes

the agent of change in that it "uses the existing structure of the classroom teacher and the curriculum rather than fighting against the existing structures" (Dorn, 2010, p. 326).

Summary

For the benefit of all students, knowing how teachers adjust instruction daily, weekly, or by unit of instruction is instrumental for differentiation to occur, as this is key to closing the widening achievement gap among students. If teachers do not know how their students perform across various instructional levels—below, at, or above grade level—then how can the teachers ever hope to address the academic needs of their students whether the students are governed by an Individualized Education Program (IEP) or not, are identified as gifted and talented, or have average achievement. Formative assessment places decision-making power and appropriate tools in the hands of the teachers to discover a student's level of understanding and to design beneficial strategies and supports that move all students forward.

Ultimately, the literature suggested formative assessment practices should increase in middle school classrooms to benefit every student, regardless of their level of mastery. Faggella-Luby & Wardwell (2011) reported that teachers in their study only displayed such practices "in fewer than 21% of instructional sessions" (p. 46). Consequently, how can teachers expect to know if students are prepared for state-mandated assessments if these teachers do not know students' level of curricular comprehension when leaving their classrooms on a daily basis? Furthermore, as suggested by Meyen & Greer (2010), "If students are not ready for middle school, they are disadvantaged when they encounter high-level . . . concepts" (p. 60) at future instructional levels.

Finally, perhaps the most significant finding from this literature review is that educators must have a strong professional learning component if formative assessment practices are to be

implemented with fidelity. As noted in Prewett et al. (2012), a study on RTI in middle schools, one highly recommended model would be a component-by-component implementation of a formative assessment initiative in order to accommodate the great need for support of teachers and administrators (p. 146). Such an approach fits the framework of many middle schools, and the slower, more step-by-step approach seems logical if the ultimate intended outcome is instructional transformation and increased student achievement.

CHAPTER THREE: METHODS

Overview

The purpose of this transcendental phenomenological study was to understand the factors that contribute to teachers' implementation of formative assessment practices among middle school teachers in a semi-rural northwest Georgia school district. This chapter begins with discussion of the study's research design followed by the four research questions. The chapter continues by describing the setting, the participants for the study, the research procedures, and the researcher's role. Further, data collection tools are outlined, which include a self-developed screening protocol, individual interviews of 17 co-researchers, one focus group with eight of the co-researchers, and a variety of site documents, including teacher-designed lesson plans and district- and state-generated site documents (i.e. non-negotiable practices, handouts, presentation slides, and resources from training modules). The chapter then explains data analysis methods, which follow key aspects of Moustakas's (1994) transcendental phenomenology model, including *epoche*, phenomenological reduction, imaginative variation, and integration of the textural and structural "in order to arrive at a textural-structural synthesis of meanings and essences of the phenomenon or experience being investigated" (p. 36). The chapter concludes with detailed discussions of the elements of trustworthiness, ethical considerations, and a chapter summary.

Design

The approach used in this study's design aligns with transcendental phenomenology, described by Moustakas (1994) as "the *first* method of knowledge because it begins with 'things themselves'" (p. 41). Further, Moustakas (1994) explained that this process of human science research:

> attempts to eliminate everything that represents a prejudgment, setting aside presuppositions, and reaching a transcendental state of freshness and openness, a readiness to see in an unfettered way, not threatened by the customs, beliefs, and prejudices of normal science, by the habits of the natural world or by knowledge based on unreflected everyday experience. (p. 41)

Moustakas (1994) acclaimed the work of German philosopher Edmund Husserl, "who stood alone, a determined self-presence, pioneering new realms in philosophy and science [and] developed a philosophic system rooted in subjective openness" (p. 25) known today as transcendental phenomenology. The openness promoted here drives the use of interviews as a primary data collection tool for this study and illuminates the path for patterns and themes to emerge during the data analysis phase. In addition, the social nature of researcher and co-researchers within the interview interaction provides for what Schutz (1967) referred to as simultaneity (p. 106). Schutz (1967) stated:

> Whereas I can observe my own lived experiences only after they are over and done with, I can observe yours as they actually take place. This in turn implies that you and I are in a specific sense "simultaneous," that we "co-exist," that our respective streams of consciousness intersect. (p. 102)

Consequently, I identified potential elements of the co-researchers' perceptions of the phenomenon during the data collection interaction. In other words, my interactive experience with the co-researchers led to greater understanding of the lived experience with the phenomenon.

In addition, I engaged in the process of *epoche* (Moustakas, 1994) to avoid obfuscation of the conscious intersection, as described by Schutz (1967), between my perceptions and

experiences with FA practices and those of the study's co-researchers. According to Moustakas (1994), the transcendental phenomenological approach requires that the researcher must "engage in disciplined and systematic efforts to set aside prejudgments regarding the phenomenon being investigated" (p. 22). Therefore, I engaged in *epoche* intentionally "to launch the study as far as possible free of preconceptions, beliefs, and knowledge of the phenomenon from prior experiences and professional studies" (Moustakas, 1994, p. 22). I began the process by reflecting on my own experiences with FA practices and writing down my thoughts in a reflective journal (see Appendix K for Sample Reflective Journal Entries). The instructional coach in each middle school introduced my experiences with FA practices to the potential participants prior to any data collection. The coaches included my reflections when they introduced the participants to the voluntary nature, confidentiality, and responsibilities for the study using a script (see Appendix B for Script for Introduction of Study to Participants). I continued using the reflective journal throughout the study to separate my thoughts and experiences from those of the co-researchers.

While Moustakas (1994) acknowledged use of the term phenomenology "as early as 1765 in philosophy," (p. 26) he credited German philosopher Hegel with construction of "a well-defined technical meaning [where] phenomenology referred to knowledge as it appears to consciousness, the science of describing what one perceives, senses, and knows in one's immediate awareness and experience" (p. 26). However, Moustakas (1994) further argued that the work of French philosopher and mathematician Descartes influenced the work of Husserl more than Hegel's work did (p. 26). Specifically, Moustakas (1994) affirmed, "Both philosophers [Descartes and Husserl] recognized the crucial value of returning to the self to discover the nature and meaning of things as they appear in their essence" (p. 26).

Transcendental phenomenological design creates the atmosphere needed for the identification of the essence of the phenomenon born out of the social interaction between researcher and co-researchers. This sense of the experience "is a rational path—knowledge that emerges from a transcendental or pure ego, a person who is open to see what is, just as it is, and to explicate what is in its own terms" (Moustakas, 1994, p. 41).

A transcendental phenomenological design was valid for studying middle school teachers' use of formative assessment practices for several reasons. First, phenomenology in general focuses on one lone concept or phenomenon. Moreover, middle school teachers share lived experiences that shape meaning for them, another characteristic of phenomenology. However, researchers in transcendental phenomenology must "develop a method for understanding the objects that appear before [them]" (Moustakas, 1994, p. 47). This methodology demands, "a return to the self and employment of a self-reflective process that enables the researcher increasingly to know herself or himself within the experience being investigated" (Moustakas, 1994, p. 47). Further, Moustakas (1994) argued that in transcendental phenomenology, "The investigator abstains from making suppositions, focuses on a specific topic freshly and naively, constructs a question or problem to guide the study, and derives findings that will provide the basis for further research and reflection" (p. 47).

In this transcendental phenomenological study, I collected data through a screening protocol, individual interviews of the 17 co-researchers, one focus group with eight of the co-researchers, and the collection of multiple site documents. Building on the work of Husserl, Moustakas (1994) explained transcendental phenomenology "emphasizes subjectivity and discovery of the essences of experience and provides a systematic and disciplined methodology for derivation of knowledge" (p. 45). The collection process used in this study for constructing

knowledge alongside the co-researchers provided the middle school teachers a platform to share their lived experiences and perceptions related to the phenomenon of formative assessment practices. Using this model, I sought to understand the phenomenon of formative assessment practices "by reference to the things and facts themselves, as these are given in actual experience and intuition" (Husserl, 1975, p. 6). Further, philosophical assumptions play a significant role. With interviewing used as a primary data collection tool, complete disclosure of these assumptions must occur as the study proceeds. Additionally, the heavily structured organization is appealing because transcendental phenomenology "provides a logical, systematic, and coherent resource for carrying out the analysis and synthesis needed to arrive at essential descriptions of experience" (Moustakas, 1994, p. 47). Finally, this methodology gives the teachers a voice and a vehicle for shaping their own professional learning experiences to improve understanding of formative assessment practices and implement them with greater consistency in their classrooms (Sadler, 1989; Wiliam, 2011).

Research Questions

Moustakas (1994) posited that the transcendental phenomenological approach "emerged out of a discontent with . . . science that failed to take into account the experiencing person and the connections between human consciousness and the objects that exist in the material world" (p. 43). This connection between the experience and the person's perception of the experience contribute to phenomenology's emphasis on the idea and essence of a phenomenon where "there is no denial of the world of nature, the so-called real world" (Moustakas, 1994, p. 46). In this context, the researcher formulates questions to guide more accurately the process of understanding the co-researchers' experience with the phenomenon. Therefore, the researcher is not isolated from the study itself but rather has "an intense interest in a particular problem or

topic" (Moustakas, 1994, p. 104) and generates the research questions through a development process motivated by the researcher's own "excitement and curiosity" (p. 104). Qualitative phenomenological research questions are designed "to reveal more fully the essences and meanings of human experience" (Moustakas, 1994, p. 105) surrounding the phenomenon and do not attempt "to predict or to determine causal relationships" (p. 105). The emphasis is not on "measurements, ratings, or scores" (Moustakas, 1994, p. 105). Further, Moustakas (1994) asserted the research problem, or phenomenon, comes into greater focus through the researcher's personal history (p. 104), a variable highly controlled in quantitative studies. In addition, the researcher incorporates data collection tools whereby the co-researchers construct "a full description of his or her conscious experience. This is called a textural description and includes thoughts, feelings, examples, ideas, [and] situations that portray what compromises an experience" (Moustakas, 1994, p. 47).

In this qualitative transcendental phenomenological study, I based the theoretical framework on the three theories of formative assessment theory, social constructivism, and experiential learning. I used these theories to inform the development of all aspects of the research, including the research questions. The social constructivist framework establishes the need for the researcher and co-researchers to interact through questioning, dialogue, and the reflective process. Further, formative assessment theory and experiential learning feature the critical characteristics of mutual dependency, collaborative interaction, reflection, an environment of continuous assessment for learning, and the partnership aspect of learning (Black & Wiliam, 2009; Gutek, 2011; Sadler, 1989). Consequently, the following research questions guided this transcendental phenomenological study to understand formative assessment practices among middle school teachers in a semi-rural northwest Georgia school district:

1. How do middle school teachers in a semi-rural northwest Georgia school district describe their implementation of formative assessment practices?
2. What perceptions do middle school teachers have about how formative assessment theory and its practices influence their decisions to adjust instruction?
3. What obstacles do middle school teachers describe as hindering their implementation of formative assessment practices?
4. What additional resources and professional learning experiences would middle school teachers find beneficial to use formative assessment practices consistently?

Setting

The research setting was Whitaker Public Schools, a pseudonym for location of the school district participating in the study. The setting included four middle schools from this semi-rural northwest Georgia school district. Enrollment data supplied by GaDOE for 2015 indicated a total enrollment in the school district of 13,410 students in grades K-12. Of those, the district reported 3,020 as middle school students. The district reports its percentage of students identified as Economically Disadvantaged (ED) at 71.83%. Further, the region reflects one of the highest unemployment rates in the nation, as reported by Severson (2012) in the *NY Times*. However, a local option education sales tax passed during the summer of 2012, as well as an increase to the millage rate or property tax rate to support educational initiatives. Five middle schools are in the district with 166 teachers. Certification information supplied by the Georgia Professional Standards Commission (GaPSC) for 2014 indicates experience in years for these teachers range from less than three (10.04%) to between three and 20 (68.96%) to more than 20 (21.00%). Educational levels range from bachelor's degree (25.85%) to master's degree (38.71%) to specialist degree (33.81%) to doctoral degree (1.63%).

Participants

Transcendental phenomenological studies commonly refer to those who participate as co-researchers (Moustakas, 1994), a term first identified by Fraelich (1989) and described as "a research participant on equal footing with me" (p. 68). According to Fraelich, establishing this role between researcher and co-researcher created an interaction where "each participant would be able to bring a rich set of experiences into the interview" (p. 68). Further, Fraelich (1989) stated, "Each participant was encouraged to join with me as a truthful seeker of knowledge and understanding with regard to the phenomenon" (p. 68). A total of 17 co-researchers from four different schools participated in this study. The sample included six co-researchers from Applegate Middle School (pseudonym), two from Brighthouse Middle School (pseudonym), four from Capstone Middle School (pseudonym), and five from Dartmouth Middle School (pseudonym). In addition, the sample included co-researchers representing all grade levels (grades six, seven, and eight) and all four core content areas across the district. Most core teachers instruct students in either humanities (language arts and social studies) or math/science. Consequently, purposeful sampling aided the selection of teachers representing all core areas, grade levels, and schools. Patton (1990) stated, "The logic and power of purposeful sampling lies in selecting *information-rich cases* for study" (p. 169). Further, Patton posited, "In depth information-rich cases are those from which one can learn a great deal about issues of central importance to the purpose of the research, thus the term *purposeful* sampling" (p. 169).

I asked all middle school teachers who teach academic content (English/language arts, mathematics, science, or social studies) from five schools at the research site to complete a self-developed screening protocol (see Appendix D for Screening Protocol for Potential Co-researchers) to identify the extent to which they were using the phenomenon—formative

assessment practices. I analyzed the screening protocol to identify potential co-researchers for this qualitative transcendental phenomenological study. Potential co-researchers provided demographic information at the beginning of the screening protocol and provided beginning statements for horizonalization, the listing of "every expression relevant to the experience" (Moustakas, 1994, p. 120). I used the instructional coach in each middle school as the point of contact or liaison for the study as these individuals have routine contact with the co-researchers. The instructional coaches did not respond to the screening protocol, or become participants in the study.

I selected a range of teachers who reported high use of FA practices and those who reported a low use of FA practices from analysis of the screening protocol. According to Creswell (2013), qualitative studies often use specific criteria in choosing participants because this method "increases the likelihood that the findings will reflect differences or different perspectives" (p. 157) related to the phenomenon. In addition, the screening protocol aided me in selecting participants with diversity in characteristics, including years in the district, total years of teaching experience, years of middle school teaching experience, years at current grade level, years in current content area, and gender. Applying this criteria to achieve maximum variation, "identifying diverse characteristics or criteria for constructing the sample" (Patton, 1990, p.172), I used the information from the screening protocol to select co-researchers from four of the middle schools at the research site, conducted individual interviews with the co-researchers, facilitated a focus group interview with eight co-researchers, and reviewed site documents. No participants were selected from the fifth middle school. Although several teachers from that school contacted me and inquired about time commitments and the research process, those teachers declined prior to completing the screening protocol.

Procedures

Before conducting any research in the field, I completed the application to seek approval from Liberty University's Institutional Review Board (IRB). I included with the IRB application a letter from Whitaker Public Schools written on school system letterhead that granted permission to conduct this study in the middle schools. Once IRB approved the application, I replaced the school district permission letter with the IRB approval letter (see Appendix A for IRB Approval Letter).

I obtained written permission to conduct the research study from each of the five middle school principals documented on school-specific letterhead. This permission referenced the specific site documents I planned to review, including teacher lesson plans and blank teacher-made formative assessments. Working with the principal, I requested that each building-level instructional coach serve as the site coordinator, or liaison, for the study. In this district, the instructional coaches regularly meet with academic teachers in the core content areas, as well as others, to deconstruct standards, design engaging lessons, review instructional strategies, and conduct professional learning experiences. Consequently, the instructional coaches possess a unique relationship with the grade-level teacher teams throughout the schools. Their professional roles position them to coordinate effectively with me and on my behalf.

I enlisted three experts in the field who hold doctoral degrees and have knowledge of formative assessment practices to review the screening protocol, the interview questions, and the focus group questions to ensure reliability and content validity. Two hold Doctor of Education degrees, and the third expert has a Doctor of Philosophy degree in education with an emphasis in early childhood development and reading. Two work as university faculty, one as a department chair and one as a director of graduate studies. The third retired recently from a long-time

position as university faculty working in the area of faculty development. Their expert review of the data collection tools ensured the questions would collect the information desired and checked that phrasing, word choice, and clarity of meaning related to the phenomenon meet content validity. The expert feedback guided me to reduce the number and focus of the questions to a purposeful set.

After approval from the IRB and before beginning data collection, I employed pilot testing, to enhance reliability and further vet the questions and methodology. Pilot testing is a process recommended to "refine and develop research instruments, assess the degrees of observer bias, frame questions, collect background information, and adapt research procedures" (Creswell, 2013, p. 165). In the pilot study, I conducted one individual interview and one focus group of three participants. I enlisted teachers for the pilot study from another regional middle school not part of this transcendental phenomenological study. The study's interview and focus group questions were used in the pilot study to enhance my skills as an interviewer and verify that the questions collect necessary information to understand the phenomenon of FA practices more fully. After I completed the pilot study and reviewed the procedures used, I made adjustments before proceeding to the actual study. Specifically, I determined that interviewees had some challenges keeping up with the interview questions. Therefore, I used card stock and printed each question on card stock in order to allow the interviewees to hold each question in front of them as I asked it.

Prior to any data collection, the instructional coaches at each middle school used a script (see Appendix B for Script for Introduction to Participants) to introduce the participants to the voluntary nature, confidentiality, and responsibilities for the study if the purposeful sampling procedures select them. I provided electronically a Screening Protocol Recruitment Letter

(Appendix C) to all full-time academic content teachers in the five middle schools reviewing the details introduced by the instructional coaches and inviting them to participate in the study by first completing an online screening protocol (see Appendix D for Screening Protocol for Potential Co-researchers). Additionally, I included the Informed Consent Form for Screening Protocol Participants (Appendix E) that explicitly outlines consent to participate in the screening protocol. Once I selected co-researchers using criteria from the screening protocol, I invited them to participate in the study with the Recruitment Letter for Co-researchers (Appendix F) and the Informed Consent Form for Individual Interviews (Appendix G). Finally, I selected one focus group of eight of the co-researchers and provided them with the Informed Consent Form for Focus Group Interview (Appendix H).

The four data collection methods for this study included the screening protocol of 19 participants, individual interviews of the 17 co-researchers, one focus group of eight of the co-researchers, and analysis of site documents. The screening protocol (see Appendix D Screening Protocol for Potential Co-researchers) collected demographic data and co-researchers' perceptions of formative assessment practices and aspects of implementation of these practices in their classrooms. I reviewed the responses and applied maximum variation to generate a purposeful cross-section of 17 co-researchers for the study.

Co-researchers responded to individual interview questions, and eight of the co-researchers responded to focus group questions during data collection. Individual interviews lasting 20-30 minutes occurred at the onset of the study. I digitally recorded and conducted the interviews in a dedicated room at each middle school and transcribed the interviews prior to conducting the focus group. Individual interviews and the focus group were transcribed verbatim, and all co-researchers received copies via e-mail to verify for accuracy as part of

member checking. No co-researcher found discrepancy in the transcripts. However, several commented humorously concerning their pseudonyms and frequency of verbal stutters (i.e. um, uh, etc.) and spoken grammatical errors. All 17 co-researchers granted access to lesson plans (see Appendix O Sample Lesson Plan), and 12 of the 17 co-researchers submitted blank, teacher-generated formative assessment samples (see Appendix P Sample Formative Assessments). I used specific data from the screening protocol and individual interviews to select a purposeful sample of co-researchers for the focus group. The one focus group of eight co-researchers from the individual interviews convened in a conference room at one middle school site. Finally, I reviewed site documents, including teacher-generated lesson plans and district-created documents related to formative assessment practices (i.e. non-negotiable practices, handouts, and resources) and reviewed blank teacher-made documents used during instruction to conduct formative assessments.

Data analysis occurred following all data collection and transcription, and I used the framework as described by Moustakas (1994) to include *epoche*, phenomenological reduction, imaginative variation, and structural-textural synthesis. I used *epoche* throughout the study to set aside, or bracket out, my own feelings, experiences, and preconceptions related to the phenomenon of formative assessment practices. I began the process by reflecting on my own experiences with FA practices, writing down my thoughts in a reflective journal (see Appendix K Sample Reflective Journal Entries), and then introducing these to the co-researchers in a scheduled informational meeting prior to individual and focus group interviews. I continued using the reflective journal throughout the study to separate my thoughts and experiences from those of the co-researchers. However, *epoche* is crucial to highlight during data analysis. As explained by Moustakas (1994), “We are challenged to come to know things with a

receptiveness and a presence that lets us be and lets situations and things be, so that we can come to know them just as they appear to us" (p. 86). I do not want to cloud the analysis of the co-researchers' lived experiences with my own preconceived ideas. I used phenomenological reduction to "derive a textural description of the meanings and essences of the phenomenon" (Moustakas, 1994, p. 34) alongside horizonalization to ensure a continuous process of perceiving and reflecting that constituted the most accurate description of the meanings and essences (Husserl, 1965; Moustakas, 1994). I constructed structural descriptions using imaginative variation to offer "a picture of the conditions that precipitate an experience and connect with it" (Moustakas, 1994, p. 35). Finally, I amalgamated the textural and structural descriptions of the meanings and essences related to the phenomenon of formative assessment practices to construct a synthesis of the overall whole.

The Researcher's Role

I serve the school district as the Middle School Curriculum Director and am responsible for guiding and facilitating the curriculum work of various middle school teams including principals, content area lead teachers, gifted teachers, and other groups. I report directly to the Assistant Superintendent for Curriculum and Instruction. In addition, I collaborate with the elementary and high school curriculum directors and other area directors to support, implement, and monitor district curriculum initiatives related to professional learning, new teacher induction, and other initiatives outlined in the district strategic plan. I represent the district at state and regional conferences and at meetings of state curriculum agencies. I conduct and facilitate data analysis to improve academic achievement and plan collaboratively with the teaching and learning staff to implement and support district curriculum goals.

The previous four years, I worked as a district-level instructional coach, providing job-embedded professional learning experiences and coaching to academic teachers in five middle schools in this same school district. As an instructional coach, I used a variety of coaching techniques but focused on aspects of Costa and Garmston's (1994) Cognitive Coaching model and Jim Knight's (2007) Partnership approach to instructional coaching. I worked directly with teachers to enhance their instructional strategies, directed professional learning experiences, and assisted with the analysis and interpretation of student data to increase achievement.

Since 1996, I have taught English and language arts, social studies, and elective courses in the college (three years), high school (six years), and middle school (six years) arenas. I hold a B.A. from Lee University, an M.A. from the University of Tennessee at Chattanooga (UTC), and an Ed.S. from Tennessee Technological University. Prior to teaching, I served in a variety of church ministry roles from associate pastor to youth and children's pastor.

I taught for six years at one of the middle schools in the study. The combination of teaching experience, my role as an instructional coach, and my current role as the Middle School Curriculum Director provide insight into the culture within the middle schools. All of the middle schools have building-level instructional coaches, and the district funds an Instructional Coach Coordinator who serves the middle schools and two high schools and works alongside the building coaches. I work with all these coaches and their school leadership teams to develop professional learning experiences, mentor new teachers to the district, and support curriculum initiatives across the district.

According to Creswell (2013), it is important to acknowledge that "extensive time spent in the field, the detailed thick description, and the closeness of the researcher to the participants in the study all add to the value and accuracy of the study" (p. 250). Consequently, bracketing of

my personal experiences in these roles and with the phenomenon was a necessity. Moustakas (1994) referred to this bracketing as *epoche*, "a Greek word meaning to refrain from judgment, to abstain from and away from the everyday, ordinary way of perceiving things" (p. 33). The tendency of human nature is "to hold knowledge judgmentally; we presuppose that what we perceive in nature is actually there and remains there as we perceive it" (Moustakas, 1994, p. 33). Therefore, as researcher, I bracketed my preconceptions. In turn, this process helped me to increase my influence and credibility with the co-researchers, and it increased their honesty during the interviewing and other data collection experiences.

Data Collection

The process of data collection in a qualitative, transcendental phenomenological study goes beyond a perfunctory listing of the enlisted types of data collection (Creswell, 2013; Husserl, 1965; Moustakas, 1994). Creswell (2013) stated, data collection "means gaining permissions, conducting a good qualitative sampling strategy, developing means for recording information both digitally and on paper, storing the data, and anticipating ethical issues that may arise" (p. 145). For Husserl (1965), data collection "emphasizes subjectivity and discovery of the essences of the experience and provides a systematic and disciplined methodology for derivation of knowledge" (pp. 5-6). Further, Husserl's phenomenology "utilizes *only* the data available to the consciousness—the *appearance* of objects" (p. 23). This approach transcends any solidarity of perspective "because it adheres to what can be discovered through reflection on subjective acts and their objective correlates" (Husserl, 1965, p. 23), and grounds itself as scientific in that "it affords knowledge that has effectively disposed of all the elements that could render its grasp 'contingent'" (p. 23). Finally, Moustakas (1994) purported that data collection should offer "a systematic way of accomplishing something orderly and disciplined, with care

and rigor" (p. 104). Therefore, after obtaining approval from the IRB, I officially began a systematic, organized process for the collection of data for this study.

Crucial to the data collection phase is triangulation, or the "use of multiple and different sources, methods, investigators, and theories to provide corroborating evidence" (Creswell, 2013, p. 251). Multiple pieces of evidence provide layers of knowledge and perspectives to substantiate the data collection process (Lincoln & Guba, 1985; Miles & Huberman, 1994; Moustakas, 1994; Patton, 1990). Like formative assessment practices, which view assessment for learning as more than a single snapshot of students' proficiency, triangulation recognizes the need for the preponderance of evidence to create validity for the findings resulting from the study. In qualitative studies, when "researchers locate evidence to document a code or theme in different sources of data, they are triangulating information" (Creswell, 2013, p. 251). For this study, I used four different sources of data to triangulate and substantiate the data for this study: (a) screening protocol of potential co-researchers, (b) 17 individual interviews with purposeful sampling of co-researchers, (b) one focus group with eight of the co-researchers, and (d) site documents supplied by the co-researchers.

Suter (2012) noted that data collection in qualitative research is "guided by the philosophical assumptions of qualitative inquiry: To understand a complex phenomenon, you must consider the multiple 'realities' experienced by the participants themselves—the 'insider' perspectives" (p. 344). Consequently, the rationale for sequencing the four data collection tools in this study followed an inductive approach meant to allow the researcher and co-researchers to construct and even uncover the patterns and themes relevant to the phenomenon of formative assessment practices (Creswell, 2013; Husserl, 1965; Moustakas, 1994; Patton, 1990; Suter, 2012). The screening protocol aided in constructing a broad description of the co-researchers'

perceptions related to the phenomenon. Second, the two types of interviews—individual and focus group—contributed to horizonalization of co-researchers' statements about the phenomenon by shaping the "common categories or themes, [and] removing overlapping and repetitive statements" (Moustakas, 1994, p. 118). Further, I used these two data collection tools to construct the textural and structural descriptions needed to create an informed synthesis of the meanings and essences of the phenomenon of FA practices (Moustakas, 1994). Third, I used the site documents to describe the co-researchers' lived experiences during instruction by reviewing what intended formative assessment practices emerged in lesson planning and the enacted FA practices used with students as assessment for learning (Fisher & Frey, 2014; Marzano, 2010; Wiliam, 2011).

Screening Protocol

I used the screening protocol to collect demographic data on the co-researchers, the co-researchers' initial perceptions of formative assessment practices, and implementation aspects of these practices in their classrooms. Three experts reviewed the screening protocol before submission of the proposal for IRB approval. Two of the experts have Doctor of Education degrees, and the third expert has a Doctor of Philosophy degree in education with an emphasis in early childhood development and reading. Two of the experts serve currently as university faculty, one as a department chair and one as a director of graduate studies. The third expert retired recently from a long-time position as university faculty working in the area of faculty development. This expert review of the screening protocol ensured the questions collect the information to understand the phenomenon of middle school teachers' implementation of formative assessment practices. I used the feedback and input from these experts to revise the screening protocol for this study.

I reviewed the screening protocol responses and applied maximum variation to generate a purposeful cross-section of 17 co-researchers for the study. I used specific data from the screening protocol to construct a baseline of the co-researchers' perceptions of their implementation of formative assessment practices within the context of horizonalization. The screening protocol generated categories of demographic data, including gender, school site location, years of teaching experience, years in the district and at the specified grade level, and academic content area taught. I used this data to attain maximum variation and select a diversity of participants for the study. Specifically, I examined the data for grade level and content area first. Since the schools house grades 6-8, I desired academic teachers from each grade. Second, I chose teachers who taught a different one of the four academic areas (English/language arts, math, science, or social studies). Third, I selected teachers from each middle school represented in the sample. Fourth, I used the data on years of teaching experience to select teachers with a range of experience from low number of years to high number of years. Finally, I used gender to achieve a balance between male and female teachers. Further, I used this data collection tool to collect teachers' initial responses related to the phenomenon of formative assessment practices in the middle schools. Placing this tool first was essential for effective sampling because I used the data from the survey to determine the most purposeful sample for the research study.

Individual Interviews

The second data collection tool, individual interviews of the 17 co-researchers, occurred directly after administering the screening protocol to academic content area teachers in the five middle schools. After identifying the most purposeful sample of co-researchers from the screening protocol, I conducted the individual interviews and established an atmosphere of trust where themes and patterns could emerge. According to Moustakas (1994), I needed to establish

trust, which "begins with a social conversation or a brief meditative activity aimed at creating a relaxed and trusting atmosphere" (p. 114). Further, Moustakas (1994) explained that "in the phenomenological investigation the long interview is the method through which data is collected on the topic and question [and it] involves an informal, interactive process and utilizes open-ended comments and questions" (p. 114).

According to Englander (2012), a crucial aspect of interviewing in phenomenology is to "keep track of the three dimensions of time present in the interview situation. The participant is in the present, describing a memory of an experience during which she [or he] remembered something" (p. 29). Consequently, this memory, connected to the phenomenon, may require additional follow-up questions. The semi-structured nature of the interview is a necessary component of the research framework (Englander, 2012, p. 29), as this approach relies on open-ended questions, questions intentionally designed to elicit elaborated responses. As explained by Moustakas (1994), a semi-structured approach to the interviewing of co-researchers creates a tension where "the phenomenal experience becomes increasingly clarified and expanded in meaning as the phenomenon is considered and reconsidered in reflective processes" (pp. 50-51). In this light, I constructed a series of individual interview and focus group questions in advance, and these served to allow the dialogue to develop and the identified phenomenon to emerge throughout the data collection process. I asked questions in the focus group to expand and revisit perceptions described in the individual interviews. As described by Moustakas (1994), the interview questions are "aimed at evoking a comprehensive account of the person's experience of the phenomenon, [however,] these are varied, altered, or not used at all when the co-researcher shares the full story of his or her experience of the bracketed question" (p. 114).

For the individual interviews, this study included 17 middle school co-researchers whose interviews lasted approximately 20-30 minutes each. I recorded interviews with Audacity and transcribed them verbatim for coding and thematic analysis. I stored the audio files to the cloud, which allowed for export into the ATLAS.ti software program. In case of any recording difficulties, I prepared the memo recorder on my iPad and iPhone for back-up purposes. Both these devices store to the cloud. While recording, I took field notes on an expanded form of the Individual Interview Protocol. A sample of this field notes document appears in Appendix I. Creswell (2013) described this document as "a form about four or five pages in length (with space to write in answers), with . . . ample space between the questions to write responses to the interviewee's comments" (p. 164). These notes remained with me at all times, and I have stored them in a locked filing cabinet at my residence.

I developed the interview questions from close examination of the literature related to formative assessment practices. My purpose was to gather the best accounts of their personal experiences, stories, anecdotes, and occurrences to provide the most complete description possible of the phenomenon of formative assessment practices (Moustakas, 1994). Individual interviews occurred at each middle school before or after the school day to maintain confidentiality, to diminish any possible role confusion, and to allow for reservation of space. As the current Director of Middle School Curriculum, I wanted to ensure that co-researchers maintained a clear distinction between my position in the district and my role as co-researcher. Each middle school has a conference room that I used for the interview.

Semi-structured Open-ended Interview Questions

Description and Understanding of FA Practices

1. Consider the following definition. Formative assessment practices are generally defined as those assessment practices used by teachers as assessments for learning—a learning check-up during the learning process that informs teachers' decisions about future instruction (Bailey & Jakicic, 2012; Marzano, 2010). What, if anything, would you change or add to this definition?
2. How often do you use formative assessments? Do you use formative assessments more often or less often than in the past? What has contributed to this increase or decrease?
3. Please describe the types of formative assessments you most frequently use. What do you find most beneficial from these formative assessment practices?

Perceptions of Formative Assessment Theory, Common FA Practices, and Adjusting Instruction

4. Please describe an experience you have had as a teacher with using formative assessment. Be as specific and detailed as possible. Please include the grade level and content area of the students you were teaching.
5. What influence has your understanding of formative assessments had on your teaching and overall assessment practices? What, if any, adjustments to your instruction have you made?
6. Describe a time when formative assessment practices have been most successful with your students. Please include what you think made them successful.
7. If applicable, describe a time when formative assessments have not been successful with your students. Please include why you think they were not successful.

Obstacles that Hinder Implementation of FA Practices

8. Please describe an instructional situation where you would and would not use FA practices? Explain your reasoning.

9. Please think about a lesson or standard you taught this week. Describe how you knew which students did and did not master the learning target or objective.
10. Can you describe any specific ways your grade level, school, or district use FA practices to adjust instruction? What, if any, is your role in these aspects of FA practices?

Beneficial Resources and Professional Learning to Implement FA practices More Consistently

11. Georgia's Teacher Keys Effectiveness System (TKES) and the district document outlining non-negotiable practices both include expectations for FA practices. What additional resources would help you to use FA practices more consistently?
12. Consider that professional learning refers to any learning experience where your school leadership, an outside consultant, your school district, or someone during a conference you attended instructed you. Describe any positive experiences you have had with professional learning related to FA practices. Did this experience help you implement FA practices more consistently? Why or why not?
13. Please describe any negative experiences with professional learning and formative assessment. Did this experience hinder you from implementing FA practices more consistently? What made this a negative experience?

Additional Information

14. What other information have I not asked about that might be helpful in understanding middle school teachers' implementation of FA practices?

I used open-ended questions during the individual interviews to elicit recurring themes and patterns connected to the study's four research questions. The open-ended design of the interview questions allowed participants to respond in ways that overlapped the four research questions. However, I designed specific questions to elicit responses central to them.

Specifically, interview questions one through three align to address the first research question, which focuses on middle school teachers' description and common understanding of formative assessment practices. Question one provides the interviewees with the study's definition of FA practices and asks them to consider how they might change or add to the definition. Wiliam (2011) asserted that teachers "need a definition that can accommodate all the ways in which assessment can shape instruction" (p. 40). Establishing this definition at the onset provides co-researchers with a clear, shared definition they can describe and understand. Questions two and three allow teachers to describe their experiences with FA practices, the frequency of these practices, and their understanding of the benefits (Creswell, 2013; Merriam, 2009; Patton, 1990; 2002).

I designed interview questions four through seven to address the second research question, which most directly correlates to the literature gap for this study, the absence of alignment between instruction and assessment in the area of FA practices. Kurtz et al. (2010) stressed the importance of alignment between enacted standards, classroom instruction, and assessment practices. According to Kurtz et al. (2010), alignment of these elements constitutes "a necessary condition for assessment results to yield valid inferences about what students know" (p. 132). The co-researchers' responses to questions four through seven provided crucial insight into their perceptions of formative assessment theory, common experiences with FA practices, and understanding of adjusting instruction as a component of FA practices (Doubet, 2012; Kurz et al., 2010; Marzano, 2010; Shute, 2008).

Interview questions eight through 10 provided co-researchers with the platform to describe obstacles that hinder their ability to implement FA practices more consistently, which formulates the central focus of research question three in the study. As described by Doubet

(2012), teachers often experience confusion related to knowing when and how to assess student understanding formatively. Consequently, many teachers settle into routines, such as hyper-dependence on whole group instruction, questioning students at the lowest levels (recall only), and overlooking student misconceptions for the sake of covering the standards (Buck & Trauth-Nare, 2009; Dorn, 2010; Shute, 2008). However, when given a supportive context for implementation, these same struggling teachers demonstrate the ability "to implement high quality assessments and use assessment outcomes effectively" (Buck & Trauth-Nare, 2009, p. 478). Ultimately, understanding the hindrances that prevent teachers from implementing FA practices more consistently will benefit student growth and achievement; in addition, the extrication of these obstacles paves the way for the creation of a deep level of professional accountability that emphasizes instructional improvement among middle school educators (Dorn, 2010; Doubet, 2012; Poe, 2012).

As the co-researchers responded to questions 11 through 13 in the individual interview protocol, their answers provided insight into resources and professional learning experiences middle school teachers find beneficial to help them use FA practices more consistently. These responses aligned to research question four in the study. Research on successful implementation of FA practices indicated the importance of targeted professional learning through the environment of PLCs, observations, and facilitated group discussions (Buck & Trauth-Nare, 2009; Dorn, 2010; Ginsburg, 2009). This rich context allows practitioners to discuss their practices and perceptions related to FA practices. Further, such a collaborative approach allows teachers' voices to be the catalyst for their own professional learning experiences by increasing understanding, frequency of use, and implementation of formative assessment practices (Sadler, 1989; Wiliam, 2011).

Focus Group Interviews

Following the individual interviews, I conducted one focus group interview of eight co-researchers from the four middle schools. I derived these co-researchers from the larger purposeful sample and selected co-researchers from each school. I identified teachers for the focus group by employing purposeful sampling procedures similar to the process used for selecting co-researchers. Specifically, I invited those first who demonstrated competing or contradictory responses to individual interview questions one through seven because these questions focused on understandings and perceptions of formative assessment practices. I desired to seek clarification on their responses. Second, I selected teachers who taught a different academic area (English/language arts, math, science, or social studies). Finally, I selected teachers from each of the four middle schools represented in the sample. A focus group employs a group interviewing structure that taps into the collaborative and social interactions inherent in group dynamics and benefits qualitative studies "when the interaction among interviewees will likely yield the best information, when interviewees are similar and cooperative with each other" (Creswell, 2013, p. 164). Moustakas (1994) added, "Broad questions . . . may also facilitate the obtaining of rich, vital, substantive descriptions of the co-researcher's experience of the phenomenon" (p. 116). Further, the focus group provides a collaborative environment where dialogue and reflection between co-researchers occurs related to their shared experiences with the phenomenon (Creswell, 2013; Merriam, 2009; Patton, 1990; 2002). As result of my former role as an instructional coach and my current role as Curriculum Director, it is evident that a cooperative climate already exists in these schools. Additionally, this method fits the overall purpose and framework of the study because the study's theoretical framework (formative assessment theory, social constructivism, and experiential learning) draw

similarly on aspects of collaboration and social interactions as pivotal components to the theories; this reliance on cooperation from the theoretical framework further informs the validity of collecting data from a focus group.

The focus group participants met in the Design Room at one of the middle school campuses for a group interview of approximately 45 minutes. This interview was conducted after the school day to maintain confidentiality, to diminish any possible role confusion, and to allow for reservation of space. As the current Director of Middle School Curriculum, data collection occurred after school to maintain the distinction between my position in the district and my role in the study as co-researcher. Co-researchers in the focus group collaborate regularly with their site-based colleagues and participate in district-wide collaboration days and trainings with the teachers from the other campuses.

I asked guiding and follow-up questions as needed to clarify responses from the individual interviews. The same experts who reviewed the individual interview questions also reviewed the focus group questions. This process provided content validity and ensured the questions would collect the intended information from the co-researchers. I used the feedback and input from these experts to revise the focus group questions for this study. I concentrated on specifics of the transcripts to generate qualitative descriptions of the co-researchers' experiences with the phenomenon. Following the same procedures as the one-on-one interviews, I recorded the group interview with Audacity and transcribed it verbatim for coding and bracketing of identified themes. I stored the audio files to the cloud, which allowed for export into the ATLAS.ti software program. In case of any recording difficulties, the memo recorder on the iPad and iPhone were prepared for back-up purposes; both these devices store to the cloud. While recording, I took field notes (see Appendix J Sample Field Notes Focus Group) through

use of a four-to-five-page interview protocol, which allowed for notes and commentary. These notes remained with me at all times, and I have stored them in a locked filing cabinet at my residence.

Since individual interviews occurred prior to the focus group interview, I provided co-researchers with transcripts of their individual interviews ahead of time and asked them to review them for accuracy before the scheduled group session. For the co-researchers not selected for the focus group, I emailed transcripts to them for review. Since I was unable to predict the specifics of participant responses from the one-on-one interviews, I relied on the focus group questions to guide the interview. According to Creswell (2013), this design component permits the qualitative researcher "to learn about the problem or issue from participants and engage in the best practices to obtain that information" (p. 47).

Semi-structured Open-ended Interview Questions

Guiding Questions for the Focus Group Interview

1. Thank you for your sacrifice of time to review the individual transcript. Please share with the group one statement that resonated with you as you reviewed it. Why do you think this statement was meaningful?
2. Are there any aspects of your previous interview you would like to clarify, alter, or elaborate on more?
3. I provided the following definition during the individual interviews. Formative assessment practices are generally defined as those assessment practices used by teachers as assessments for learning—a learning check-up during the learning process that informs teachers' decisions about future instruction (Bailey & Jakicic, 2012; Marzano, 2010). Is

there anything else you can elaborate on here that you did not say in your individual interview?

4. What steps do you think need to occur to implement formative assessment practices more consistently? Why?
5. Describe one or more experiences where you used data from formative assessments to adjust your instruction. What was the context? How did you use this information and why?
6. Describe an experience where you used data from summative assessments to influence your instruction. Did the data help or hinder your instructional planning for the class? Why?
7. For this question, consider that professional learning refers to any learning experience where your school leadership, an outside consultant, your school district, or someone during a conference you attended instructed you. Is there anything you could elaborate on here that you did not already say during the individual interviews about school, district, or self-selected professional learning related to the use of formative assessment practices?

All questions asked during the focus group interviews sought to elicit continuation of recurring themes and patterns connected to the study's four research questions. Further, I employed the use of guiding questions and reflective activities to create a level of comfort and break the ice for the group interview. Focus group questions one and two referred the co-researchers back to their individual interviews for the purpose of reflecting upon those responses and clarifying or adding to any statements made previously. As described by Moustakas (1994), such a series of reflective questions will compel rich descriptions of the co-researchers' shared

experiences with the phenomenon. These questions also provided other co-researchers the opportunity to hear portions of their colleagues' individual responses, to dialogue, and to interact with them (Creswell, 2013; Merriam, 2009; Patton, 1990; Patton, 2002). In addition, a focus group relies upon cooperation between co-researchers, and this level of interaction among peers requires that a solid foundation be built for it at the onset. Further, establishing this collaborative environment for dialogue aligns with the overall purpose and framework of the study because the study's theoretical framework (formative assessment theory, social constructivism, and experiential learning) draws similarly on aspects of collaboration and social interactions as pivotal components to the theories (Black & Wiliam, 2009; Dewey, 1897; Marzano, 2010; Sadler, 1989; Vygotsky, 1978). In this study, the eight co-researchers in the focus group entered the interview environment with an established attitude of cooperation due to similar experiences that occur regularly in the setting.

Although co-researchers responded to question three during individual interviews, asking this question during the focus group reminded these co-researchers of the definition of formative assessment practices central to this study and allowed co-researchers to elaborate on previous responses. Co-researchers within the focus group heard responses and thoughts about this definition from their peers for the very first time, allowing them to consider current practices regarding FA practices within their grade levels, schools, and the school district. As research indicated, educators benefited when a shared definition develops because the teachers are then able to create a classroom and school climate where formative assessment practices are valued (Peterson & Siadat, 2009; Volante & Beckett, 2011; Wiliam, 2011). The co-researchers' responses to question three also contributed to answering the study's first research question,

which focused on middle school teachers' description and common understanding of formative assessment practices.

The fourth guiding question I used during the focus group interview asked the co-researchers to reflect on the discussion of common FA practices and suggest the next steps needed to implement FA practices more consistently. The interviewees' responses to this question addressed research questions three and four in the study and provided educational leaders with insight into middle school teachers' needs in order to implement FA practices more consistently. As described by Fisher and Frey (2014), school and district leadership rarely asked teachers for input concerning implementation of initiatives. Instead, mandates emerged each year requiring more and more of teachers when one of their largest concerns was determining what was most appropriate to do in the next five minutes of instruction (Fisher & Frey, 2014, vii).

Questions five and six for the focus group interview addressed the co-researchers' understandings of FA practices and SA practices, as well as the differences between the two and how both sets of practices impacted overall assessment strategies in their classrooms. As delineated by Kurtz et al. (2010), alignment must occur between the standards taught, instruction given, and assessment practices applied. Consequently, the teachers' responses to these questions aligned with research questions two and three in the study by providing insight into co-researchers' perceptions of formative assessment theory and their understanding of adjusting instruction as a component of FA practices (Doubet, 2012; Kurz et al., 2010; Marzano, 2010; Shute, 2008).

Focus group interview question seven confronted the issue of professional learning needs in order for the co-researchers to implement FA practices more consistently, which assisted in

answering research question four. Like question three, interviewees also responded to this question during the individual interviews. However, the members of the focus group benefited from hearing colleagues' responses for the first time, reflecting and dialoguing with peers in a collaborative environment, and developing a set of shared needs regarding professional learning. According to Bell et al. (2010), teachers required support and training through effective professional learning experiences in order to implement FA practices consistently. The insights gained from the co-researchers' responses may benefit educational leaders as they develop future initiatives and professional learning plans for their schools and districts.

Site Documents

Finally, I collected and reviewed site documents to complete the data collection process, as these are tools used by teachers during the implementation of formative assessment practices, and these documents served as "corroborating evidence from different sources to shed light on a theme or perspective" (Creswell, 2013, p. 251). This data source included both digital and hard copy documents created, accessed, and used by participants that informed the phenomenon. Analysis of these site documents, one of the four types of data categorized by Creswell (2013) for use in qualitative studies (p. 161), occurred during the data collection process. I collected data from a review of the teacher-generated lesson plans housed digitally. Teachers currently submit collaborative lesson plans weekly to school administration.

I analyzed site documents and coded them according to type and frequency of commonly identified formative assessment practices. In addition, I used district- and state-generated site documents (i.e. non-negotiable practices, handouts, presentation slides, and resources from training modules). Third, I used blank teacher-made formative assessments. Collectively, these site documents represented items used by participants in this study to implement the use of

formative assessment practices. In this context, analysis of these documents most directly addressed research questions one and four for this study; however, documents also provided insight into the participants' perceptions and obstacles, which are research questions two and three.

Data Analysis

The following axiom circulates in the educational arena when it comes to data and the analysis of data—we are data rich but analysis poor. This statement, whether true or not, illuminates the importance of carefully choosing a framework for data analysis for this transcendental phenomenological study. Creswell (2013) noted, "The processes of data collection, data analysis, and report writing are not distinct steps in the process—they are interrelated and often go on simultaneously in a research project" (p. 182). He further described the process with the metaphor of a spiral, viewing the researcher as "moving in analytic circles rather than using a fixed linear approach" (p. 182). Consequently, the data analysis approach referred to as qualitative content analysis (Hsieh & Shannon, 2005; Huberman & Miles, 1994; Patton, 2002; Weber, 1990) best aligns with the purposes of this study because it incorporates the key components of identifying patterns and themes as they emerge through the recursive process of qualitative data analysis.

According to Moustakas (1994), the transcendental phenomenological approach incorporates "natural processes through which awareness, understanding, and knowledge are derived" (p. 41). The qualitative aspects inherent in this mode of content analysis elicit "an unshakeable kinship with a philosophy that places ultimate knowledge in the regions and powers of the self" (Moustakas, 1994, p. 41). Further, this approach was valid for this study in that the nature of the phenomenon—formative assessment practices—is in itself built on collaborative

and social interactions as well as the theoretical framework for the study and its data collection methods. By definition, qualitative content analysis supports "the subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns" (Hsieh & Shannon, 2005, p. 1278). The researcher and co-researchers engage in this process through a reflective, reasoned process whereby their experiences with the phenomenon emerge because "all knowledge and experience are connected to phenomena" (Moustakas, 1994, p. 44). Further, Patton (2002) defined the content analysis approach as "any qualitative reduction and sense-making effort that takes a volume of qualitative material and attempts to identify core consistencies and meanings" (p. 453). Collectively, these descriptions of the approach demonstrate its relevance for phenomenological research, especially to the identification of the emerging patterns and themes. Consequently, this study employed the data analysis process described by Moustakas (1994) as "the core processes that facilitate derivation of knowledge" (p. 33), which includes *epoche*, transcendental-phenomenological reduction, imaginative variation, and the synthesis of structural/textural descriptions needed to describe thoroughly the co-researchers' experiences with formative assessment practices.

Epoche

According to Moustakas (1994), the first phase of phenomenological data analysis involves the Greek term *epoche*, as discussed by German philosopher Husserl (1931), which separates scientific facts based in the natural world from knowledge gained through direct experience of a phenomenon (p. 111). Moustakas (1994) explained the term *epoche* as "a preparation for deriving new knowledge . . . , a process of setting aside predilections, prejudices, predispositions, and allowing things, events, and people to enter into consciousness, and to look and see them again, as if for the first time" (p. 85). This definition focused on the connection

with transcendental phenomenology, which views transcendental as an environment where "everything is perceived freshly, as if for the first time" (Moustakas, 1994, p. 34). Moustakas (1994) further explained that this process "requires the elimination of suppositions and the raising of knowledge above every possible doubt" (p. 26). During the bracketing process, researchers must "set aside their experiences, as much as possible, to take a fresh perspective toward the phenomenon under examination" (Creswell, 2013, p. 80). In this study, I personally have knowledge of formative assessment practices because this phenomenon interests me. In addition, the co-researchers in this study are middle school teachers who work in schools where I have worked as an instructional coach and currently serve as the Middle School Curriculum Director. Consequently, I bracketed out my personal experiences with the phenomenon at the study's beginning by "describing [my] own experiences with the phenomenon and bracketing out [my] views before proceeding with the experiences of the others" (Creswell, 2013, p. 80). Accordingly, I reflected and wrote out my own experiences with formative assessment in a reflective journal (see Appendix K Sample Reflective Journal Entries) and then introduced these to all the co-researchers in a scheduled informational meeting prior to individual and focus group interviews at each school. I employed member checking and peer reviewing, both discussed later under trustworthiness, to provide a credible set of checks and balances (Creswell, 2013; Lincoln & Guba, 1985).

Phenomenological Reduction

Following individual interviews of the 17 co-researchers in this study, I used phenomenological reduction to analyze the data collected and prepared for the focus group interview. As noted by Moustakas (1994), phenomenological reduction involves "describing in textural language just what one sees, not only in terms of the external object but also in terms of

the internal act of consciousness . . . the rhythm and relationship between the phenomenon and the self" (p. 90). As the researcher, I engaged in the repetitive task of looking and describing and looking and describing until the essence of experience with the phenomenon surrendered to my perceiving of it. With each new insight, Moustakas asserted that the reductive process generates an awareness that connects to each looking like "new folds of the manifold features that exist in every phenomenon and that we explicate as we look again and again" (Moustakas, 1994, p. 92). This requires of the researcher and co-researchers not only keen skills of seeing but also those of listening and "keeping our eyes turned to the center of the experience and studying what is just before us, exactly as it appears" (Moustakas, 1994, p. 92). Therefore, during the individual interviews and the focus group, I listened carefully to the responses and dialogue among the co-researchers and recorded their descriptions of their experiences with the phenomenon of formative assessment practices. As delineated by Moustakas, "Whatever shines forth in consciousness as I perceive it, reflect on it, imagine it, concentrate on it, is what I attend to—that is what stands out as meaningful for me" (p. 92).

The second phase in the data analysis process of phenomenological reduction is horizonalization (Moustakas, 1994). This concept originates in the idea of horizons, constantly arising and fading into the background in a limitless cycle of our conscious perceptions of phenomena. As Moustakas (1994) explained, "We can never exhaust completely our experience of things no matter how many times we reconsider them or view them" (p. 95). Further, every perception or interaction with a new horizon "as it comes into our conscious experience is the grounding or condition of the phenomenon that gives it a distinctive character" (Moustakas, 1994, p. 95). In this phase, I listened carefully to the statements of the co-researchers, weighting each perception with equal value, significance, and consideration as I created a written list of

their statements in order to reveal the essences of the co-researchers' experiences with the phenomenon of formative assessment practices (Moustakas, 1994). Later in the process, Moustakas clarified that the "statements irrelevant to the topic and question as well as those that are repetitive or overlapping are deleted, leaving only the *Horizons* (the textural meanings and invariant constituents of the phenomenon)" (p. 97). I then clustered the remaining horizons into themes and synthesized the horizons and themes into a textural description of the study's phenomenon (Moustakas, 1994). This process aided me in developing strong classifications of the themes related to the phenomenon, especially in establishing both textural (what participants experienced) and structural descriptions (how participants experienced the phenomenon) for the *essence* of the participants' lived experiences (Moustakas, 1994). Ultimately, the product of this intensive process is a report of the findings with "sufficient description to allow the reader to understand the basis for an interpretation, and sufficient interpretation to allow the reader to understand the description" (Patton, 2002, pp. 503-504).

Imaginative Variation

Moustakas (1994) identified imaginative variation as the next phase in data analysis as part of the research process. Imaginative variation purposes "to seek possible meanings through the utilization of imagination, varying the frames of reference, employing polarities and reversals, and approaching the phenomenon from divergent perspectives" (Moustakas, 1994, p. 97). The researcher determines to construct the "structural description of an experience, the underlying and precipitating factors that account for what is being experienced" (Moustakas, 1994, p. 98). In addition, the overall process strives to bring together the textural and structural descriptions of the co-researchers' experiences with the phenomenon with what they experienced being the textural description and how they experienced it being the structural description

(Moustakas, 1994). Further, Moustakas (1994) outlined the steps in the process of imaginative variation:

1. Systematic varying of the possible structural meanings that underlie the textural meanings;
2. Recognizing the underlying themes or contexts that account for the emergence of the phenomenon;
3. Considering the universal structures that precipitate feelings and thoughts with reference to the phenomenon, such as the structure of time, space, bodily concerns, materiality, causality, relation to self, or relation to others;
4. Searching for exemplifications that vividly illustrate the invariant structural themes and facilitate the development of a structural description of the phenomenon. (p. 99)

Synthesis of Meaning and Essences

Synthesis constitutes the final phase in data analysis delineated by Moustakas (1994). The researcher integrates meanings and essences derived from the textural and structural descriptions of the co-researchers' lived experiences with the phenomenon "into a unified statement of the essences of the experience of the phenomenon as a whole" (Moustakas, 1994, p. 100). This universal description derives from the focused work of an individual researcher in collaboration, reflection, and thoughtful imagination alongside the co-researchers who lived the experiences with the phenomenon (Moustakas, 1994). Husserl (1931) cautioned researchers to remember that "every physical property draws us into infinities of experience; and that every multiplicity of experience, however lengthily drawn out, still leaves the way open to closer and novel thing-determinations" (pp. 54-55). Therefore, no researcher is capable of describing exhaustively the meanings and essences related to any experience; however, "the textural-

structural synthesis represents the essences at a particular time and place from the vantage point of a single researcher" (Moustakas, 1994, p. 100).

Trustworthiness

Qualitative research studies must establish appropriate processes to substantiate that the researcher represented accurately the statements of co-researchers perceptions (Lincoln & Guba, 1985, 1986). Creswell (2013) outlined the need for qualitative researchers to adopt "acceptable strategies to document the 'accuracy' of their studies" (p. 250). Creswell (2013) identified trustworthiness

> as a distinct strength of qualitative research in that the account made through extensive time spent in the field, the detailed thick description, and the closeness of the researcher to participants in the study all add to the value and accuracy of the study. (p. 250)

Among the many activities discussed in qualitative research practices to validate the accuracy of findings, Lincoln and Guba (1985) suggested four criteria—credibility, transferability, dependability, and confirmability.

Credibility

The term credibility refers to the overall confidence in the accuracy and truthfulness of the reported findings felt by those who read a qualitative research study (Creswell, 2013; Lincoln & Guba, 1985). In other words, credibility demonstrates strong connections between the preponderance of evidence substantiated by the research to the extent those reading the report do not doubt the findings. Additionally, Rodwell and Byers (1997) contended, "*credibility* is established through activities that increase the possibility that credible findings will be produced" (p. 117). To achieve credibility, Lincoln and Guba (1985) outlined several strategies. These

include reading and memoing, data triangulation, prolonged engagement in the field, and member checking.

Reading and memoing. In data analysis, the process of reading and memoing involves multiple readings of the entirety of collected data and creation of memos in the margins (and/or as digital text). After uploading primary documents to ATLAS.ti, I read through each document before coding and recorded memos on sticky notes that suggested possible codes, ideas, and connections. Creswell (2013) described these memos as "short phrases, ideas, or key concepts that occur to the reader" (p. 183). In addition, Creswell (2013) described the need for a quantitative aspect where researchers "build themes that are constantly being checked against the data" (p. 45). Consequently, I reviewed my initial identification of themes, compared the results against the data, and revised two themes to more accurately depict the co-researchers' voices. This is largely the role of reading and memoing in that this data analysis piece functions alongside coding and allows the researcher to examine the data for multiple bits of information supporting each theme and to present multiple perspectives from the participants that have been checked, re-checked, and substantiated.

Triangulation of data. For this study, I used four data collection sources, or triangulated the data, which "makes use of multiple and different sources, methods, investigators, and theories to provide corroborating evidence" (Creswell, 2013, p. 251). This comparative process further validates the trustworthiness of the study and illuminates similar themes in more than one source of data (Lincoln & Guba, 1985). In this study, triangulation occurred through analysis of the screening protocol used for sampling, individual interviews of 17 co-researchers, one focus group of eight co-researchers, and site documents.

Prolonged engagement. As the researcher, I described accurately and constructed thoroughly the textural-structural essences and meanings of the co-researchers' experiences with the phenomenon of this study (Moustakas, 1994). To achieve the necessary level of interaction and collaboration, I spent a prolonged period in the field to understand the phenomenon of formative assessment practices (Creswell, 2013; Lincoln & Guba, 1985). As two of these data collection tools include interviewing—individual interviews and one focus group interview—I achieved prolonged engagement in the field.

Member checks. Finally, I invited the 17 co-researchers in the study to review "data, analyses, interpretations, and conclusions . . . so that they can judge the accuracy and credibility of the account" (Creswell, 2013, p. 252). According to Lincoln and Guba (1985), member checking involves "referring data and interpretations back to data sources for correction/verification/challenge" (p. 108-109). For this study, the focus group interview provided an appropriate platform for these member checks, which contribute to the overall credibility of the study by adding to the creation of multiple perspectives, suggestion of alternative language, and reflection conducted by actual participants (Creswell, 2013; Lincoln & Guba, 1985). Since the focus group interview occurred after transcription of the individual interviews, I provided co-researchers in the focus group with their own transcripts of the previous individual interviews and asked them to clarify statements as needed and add to responses given previously. Additionally, I asked guiding and follow-up questions to clarify responses designed to generate qualitative descriptions of the co-researchers' experiences with the phenomenon.

Transferability

Transferability refers to the degree the findings from the research study are applicable to other contexts and settings (Lincoln & Guba, 1985; Merriam, 2009). In qualitative studies, transferability occurs when "the researchers provides details when describing a case or when writing about a theme" (Creswell, 2013, p. 252). As is common to transcendental phenomenology, I used thick descriptions of the perspectives of the co-researchers and identified themes that emerged from collaboration, reflection, and interaction with the co-researchers and their lived experiences with the phenomenon of formative assessment practices (Lincoln & Guba, 1985). In addition, I conformed to what Creswell (2013) describes as those details that "emerge through physical description, movement description, and activity description" (p. 252).

Dependability

Lincoln and Guba (1985) clarified that the term dependability deals with the ability to demonstrate that the findings from a research study are consistent and replicable. Lincoln and Guba explained that this type of audit is a process where the "auditor examines the inquiry to establish that the process was carried out in ways that fall within the bounds of good professional practice" (p. 109). According to Creswell (2013), many qualitative studies establish dependability through the use of an "auditor, to examine both the process and the product of the account, assessing their accuracy" (p. 252). Creswell further explained that "the auditor examines whether or not the findings, interpretations, and conclusions are supported by the data" (p. 252). These descriptions align with the concept of an internal audit related to a school district or business's annual budget. Consequently, I created an audit trail (see Appendix Q Audit Trail) beginning with IRB approval and maintained records that reflect a dated on-going account of every event during the study (Lincoln & Guba, 1985). The audit records have become part of the

overall permanent records associated with the study and have been included in the dissertation appendix.

Confirmability

The term confirmability refers to the researcher's ability to remain neutral and maintain an accurate description of the co-researchers experiences free from any biases, personal agendas, or other outside interests (Lincoln & Guba, 1985). I collaborated with two peers to function as an auditing review team by debriefing with them, or "systematically talking through research experiences, findings, and decisions with non-involved professional peers for a variety of purposes—catharsis, challenge, design of next steps, or legitimation" (p. 109). This process focuses on the peer "as a 'devil's advocate,' an individual who keeps the researcher honest; asks hard questions about methods, meanings, and interpretations; and provides the researcher with the opportunity for catharsis" (Creswell, 2013, p. 251). This method of achieving trustworthiness provides confirmability because I maintained original notes from the peer reviewers containing their commentary and personal notes regarding interpretation of their feedback (Lincoln & Guba, 1985). Feedback from these peers noted the extensive amount of time spent with co-researchers, the depth of the collected data, and the quality of the openness and authenticity reflected in the findings. Their feedback suggested the co-researchers' voices were captured.

Ethical Considerations

I gave detailed attention to any ethical considerations for this study. As with any research study involving human participants, I sought approval through the Institutional Review Board (IRB) prior to conducting any research. In addition, I obtained access to the site through approval of the district superintendent, the assistant superintendent of teaching and learning, and

the assistant superintendent of assessment and accountability. From the onset, I gained consent from participants and emphasized the voluntary nature of the study, including their right to withdraw at any time. I also committed to protecting their anonymity by using pseudonyms, such as the reference to Whitaker Public Schools, and I maintained and safeguarded all collected data. Respecting all potential power imbalances is a concern due to my working relationships with the schools and teachers. I previously served in the role of a district instructional coach and I now serve as the Middle School Curriculum Director; however, I addressed this issue by clarifying researcher biases from the study's beginning and careful bracketing as is essential for phenomenology. I informed the co-researchers thoroughly about the study's purpose, and I explained how I would use data collected from the screening protocol, individual interviews, the focus group, and site documents to co-construct an accurate textural-structural description of their shared experiences with the phenomenon of formative assessment practices.

Summary

The purpose of this transcendental phenomenological study was to understand the factors that affect middle school teachers' implementation of formative assessment practices in a semi-rural northwest Georgia schools district. Four central research questions guided the research. The purpose of the study's design was to focus on the single concept of formative assessment practices and the shared lived experiences for the participants, 17 middle school teachers who served as co-researchers for the study. Data collection occurred through a screening protocol, semi-structured interviews, both individual and focus group, and through a variety of school- and district-generated site documents. The data was collected, organized, analyzed, and interpreted based on the integration of Moustakas's (1994) transcendental phenomenology model, comprised of *epoche*, phenomenological reduction and horizonalization, imaginative variation,

and the synthesis of textural-structural descriptions of the co-researchers' meaning and essences. I established trustworthiness by integrating processes to ensure for credibility, dependability, transferability, and confirmability as outlined by Lincoln and Guba (1985). In addition, the study's theoretical framework consists of formative assessment theory (FAT) (Black & Wiliam, 1998a, 1998b; Bloom, 1968; Marzano, 2010; Sadler, 1989; Scriven, 1967), social constructivism (Vygotsky, 1962, 1978), and experiential learning (Dewey, 1897).

CHAPTER FOUR: FINDINGS

Overview

This transcendental phenomenological study sought to understand the factors that contributed to middle school teachers' implementation of formative assessment practices in a semi-rural northwest Georgia school district. The chapter discusses the study's 17 co-researchers through the lens of demographic information collected through the initial screening protocol, incorporates a brief narrative of how each responded initially to three open-ended questions linked throughout the study, and includes a composite description of the focus group's co-researchers with significant features of the group's discussion. The chapter presents results from the study through the study's four research questions and discusses themes in the context of the research questions, which are aligned to the theoretical framework(s) for the study. The chapter concludes with a summary.

Participants

Following purposeful sampling, 17 participants were invited to the study as co-researchers and signed consent for individual interviews (see Appendix G Informed Consent Form for Individual Interviews) with the knowledge they may or may not be selected for the focus group. The term co-researchers was taken from Fraelich (1989) and Moustakas (1994) and was used to describe the interactive relationship between the participants in this study and myself, as the primary researcher, allowing for a collaborative partnership as equals to construct a rich description of our relationship to the phenomenon under investigation. After completion of the individual interviews, eight co-researchers signed consent for the focus group (see Appendix H Informed Consent Form for Focus Group Interview). All co-researchers consented to the collection of lesson plans and submission of blank, teacher-generated formative

assessment samples. Using purposeful sampling and applying maximum variation, I selected 17 co-researchers for the study from their responses to demographic questions in the screening protocol. The co-researchers consist of eight math teachers, four English language arts (ELA) teachers, four science teachers, and one social studies teacher. Six co-researchers teach grade 6, four teach grade 7, and seven teach grade 8. Pseudonyms were attributed to school and district location, co-researchers' names, and names of others, such as building leadership and colleagues referred to during data collection, to ensure confidentiality of both setting and co-researchers. All quotes from co-researchers are presented verbatim, which includes verbal ticks and grammatical errors in speech and writing. This format serves to capture the authentic shared, lived experiences of the co-researchers with the phenomenon of formative assessment practices. Table 1 describes the demographic data of the co-researchers for the study.

Table 1

Co-Researcher Demographic Information

Pseudonym	Gender	Middle school (Pseudonym)	Grade	Years in grade	Years in middle school	Other level	Content area	Years in content
Tim	Male	Brighthouse	8	5	8.5	Not applicable	Math	8
Kim	Female	Applegate	6	4	4	Not applicable	Math	4
April	Female	Applegate	7	6	11	Elementary	ELA	11
Melinda	Female	Capstone	8	2	2	Not applicable	Math	2
Angela *	Female	Applegate	6	1	4	High School	Social Studies	2
Andrea *	Female	Dartmouth	7	5	10	Not applicable	Math	10
Brenda *	Female	Applegate	7	5	12	Elementary	Math	5
Lisa *	Female	Applegate	6	7	23	Not applicable	ELA	12
Brittany *	Female	Dartmouth	6	11	12	Not applicable	Science	12
Teresa	Female	Capstone	8	9	11	High School	Science	8
Kathy	Female	Dartmouth	8	2	8	Not applicable	ELA	8
Melissa	Female	Dartmouth	8	2	6	Not applicable	ELA/SS	6
Ben	Male	Applegate	6	6	15	Not applicable	Science	15
Kateline	Female	Dartmouth	8	1.3	1.3	Not applicable	Science	1.3
Pamela *	Female	Capstone	8	10	23	High School	Math	15
Jack *	Male	Brighthouse	6	8	8	Not applicable	Math	8
Patricia *	Female	Capstone	7	5	6	Elementary	Math	6

Note: * Indicates focus group co-researcher

Tim

Tim has over eight years of experience as an educator that have all been at the middle school level. He taught eighth grade math for five of those years. The others years, he taught math in grades 6 and 7. He teaches math with one other male teacher, five other teachers in his same grade, and 15 other teachers in Brighthouse Middle School (pseudonym). Tim participated in his district's first cohort of the Math Design Collaborative (MDC), a district initiative to train and coach math teachers in the implementation of formative assessment lessons (FALs) (see Appendix N Sample of Math FAL). Tim's students are predominantly enrolled in either general education and/or special education. In his initial replies, Tim did not add anything to the definition of formative assessment practices provided in the screening protocol and responded that he incorporated formative assessments "each unit, about once a month" (Tim, screening protocol, October 19, 2015) when asked how often he used formative assessment practices with middle school students. Tim described the types of formative assessment practices he uses as "MARS math assessments" (Tim, screening protocol, October 19, 2015). Tim learned to implement these assessments during the MDC initiative.

Kim

Kim's teaching experience spans a four-year period where she has taught math in grade 6 for all of those years. She teaches with two other female math teachers in grade 6, six other academic teachers in the grade level, and 17 additional teachers in the middle school. Kim's school, Applegate Middle School (pseudonym), is one of the largest in the district, and she teaches a diverse population of students enrolled in general and gifted education, as well as English learners. Kim participated in her district's second MDC cohort where she received training and coaching. In her individual interview, she commented about the math FALs:

> You do get a lot out of the lessons, but I wish there was more time to devote to them because I see the positive influence they have on teachers and students. More than any other assessment, those really pick up where the holes are with students. (Kim, individual interview, November 13, 2015)

In Kim's responses from the screening protocol, she suggested an addition to the definition of formative assessment practices. She said, "I would include the depth of the formative lesson. It is not a quick check-up, but rather a detailed, scripted lesson which challenges students on a deeper level through assessments and requires students to create a product" (Kim, screening protocol, October 19, 2015). This may have been a reference to the products created during the FALs. Further, Kim reported, "I use formative assessments about once a week" (Kim, screening protocol, October 19, 2015). When asked about the types of formative assessment she uses, Kim responded:

> In a perfect world, where time is not an option, I would use FAL's about once every unit. Normally, I have time to implement a formative assessment lesson every other unit, which is about every 4 weeks or so. Other assessments I use are ticket-out-the-door, think-write-pair-share, probing questions, quizzes, summarizing sentences in our interactive notebooks, etc. (Kim, screening protocol, October 19, 2015)

April

April is an ELA teacher in grade 7 at Applegate Middle School (pseudonym). She has taught this content area for 11 years, and she has taught in several different middle schools. Additionally, April taught 10 years at the elementary level before teaching middle school. She teaches with one other female ELA teacher in her grade level, seven other academic teachers in the same grade level, and 16 other teachers in the middle school. April's students are enrolled in

regular education, gifted education and special education. When asked about the definition of formative assessment practices in the screening protocol, she commented:

> I'm not sure if you need to include this in the definition, but I generally think of formative assessments being low risk for students—as in not necessarily graded. Also, I think it needs to be evaluated quickly to be effective. (April, screening protocol, October 20, 2015)

April reported her frequency of use as "nearly daily informally, more formally once or twice a week" (April, screening protocol, October 20, 2015). The types of formative assessments she uses include "electronic forms such as surveys, Google forms, Kahoot, PearDeck, today's meet, remind 101, tickets out the door, journal entries, discussion, observation, warm-up work, games, self and peer review/evaluation, hand signals allowing students to show how much they know" (April, screening protocol, October 20, 2015).

Melinda

Melinda is one of two co-researchers in this study who are second-year teachers. She teaches math in grade 8, and she has taught in this grade and at this middle school both of those years. Melinda is one of four math teachers in grade 8, eight other academic teachers in grade 8, and 21 other teachers in the middle school. Her students represent a diverse population of students enrolled in regular education and gifted education, as well as English learners. Melinda participated in MDC cohort three last year and stated about the FALs:

> I know as a district, formative assessments are an expectation and that is per unit, which I have found almost fundamental this year. Uh, initially, they were intimidating, but as you begin to work through them and understand them better yourself, uh, you are able to give your students that expectation, and they are much more successful. And I found that

> the productive struggle that the students have is awesome. They tend to dig and get into some of the formative assessment lessons we have given. (Melinda, individual interview, November 10, 2015)

Melinda agreed with the definition provided in the screening protocol and reported, "I use formative assessment practices at least once per unit. This would be the equivalent of approximately once every 3 weeks" (Melinda, screening protocol, October 21, 2015). The types used in her math classes include the "math based formative assessment practices aligned with the 8th grade common core standards" (Melinda, screening protocol, October 21, 2015). These two responses refer to the FALs implemented through the MDC cohort.

Angela

Angela teaches social studies in grade 6 at Applegate Middle School (pseudonym) where she recently transferred after previously teaching in another middle school for four years and an additional 13 years at the high school level. She teaches with one other female social studies teacher in grade 6, seven other academic teachers in grade 6, and 16 other teachers in the middle school. Angela's school instructional coach and administrators have complimented her use of questioning strategies during instruction. Angela believes intentional questioning supports the learning of all students. Angela integrates the use of writing as a formative assessment in her classes and explained:

> They [the students] are realizing they do better when they are able to write and expand on . . . and I think maybe they have to think about it versus if they are just looking at an abcd answer choice, they are just focused on that abcd, and you wonder if they are really tying it all together. You do not know that unless they write it, and you know that they know in the writing part. (Angela, individual interview, November 19, 2015)

Adding to the definition of formative assessment practices, she stated, "Formative Assessment can also in form a teacher of weaknesses in prior learning" (Angela, screening protocol, October 22, 2015). When responding to the question about her frequency of use, she responded, "I use formative assessment daily and often" (Angela, screening protocol, October 22, 2015). The types of formative assessment practices she implements in her social studies classes include "thumbs up, stand-up, frequent questions and short answer responses" (Angela, screening protocol, October 22, 2015).

Andrea

Andrea has taught math in grade 7 at Dartmouth Middle School (pseudonym) for five years. She has taught middle school math for 10 years. Andrea participated in her district's very first MDC cohort, and she often models the FALs for other math teachers in her building and across the district. In addition, she co-teaches with another math teacher in her grade and is considered by her colleagues as an expert in the use of white boards for formative assessment. She commented about the comparison between formative and summative assessments by stating:

> What is the difference between formative and summative has been developing, you know, throughout my career as a teacher. And knowing that you are actually formatively assessing a student on a daily basis, maybe even a minute basis, that okay if you ask them a question, whether it's an easy, you know, easy question or even a thinking question, it is still formative assessment. The only part of a summative assessment is if you put a grade on it, so. (Andrea, individual interview, November 19, 2015)

During the screening protocol, Andrea liked the definition provided and stated, "Formative assessments whether planned or unplanned, are used every day in my classroom" (Andrea, screening protocol, October 22, 2015). When asked about the types of formative assessment

practices implemented in her classroom, Andrea offered that she uses "warm-ups, questioning, tickets-out-the door, group discussions, conferencing, white boards (see the students work), Kahoot, and pre-tests" (Andrea, screening protocol, October 22, 2015).

Brenda

Brenda teaches math to grade 7 students at Applegate Middle School (pseudonym) where she has taught the same grade level for five years. Brenda has taught middle school for a total of 12 years and elementary school for another five years. As a math instructional leader in her building, Brenda participated in the district's second MDC cohort and then presented during the initial training for cohort 3 due to her expertise in math inclusion education. Brenda promotes peer assessment and interaction during instruction as a means of formative assessment. She explained:

> What I have heard kids say and totally just informally asking them is that they are just a little more comfortable. You know, I speak teacher speak. I try to speak kids speak, but it is still teacher talk, and their peers speak kids speak and so sometimes that helps a lot of them. Quite frankly, a lot of them are just too shy to take help from a teacher. They would much rather take help from their neighbor. (Brenda, individual interview, November 19, 2015)

With regard to the definition provided in the screening protocol, Brenda answered, "I would add that it is an informal, quick check" (Brenda, screening protocol, October 23, 2015). She reported conducting formative assessments "three or four times a week" (Brenda, screening protocol, October 23, 2015), and explained the types of FAPs used in her math class as:

> tickets out the door, having students work a couple of problems at the end of the lesson, thumbs up, thumbs down, having students hold up to indicate their level of

> understanding, individual problem checks, having students work a couple of problems in their notes and checking each individually for understanding. (Brenda, screening protocol, October 23, 2015)

Lisa

Lisa has taught middle school her entire career of 23 years in education. She worked 12 years as an ELA teacher and spent seven years in grade 6. Lisa teaches with one male ELA teacher in grade 6, seven other academic teachers in grade 7, and 16 additional academic teachers in Applegate Middle School (pseudonym). Lisa's teaching team in grade 6 implemented student stations as a model this school year and has found success in this endeavor. She explained that data from one formative assessment used across her district aided with flexible grouping of students. Lisa said:

> We have an unusual situation that's kind of new this year because my other language arts teacher and I have rooms that join and we've taken the wall down and so we used the data to make groups for both our classes and then we split up the teaching and use stations or use parallel teaching with different things going on in different groups and we discovered that once we made the groups based on their MAP data we could arrange the groups in a variety of ways whether it needed to be homogenous or if it needed to be high-medium or medium-low. (Lisa, individual interview, November 16, 2015)

When answering the screening protocol, Lisa accepted the definition provided as stated and reported her frequency of use, stating, "I use it in one form or another every day. Informally . . . observation, questions . . . More formally-2 times per week" (Lisa, screening protocol, October 24, 2015). The types of FAPs used in her ELA classroom include "surveys: thumbs up/down,

notecard, TOD [ticket out the door], tell your shoulder partner, written, short quiz, and circle the best" (Lisa, screening protocol, October 24, 2015).

Brittany

Brittany teaches grade 6 science at Dartmouth Middle School (pseudonym) and has taught grade 6 for 11 years. She has taught science for 12 years and joined the staff last year. Brittany teaches with one male science teacher in grade 6, five other academic teachers in grade 6, and 13 additional teachers in her middle school. Brittany suggested one addition to the definition provided in the screening protocol. She wanted to include "something about the assessment does not have to be graded" (Brittany, screening protocol, October 25, 2015). When asked about the frequency of FAPs used in her classroom, she reported, "At least once a week for graded assessment but as often as once a day for non-graded assessment" (Brittany, screening protocol, October 25, 2015). The types of FAPs used in Brittany's science classes include "quizzes, tests, constructed response questions, summary of lesson or notes (DLIQ) [did, learned, interesting, questions], tickets out the door questions, starter questions, reading review questions, video review questions from sources like Brain Pop or Study Jams, and hand motions" (Brittany, screening protocol, October 25, 2015). During her individual interviews, Brittany added:

> In science, I do a lot more questions, tickets-out-the-door, analyze, summarize, things like that. In math, it's answer these problems because math is more systematic that way. Okay, here's what I taught you today. Now, show me that you can do it, and it's more of a show me where with science it's more of an evaluate or summarize. It is some regurgitate for definitions, but they are slightly different. (Brittany, individual interview, December 4, 2015)

Teresa

Teresa teaches grade 8 science at Capstone Middle School (pseudonym), one of the largest in the district. She has taught middle school for 11 years and spent nine years in grade 8. In addition, Teresa taught high school science for 16 years and math in middle school, but she prefers teaching science. Teresa teaches with two other science professionals in grade 8, eight other academic teachers in grade 8, and 19 additional teachers schoolwide. Her student population represents diverse students enrolled in general education, gifted education, and special education, as well as English learners. Teresa embraces experiential learning in a lab environment and digital tools for formative assessment. She explained:

> I guess the one I use most often is Quizdom where I teach them some content and they answer with a remote. I can look at a graph to see what they chose, and I might can figure out why they chose that and then redirect. That's why I use that most often. A lot of time I use performance assessments when they are doing labs. They'll have to come up and show me what they did and explain why they did it. Often, when I am just walking around, I will spot check for a specific item to see if they got that one and if they understood it. (Teresa, individual interview, November 12, 2015)

Teresa did not change or add to the definition provided in the screening protocol. She stated her frequency of use with FAPs as "about once a week" (Teresa, screening protocol, October 25, 2015) and further emphasized the use of digital tools when explaining the types of FAPs used with her students. Teresa reported, "Quizzes, Versatiles, and Qwizdom questions using remotes for student responses" (Teresa, screening protocol, October 25, 2015). Although she plans to retire in the next few years, she expresses high expectations for meeting standards set in her building but lacks confidence. When discussing professional learning with FAPs, she stated, "I

think mine just is not good enough to match theirs. There you go. That is what I think" (Teresa, individual interview, November 12, 2015).

Kathy

Kathy entered teaching eight years ago from a career in business. She has taught English and language arts with two years spent in grade 8 and the other six years in grade 7. All her experience has been in the same middle school where she works with one other female ELA teacher in grade 8, four other academic teachers in grade 8, and 13 additional teachers in the middle school. She teaches primarily students enrolled in general education and gifted education in one of the smaller middle schools in the district. Kathy aims to be intentional with her use of FAPs. However, she expressed her thoughts on how planning and practice work together:

> I may have to scaffold. I may have to bring back. If it is answered quickly, I know that I can go on further until I hit a stopping point. I think understanding that formative assessment is not necessarily formal. I can write it into my lesson plans, but it happens so much that you can't really plan every time for it. Just know that if you are doing it, it will happen all the time. (Kathy, individual interview, December 4, 2015)

Kathy declined to add anything to the definition of FAPs provided in the screening protocol. When asked to report her frequency of use, she indicated, "I formative assess throughout the each day" (Kathy, screening protocol, October 27, 2015). Kathy provided a generous list of the types of FAPs used in her classroom:

> Number of fingers up on level of understanding, Ticket out the door, Standing up when you have found the answer, Walking around the class as students work to assess understanding, Tell me what your neighbor said, Quizzes before tests, and Tell me what you think I said. (Kathy, screening protocol, October 27, 2015)

Melissa

Melissa works with Kathy in Dartmouth Middle School (pseudonym) in grade 8 and teaches ELA and social studies. She has taught for two years in grade 8 and spent the other four years in grade 6. Melissa attributes her grouping strategies in class to coaching support she received several years ago, and she enjoys teaching both subjects where she can integrate standards and design interdisciplinary units. When asked about the definition of FAPs, Melissa asserted that "formative assessments should be used every minute of class and not just at the end of the lesson" (Melissa, screening protocol, October 27, 2015). She uses FAPs daily, and provided a list of the types she uses in her classroom. Melissa stated, "I use pair/share (elbow partner), turn and talk (with direction stated), sticky notes (main idea, what you think I taught today), 3-2-1, and lots of observation" (Melissa, screening protocol, October 27, 2015). Melissa supported her belief in the frequent use of FAPs during the individual interview. Formative assessment, she said:

> It helps me catch those deficits before the actual assessment because if I see that they're not getting something at that moment, then I can deal with it then while it's still fresh or while they're still working on it instead of waiting until afterwards when we try to get that feedback at the end. It's often difficult to go back and get something but if you're watching and observing and doing it moment by moment then it's easier to catch when they need that extra help. (Melissa, individual interview, December 1, 2015)

Ben

Ben has worked at two different middle schools in the district and has taught science for 15 years. He has taught science in grade 6 for six years, and he teaches science with one female teacher at Applegate Middle School (pseudonym). Ben's middle school contains a high

population of English learners, and he also works with students enrolled in general education and gifted education. Ben has transitioned to using instructional modules over the last few years that progress according to the students' needs and has piloted several digital initiatives in his school. He discussed the benefits of digital formative assessments in his individual interview and delineated:

> Many of them are digital . . . Kahoot, uh, Socrative, I have used because the kids are getting instant feedback. They can see . . . oops, I got it wrong, or I didn't get it wrong. I like Socrative better because, um, they are not competing against the other students. They're seeing their real-time and how they are doing. Kahoot seems to be more of a competitive based, and the kids see . . . hey, I am at the top of the class, more than . . . oh, I missed that question and why did I miss that question. Um, so if I am trying to see where they are based, I will probably use Socrative more than I will Kahoot. Kahoot is good for the in-the-moment . . . hey, I need something really quick to figure out what they're doing. Socrative would be more like . . . something is coming up. (Ben, individual interview, November 19, 2015)

Ben did not add to the definition of FAPs provided, and he reported his frequency of use as "two to three times a week" (Ben, screening protocol, October 28, 2015). When asked about the common types of FAPs he uses, Ben said, "Question/response, sentences frames, written short answer, Kahoot, ticket out the door, Socrative, and Brain Pop" (Ben, screening protocol, October 28, 2015).

Kateline

Kateline is in her second year as a teacher, and she has taught science in grade 8 both years. Kateline teaches with a male teacher in grade 8, four other academic teachers, and 13

additional content area teachers. She works in one of the smaller middle schools in her district. However, she teaches a diverse population of students enrolled in gifted education and regular education, as well as English learners. Kateline emphasized the importance of getting to know the needs of the whole learner throughout the study. For example, she discussed one of her daily routines and its importance. Kateline said:

> To really know my students has been the biggest change as far as my teaching has gone. I stand at the door every morning and greet my students. How are you? How are you? Good morning. It's been a good break, but it's nice to see you again. Monday morning was the long break after Thanksgiving of having nine days off. One of the kids said, "I missed your good morning every day." You do not know. That may be the only good morning they get every day. Most of them gets themselves ready while their parents are at work. They need to see that somebody is on their team each day. Somebody is here and they are here for me. That is really important. (Kateline, individual interview, December 1, 2015)

When asked to contribute to the definition of FAPs, Kateline replied:

> I love how this is called a learning check-up. Something else that maybe could be mentioned is how this takes different forms. Sometimes, I feel like we automatically assume that it has to come at the end of the lesson and be a TOTD [ticket out the door], but there are some many other forms. (Kateline, screening protocol, October 28, 2015)

Kateline provided a detailed description of her use of frequency. She stated, "I typically use formative assessments once or twice per lesson dependent on how new the information is. If the information has just been unleashed, I usually wait a little bit longer to formatively assess" (Kateline, screening protocol, October 28, 2015). She described the types used as "tickets out

the door, 1 minute essay, 3 minute CSET [claim, set-up, tie-in, and evidence], 3-2-1, twitter, Instagram, hand signals, observations, and quizzes and much more" (Kateline, screening protocol, October 28, 2015).

Pamela

Pamela has taught middle school math for 15 years and has spent 10 of those years in grade 8. She has 23 years total experience in middle school and participated in her district's second MDC cohort. Pamela's instructional coach, as well as her building and district leadership ask her frequently to model FALs for new teachers, others in her building, and math teachers across the district. By her own admission, Pamela does not accept change easily and wants to be convinced of a strategy's usefulness before accepting it. Although she did not really like the FALs at first, Pamela's desire to use them occurred after teaching one focused on scientific notation. In fact, she explained:

> This is one of the first ones that I did with that group and it was a card sort where you matched up the atoms and at the end of the class one of the girls came up to me that proclaims how she's terrible at math and she said, "Thank you for doing this. This was one of the best math things I've ever done," and I was like, "This is awesome," and I mean I'll never forget her coming up and she was like, "You can do more things like this," and that really stuck with me the last several years and to me that's probably been the most beneficial to just know that she had that buy-in and that's one FAL Lesson that I've continued the last two years. (Pamela, individual interview, November 11, 2015)

Pamela like the definition of FAPs provided. When asked about her frequency of use, she stated, "I try to do one form or another each day, but in reality, I would say 3 or 4 times a week" (Pamela, screening protocol, November 2, 2015). The types of FAPs used in her classroom

include “FALs from the state, whiteboards, grade a few problems on their work, and starter type problems to group them into what they need to work on” (Pamela, screening protocol, November 2, 2015).

Jack

Jack has taught grade 6 math eight years. He serves frequently on school and district leadership teams for lesson design and review of common formative assessments implemented in the district. Further, Jack has been selected twice to work with a national organization that designs curriculum for educators. He teaches math with another male educator in his grade, six other teachers in grade 6, and 14 additional academic teachers in his middle school. He serves diverse students enrolled in general education, gifted education, and special education, as well as English learners. Jack emphasized the importance of students connecting their thoughts both verbally and in writing. Jack stated:

> Some kids can explain it verbally no problem. In fact, most kids can. It’s when it’s taking it and having to write it out, that’s where they struggle. Verbally my kids are talking every day about what we’re doing, uh, about the process, and not just, “Hey this is the answer,” but that’s the, I mean, I get them to talking about why they chose what they did and if they can’t do that then I feel like I need to either give them the words to say, um, give them examples of how to say it and let them pick what makes sense. Um, so I do try to scaffold that but for the most part I want them to create their own coherent thoughts about the process so I use one-on-one questioning more than anything else. And then after that I just do quick observations. (Jack, individual interview, November 9, 2015)

In the screening protocol, Jack wanted to clarify how FAPs occur right in the moment of teaching. He explained:

> I know the phrase "future instruction" means "from this point forward" but I also consider it to mean current instruction as well. Sometimes formative assessment occurs within the middle of teaching a new concept and it's important to adjust that teaching if it becomes apparent that students aren't grasping what is being taught. (Jack, screening protocol, November 4, 2015)

Additionally, he emphasized a high frequency of use. Jack stated:

> According to the definition, I use a form of formative assessment daily. However, I do not use the formative assessment with all students every day. In terms of all students, I try to use some type of formative assessment at least once or twice a week. (Jack, screening protocol, November 4, 2015)

When discussing the types of FAPs most frequently used, Jack listed them as:

> exit slips, quizzes, practice problems, describing to a partner how to do something, quick nod, thumbs up/ down, watching body language, one-on-one questioning, student descriptions of a process or concept, fingers up (1-5; 1 being "got it" and 5 being "I have no clue"), cold calling, and listening to student conversations. (Jack, screening protocol, November 4, 2015)

Patricia

Patricia has taught middle school for six years. She has spent five years in grade 7 math and has seven prior years of elementary school experience. Patricia teaches alongside two other math educators in her grade, six additional academic teachers, and 22 other teachers in her middle school. The students she teachers represent diverse populations, including English

learners and students enrolled in special education, regular education, and gifted education. She participated in the district's second MDC cohort. Patricia highlighted the importance of FAPs for differentiation during her individual interview. She explained:

> I have Special Ed students in that class, umm, and it helped them tremendously being able to see it and so that way they could, almost as quickly as some of the higher level students, instead of having to write it down and think it through, they were actually able to highlight, underline and be able to get to it almost as quickly as the other students because they had to show the other students how we could paraphrase some things, and so that way they were both able to try and get the answer at about the same time. They were like, "Oh I'm just underlining this and they had to write but by the time they wrote they had underlined," and they were getting the answer closer to the same amount of time. (Patricia, individual interview, November 13, 2015)

Patricia declined to add to the definition of FAPs provided, and she reported her frequency of use as "daily and weekly" (Patricia, screening protocol, November 4, 2015). When asked to describe the types of FAPs she uses in her classroom, Patricia stated, "Thumbs up/down do you agree or disagree with an answer, write the answer on paper, and 1 question do they get it" (Patricia, screening protocol, November 4, 2015).

Focus Group Participants

Eight middle school co-researchers participated in the focus group representing all four of the school sites in the study. The group included five math teachers, one ELA teacher, one science teacher, and one social studies teacher with four educators teaching grade 6, three teaching grade 7, and one teaching grade 8. Seven of the co-researchers were female and one was male. The co-researchers in the focus group have a combined 96 years of teaching

experience in middle school. The group clarified an important distinction of FAPs during discussion and focused attention on the relationship between lesson planning and practice. The instructional aspect of being in the moment is described by Angela:

> I do think certainly that it is in some ways the biggest component for driving instruction and kind of like what you mentioned, you do not always know you are doing it until you are there in the moment doing what you are doing whether it be an activity or a discussion. You really may not know what direction your either review or maybe doing some enrichment will go until you are in the moment to do the formative assessment. (Angela, focus group, January 7, 2016)

The focus group also discussed the importance of using common terminology when referring to formative assessment practices. Several co-researchers mentioned the benefits of FAPs for all students, especially for differentiation. Jack encapsulated these ideas during the focus group. He said:

> I think I have always done formative assessment. I just didn't know it was called formative assessment. In my teacher training, it was maybe called check for understanding or we all had these different words, but I think now the word is formative assessment. It is assessment that informs your teaching. I think it very much relates to differentiation, like you said. I think there are some generic differentiation strategies that we have for certain groups and populations, but then you have just that huge chunk of regular old kids who need to be differentiated in a small way the next day. That is where the formative assessment comes in and either strengthens our preconceived ideas of what we thought we saw in the classroom that day or it goes against it, and I'm moronic because they had it, and I did not even have a clue they had it. So I think it is becoming

> more aware of what formative assessment is and allowing it to help us differentiate either the next minute or the next day or whenever it happens to be. (Jack, focus group, January 7, 2016)

Ultimately, the most centrally discussed idea focused on the need for differentiated professional learning for teachers. While the co-researchers praised the district and their schools for a positive environment and support for professional learning, the focus group felt the amount of innovative practices presented were overwhelming. Lisa stated:

> I do not think it is a matter of quantity. It's the quality. It's the variety of things. Why should I sit through something I have been through 23 times when there is something else like some technology formative assessments I could go to. We should have choice because that is part of formative assessment. Can you choose something else? Can you go on and do something else because you already have this? It should not be any different with adults than with kids. (Lisa, focus group, January 7, 2016)

Andrea agreed with this idea and added that making a shift in professional learning practice would impact school culture. Andrea explained:

> And I think they need to be aware that some people who have been in the building multiple years and maybe others have not, we have learned something previously that they just were not here to learn. So they should just keep that in mind. Maybe I have to do a little more professional development on this, but I think also making it an option, for example, the principal might require certain people to attend a professional development, but then make it optional for others. Nobody has to know who is required, and nobody has to know who took the option. That might make the better school culture. (Andrea, focus group, January 7, 2016)

The collegial environment within the middle schools and across the district provided the co-researchers in the focus group with a platform to demonstrate an ease of communication and sharing of ideas during the research study.

Results

The results of this study were identified through analysis of a screening protocol, individual interviews, a focus group discussion, and the review of site documents. Initial generation of codes and coding of primary documents occurred with the aid of ATLAS.ti qualitative software. The software provided the platform to upload hundreds of pages of primary document transcripts, identify codes, code primary documents through multiple cycles of coding, merge codes as result of continued discovery of meaning and essences, and identify themes linked to the study's four research questions. Further, the software allowed for the linking of codes to the questions asked in the individual interviews and focus group discussion. These questions were already linked through design to the study's research questions and theoretical framework(s) and were connected to the foundation of literature related to this study. Codes are detailed and organized by research questions in the Enumeration Table (see Appendix M for Enumeration Table). ATLAS.ti served as a vehicle for identifying themes for this transcendental, phenomenological study of middle school teachers' implementation of formative assessment practices. Answers to the study's four research questions were provided through data analysis of a screening protocol, 17 individual interviews, a focus group discussion with eight co-researchers, and a review of site documents, including lesson plans from all co-researchers and samples of teacher-generated formative assessments. The theoretical framework(s) for this study, formative assessment theory, social constructivism, and experiential learning, frame the rich, descriptive nature of the discussion for each research question.

Research Question One

The first research question, "How do middle school teachers in a semi-rural northwest Georgia school district describe their implementation of formative assessment practices?" sought from co-researchers detailed descriptions of their implementation of formative assessment practices. Their responses were aligned and coded to research question one from the screening protocol (see Appendix D for Screening Protocol, questions 11-13), the individual interviews (see questions 1-3), and the focus group. The three main components of this research question centered on questions related to the definition of FAPs, the frequency of use of FAPs, and the most common types of FAPs. These elements also presented themselves in the lesson plans and teacher-generated sample formative assessments. Consequently, data analysis identified one central theme to describe the co-researchers' implementation of formative assessment practices—evolving implementation.

The description of middle school teachers' implementation of FAPS as an evolving implementation is grounded in formative assessment theory. Specifically, if FAPs inform instruction and adjustments to that instruction in the moment and over time, then this theory and corresponding theme suggest that teachers also benefit from the FAPs. Through practices, such as self-assessment, reflection, and professional interactions, teachers inform their own adjustments to the formative assessment practices implemented and their understanding of them. Further supporting this theme of evolving implementation, social constructivism, and experiential learning are evident in the social interactions between teachers and students, students and students, and teachers and their colleagues. The act or experience of teaching itself reflects experiential learning as the teaching experience, the interaction between the learner and the environment, triggers growth and learning.

Concerning the definition of FAPs, co-researchers' descriptions range from those who accepted the definition provided as a whole to those who desired to add or change one portion of it to others who contributed an in-depth revision. For example, 10 co-researchers accepted the definition, five offered slight additions, and four offered more extensive comments during the screening protocol. Teresa said, "I would not change or add to the definition" (Teresa, screening protocol, October 25, 2015). Brenda added, "I would add that it is an informal, quick check" (Brenda, screening protocol, October 23, 2015). Jack contributed more extensively:

> I know the phrase "future instruction" means "from this point forward" but I also consider it to mean current instruction as well. Sometimes formative assessment occurs within the middle of teaching a new concept and it's important to adjust that teaching if it becomes apparent that students aren't grasping what is being taught. (Jack, screening protocol, November 4, 2015)

This trend continued during the individual interviews. However, as this theme suggests, the co-researchers' level of understanding continued to evolve. Angela offered more during the individual interview. She stated:

> I think that probably at the root of the formative assessment is you really knowing where they are, so knowing if they are missing something in the background . . .it's a building block, so that would certainly help to better lead your instruction. (Angela, individual interview, November 19, 2015)

April also added a more elaborated idea not originally offered during the screening protocol. She discussed:

> I think that the only thing I think you would need to add would be something about it being regular or systematic and that it be purposeful check-up . . . that you are aware that

> you are doing it and not just something you are doing for one kid, but that you are doing it for a multitude or for many. (April, individual interview, November 16, 2015)

Related to the frequency of use for FAPs, co-researchers reported a range across the continuum, including daily, weekly, several times a week, per unit of study, multiple times during a lesson, and minute by minute. Data collection for this specific code did initiate in the screening protocol. However, the most detailed, rich descriptions of frequency presented during the individual interviews. April referenced how her frequency has shifted with the addition of digital technologies. She explained:

> Now that I can do things digitally, I am more structured when I do them. I am more aware, and I keep track of them and record them better. I remember when I first started teaching, we would like do running records and I would keep them in a notebook and it would be, or on a notecard, and all that data was hard to keep it together. It's a little bit easier to keep it together now, so I am probably more frequent in the formality of that stuff than what I was before. I don't think that means I am assessing more, just a little bit differently. (April, individual interview, November 16, 2015)

During his individual interview, Ben shared that he shifted from the use of summative assessments to a greater focus on FAPs. He offered this description:

> In the last year or so, I have done more personal one-on-one interviews with the kids, just so they know where their understanding and where their standing in the class is, and they seem to appreciate that more as they're going, okay, I need to work harder, or I need to push myself a little more. I would say in the last five years I do more formative than summative, except for the county benchmark and what-not. (Ben, individual interview, November 19, 2015)

Further, Jack discussed an issue he identified as natural teaching and wanted to clarify this statement during the focus group. His clarifying comments connect to the aspect of frequency. Jack explained:

> I remember reading it and thinking, wow that sounds really bad. I meant I do not think someone can teach and not include formative assessment because then that is not teaching. That is just lecturing or something. Teaching is all encompassing of presenting new information, reviewing the old information, and then checking to see if that information was received. The checking piece of teaching is the formative assessment piece, so I really don't think that you can teach and not assess. They are one and the same, so that is why I wanted to clarify that. (Jack, focus group, January 7, 2016)

The types of FAPs most commonly used by the co-researchers also link to the theme of evolving implementation. The co-researchers in the study described numerous types of FAPs from those they named, such as tickets out the door and thumbs up or thumbs down, to those they described, such as having students talk with a partner and listen to their responses, to others that fit in categories, such as observing, questioning, and writing. Of the types of FAPs described by co-researchers, writing as formative assessment presented 38 times in the primary documents from interviews and the focus group. This aspect of FAPs was unexpected. Brenda described how she elicits writing in math. She discussed:

> I always like to make them not just give me the answer, but they have to give me the answer in words. That is one of our essential questions this week. How do we interpret unit rates with our math and with our words? (Brenda, individual interview, November 19, 2015)

Ben related the aspect of writing as formative assessment in a manner that exposed his thoughts

about multiple-choice questions. Ben offered:

> Probably my biggest influence was through my masters on curriculum and instruction and realizing that the multiple choice tests are really outdated. You are not getting a good understanding of what the child knows. If you have them write out an answer, explaining it, it raises their depth of knowledge a great deal. You can understand where there might be gaps, and you can go back and pull out a small group from it. It's just changed how I look at where the child is. (Ben, individual interview, November 19, 2015)

Several co-researchers referenced a writing framework implemented across the middle schools called CSET, which refers to a writing framework for argumentative writing where students make a Claim, followed by a Set-up, Evidence to support the claim, and a Tie-in. While designed for argumentation, teachers across many content areas expressed using it for students to justify their answers or thinking. This provides additional support for the theme of evolving implementation of FAPs. Kim described one level of implementation with CSET and writing as formative assessment. She stated, "We are using the CSET writing techniques in math this year, and I have pulled so many real-world math examples this year" (Kim, individual interview, November 13, 2015). Lisa, an English and language arts teacher, explained:

> We've been working on CSET and working on argumentative essays and we have done a lot of modeling and a lot of doing things together so when I see them writing, copying things down, I can see that they're following along with what I'm saying. Maybe not whether they're getting it yet but they're at least attempting it so that's a step in the right direction. Then you can go a little step further and say, well, use the same information, use this outline I've used, use the same formula for CSET and write a paragraph on your

> own, then that lets me know whether they can do it or not. (Lisa, individual interview, November 16, 2015)

Melinda, a second-year math teacher, offered a description of using CSET that helped her differentiate for a group of students who had not yet mastered the learning target for the day related to Pythagorean Theorem. She said:

> I gave them one specific problem and asked them to perform a CSET with it. So that was my formative assessment for the day, and as they began to tie in their information with that, some of them had difficulty with their explanation, so they understood . . . well, I plug this in here and this makes sense, but why really wasn't coming to them. So I was able to pull those students separately and talk to them about . . . well, this is why and gave them kind of "if then" sentences and was able to bring them along in their understanding. (Melinda, individual interview, November 10, 2015)

Ultimately, across all four content areas and grade levels, co-researchers described their use of writing as a FAP, and they presented varying levels of implementation with using it.

Further, co-researchers identified an issue related to the types of FAPs. The co-researchers described a sense of confusion about not having a common language available to them to describe FAPs. This trend presented in all aspects of data collection. In the screening protocol, several co-researchers who taught math reported initially that they only used the FALs in math introduced to them during the district's MDC initiative. For example, Melinda said, "I use math based formative assessment practices aligned with the 8th grade common core standards" (Melinda, screening protocol, October 21, 2015). Kim produced a similar response and stated, "In a perfect world, where time is not an option, I would use FAL's about once every unit. Normally, I have time to implement a formative assessment lesson every other unit" (Kim,

screening protocol, October 19, 2015). Following training and multiple coaching and modeling sessions of the MDC initiative, the district established the expectation for all math teachers to use a minimum of one FAL per unit in math at each grade level. The math co-researchers understand this expectation and immediately associated FAPs with that expectation.

During the individual interviews, the progression of questions produced additional responses that included types beyond those from the MDC cohort. However, co-researchers continued to express the importance for a shared language to identify and describe the types of FAPs. During the focus group discussion, this trend resurfaced. Lisa described the confusion created in the absence of shared language. She reflected:

> I don't think anything I ever had in college was called formative assessment in my teacher training programs. In fact, I was thinking today about some of the strategies that we use, and we call them formative assessments now, but they are also strategies from SIOP. They are the same activities and the same design, but you call them different names at times depending on what program model you are using. (Lisa, focus group, January 7, 2016)

The theme of evolving implementation of FAPs suggests that middle school teachers in this semi-rural, north Georgia school district understand the tenets of the definition of FAPs, implement them with some consistency, and use a variety of types of FAPs, including innovative types that incorporate writing and digital tools. Even with regard to the need for shared language to identify these practices, one co-researcher explained her thoughts and said, "I think that [shared language] is starting to happen. Since we have incorporated it into our lesson plans, there is more discussion, such as what did you put on formative assessment for this week" (Kathy, individual interview, December 4, 2015). Additionally, Kathy offered one strategy to use FAPs

more consistently. She suggested teachers "categorize the different types of formative assessments, so that action might help us. If I am only doing this kind and not doing these others, then it might help me to maybe take it up a little bit" (Kathy, individual interview, December 4, 2015).

Research Question Two

Research question two, "What perceptions do middle school teachers have about how formative assessment theory and its practices influence their decisions to adjust instruction?" elicited from co-researchers the second highest family code count in the study, 383 times. Co-researchers provided thorough descriptions of their perceptions of FAPs and formative assessment theory as related to decisions to adjust instruction. Further, the individual codes of perceptions of formative assessment theory and adjust instruction occurred 76 times and 110 times respectively. The questions used to collect responses align most directly to the individual interviews (see questions 4-7) and the focus group (see questions 5-6). Co-researchers described their perceptions in terms of instructional experiences with FAPs, the influence FAPs have had on their overall assessment practices, adjustments made to instruction, and both successful and unsuccessful instances of using FAPs in their classrooms. The 18 codes aligned to this research question identified a single theme to describe middle school teachers' perceptions of FAPs and formative assessment theory—knowing their students.

The level of knowing reflected in the co-researchers vivid descriptions goes beyond learning a set of names each year. The co-researchers' image of knowing involves recognizing students as pivotal players in the actual FAPs, differentiating to meet their academic needs, and remembering not to neglect the social and cultural influences present in the classroom and beyond. Further, the influence of the study's three theoretical frameworks present visibly

through descriptions of the interactions present in peer-assessments, self-assessments, questioning exchanges and progressions, and the discussion of alignment between assessment and instruction.

Pamela, a veteran math and middle school teacher, described how she used FAPs, differentiated, and adjusted the instruction based on data when using white boards. Pamela indicated:

> We were doing a problem and they held up their answer and I checked really quickly to see who was getting that type of problem and I adjusted the problems that we were working on and even split into two groups to continue practicing. (Pamela, individual interview, November 11, 2015)

Patricia detailed her own experience where FAPs, differentiation, and the learning needs of a special education student took priority. In this case, an instructional decision emerges because the student's ability to demonstrate learning target mastery indicated readiness for assessment, so assess formatively is what Patricia did. She explained:

> I said, "Okay, going back to our essential questions that are on the board, this is your essential question. What would you do?" She could tell me exactly what I needed to do. I said, "Okay that's when we're going to check it off and say we know she knows how to do it," because she can explain it to us in words but there was no way she got it on that test. It was like too much for her to input and output and be able to get it right, but we knew she could tell us what it was. (Patricia, individual interview, November 13, 2015)

Yet another co-researcher emphasized the simplicity of FAPs and differentiation. She said, "Every time I give an assessment and the kids do or don't do well, it changes the way I teach that in the future to that group or to a different group" (April, individual interview, November 16,

2015).

One co-researcher, a second-year science teacher, expressed the social and cultural aspect of knowing her students related to assessment practices. Kateline argued:

> I think . . . not even assessments for learning, while I do agree that I use it towards learning, but even sometimes to gauge how their day is going. Sometimes, I use them as an assessment of okay, where are you today? Are you here with me? What happened this morning? How do I get you back into this lesson? I think I even use it almost emotionally and socially to see how this is going. I would add that it is a way to assess not just learning, but are we ready to assess the learning? (Kateline, individual interview, December 1, 2015)

Further, relating perspectives from the classroom and as a parent, April warned that students often confuse assessment practices with certain social norms. She explained:

> I have children of my own, and one of my daughters came home in 6th grade and said, "I do not know why I got a C mom. I think it's just because my teacher does not like me. My teachers liked me last year, and I did well." She had no idea that a grade had anything to do with something other than who she was as a person. (April, individual interview, November 16, 2015)

Several co-researchers saw aspects of social and cultural influences within classroom culture. For example, Ben discussed the importance of timing in the classroom with regard to FAPs and the contrast between formative and summative assessments. He reported:

> Just knowing your students, I think summative assessment is too long, too big of a gap between the information that the child or student gets before the summative assessment. Formative assessment I think is a more, a better timestamp, uh, I would put it in trying to

> understand where their learning is and seeing where you have to go back and assess. (Ben, individual interview, November 19, 2015)

In contrast, Andrea described the importance of establishing a classroom environment where openness in interactions between the teacher and students provides opportunity for FAPs to flourish. She discussed:

> I am just very open with the kids and say it's okay to make mistakes. Um, we can learn from each other because it helps me as a teacher grow. Um, to go, okay, you know what, I had not thought about that, especially with my gifted kids because they challenge me a lot to explain something. And this group, this year, wants to know why. They're all about the whys. And so you have to step back and go, let me think, okay, explain it, and I actually came up with something better this time to help explain it, but yes, just have an open [discussion] and say it's okay. We can make mistakes, but we are going to learn. We are gonna start from the beginning, and you will be able to show me up to the very end what you know. (Andrea, individual interview, November 19, 2015)

Co-researchers provided descriptions of elements related to this code 32 times during the individual interviews and the focus group. All eight codes in this family combined for a total of 187 references linked to socio-cultural influences.

While the previous examples focus on the theme of knowing their students through the lens of the social and cultural influences, co-researchers felt that adopting such practices also engage students as active participants in FAPs. Describing an interaction from a student observing her instruction of another student, Andrea described how the observer became the active participant through peer assessment. She stated:

> And another boy . . . chirped in from behind and said, you can't mix apples with oranges, so it is combined. So I was like, you know, that was the formative assessment telling me that they had learned last year, and they still remembered it. So I was pretty excited about that one. (Andrea, individual interview, November 19, 2015)

Another co-researcher expressed student involvement in FAPs through self-assessment, stating, "I think when you have students, and it is more student-centered, they're going to . . . it's going to mean even more, and they are going to learn from assessing themselves" (Angela, individual interview, November 19, 2015). Further, Angela asserted that just as students have an active role in FAPs the teacher must also engage in modeling these behaviors for the benefit of the students. Angela stated:

> They are learning to assess themselves along the way as part of the process. I certainly hope that the students I have had in AP [advanced placement] courses, moving through school are able to do that internally, but it takes practice. They have to be in classes where teachers are really working hard to do that. (Angela, focus group, January 7, 2015)

Continuing this trend, Jack reacted during the focus group and posited that students would benefit in equal measure if not more. Jack responded:

> I really like that. I never thought of it. We hear the phrase life-long learners, and we as teachers are supposed to be life-long learners and teach our kids that. One of the things we do as teachers is self-assess. I don't expect my students when they are say 21 years old to give themselves a ticket-out-the-door (laughter). I do not think that is the idea, but if there is at least some strategy they have developed, at least an understanding of how do I know I have learned this? Even beyond college and in the workplace, that they have some kind of understanding of how do I know I've got this? I think it develops

> throughout their experiences in our classrooms, just the idea of checking themselves. I really like that. (Jack, focus group, January 7, 2016)

Co-researchers provided 19 descriptions for the code self-assessment with students. Of the eight codes in this family, co-researchers provided 153 examples of students playing an active role in FAPs.

The theme of knowing their students suggests that middle school teachers in this semi-rural, north Georgia district embrace any best practice that will help them reach their students. As a beneficial practice, FAPs enable these middle school teachers to differentiate for their diverse student populations, align assessment and instructional practices, and achieve innovative avenues to implement FAPs with success in their classrooms. The accomplishments of these teachers are evidence that strengthens the connection between the theme knowing their students and research question two of this study.

Research Question Three

For the co-researchers, research question three, "What obstacles do middle school teachers describe as hindering their implementation of formative assessment practices?" offered a voice to their challenges and frustrations. The 17 co-researchers in this study described a partially developed common language for FAPs and competing expectations for their use among colleagues, instructional support staff, and leaders that too often left them frustrated and uncertain. The co-researchers' descriptions align best to questions posed in the individual interview (see questions 8-10) and the focus group (see question 4). These questions, in turn, align to this research question and the study's three theoretical frameworks through emphasis on adjustments to instruction, assessments for learning, appropriate instructional uses for FAPs, learning target mastery, and data use from FAPs. Therefore, the co-researchers desired

development of a common language and shared expectations, so that they can overcome these obstacles and attain consistent implementation of formative assessment practices. The identified theme for research question three is the need for common language and shared expectations for FAPs.

Co-researchers felt several factors hindered the development of common language and shared expectations. Consequently, the factors caused teachers to focus independently on issues important to them rather than deciding collaboratively a focus that would benefit all. One factor discussed by several co-researchers involved various time constraints. While some were described as nothing more than speed bumps, others caused overwhelming anxiety and disruptions to the implementation of FAPs. However, even in the midst of the struggle, one teacher took a stab humorously at the plight of all. She asserted the struggle of attempting to use digital FAPs. Brenda shared, "Then again, you might try it and then that morning of the class the firewall blew up overnight and you can't use it (laughter from all)" (Brenda, focus group, January 7, 2016). This scenario actually occurred in the district and kept teachers from most online applications for close to a week before the firewall could be replaced. Referencing the time obstacle, simply put, one teacher said, "We don't have enough time" (April, individual interview, November 16, 2015). Others echoed this response but with more complexity. Brittany expressed frustration with the scheduling demands of middle school. She reported:

> The only thing I can think of is timing. You saw today with our schedules, clubs, we have had something every Friday for three months, so the whole thing with formative assessment can be a challenge. For example, we have Compass lab or Odyssey, and if your lab time is Friday, then you do not get to see those assessment levels when they are working or if your technology is not working. It's really just life. It's part of being a

> middle school teacher and so sometimes you are not as consistent as you would like to be. It's not like what is described in the textbooks, and you can be all perfect and try this and this and this. That is just not reality. (Brittany, individual interview, December 4, 2015)

Only in her second year in middle school, Kateline desired more time to reflect on her instructional practices and get formative feedback to her students. Kateline described her emotion by stating:

> I think just as a teacher it is really hard sometimes when you get formative assessment data. You think, they are really not getting what I thought they would be getting. Sometimes, you feel like saying, what am I doing wrong? Thinking and reflecting on me and my practice has been huge. (Kateline, individual interview, December 1, 2015)

Adding to the frustration with timely feedback, April vented, "If the formative assessment is so tedious that you can't get it accomplished, or you can't get to everyone or you can't do something with it, then it's a waste of yours and their time" (April, individual interview, November 16, 2015). Responding to a question about times when FAPs were unsuccessful, April provided the following in-depth description:

> I do check every kid from time to time, but sometimes the tedium of the assessment is so huge that it becomes not timely feedback, and you are not changing things quickly enough to respond to it, so if you don't really look at the assessment for another three weeks, it does not matter anymore. In three weeks, they could have learned a lot. (April, individual interview, November 16, 2015)

Further, Ben explained how students' lack of understanding how to interpret formative feedback becomes an obstacle with the limited time available. He shared:

> I do not think they realize that if I do a self-assessment and give them, they receive a certain score, that they know how to take that, especially with the Milestones and they are scoring on a 4, 3, 2, 1 scale. I've kind of been adapting my grading scale similar to that the last couple of years. But it is re-teaching them every time that this is why you got a three instead of a four and a one and not a three. (Ben, individual interview, November 19, 2015)

Melissa's frustration comes out when describing the desire for time to reflect on her own instructional practices and determine the best FAPs to use for learning target mastery. She stated, "I don't ever really know how to gauge that [mastery] with the language arts when it's not cut and dry" (Melissa, individual interview, December 1, 2015). Melissa continues, "It's not just one answer so how do you . . . I really struggle with making sure that the kids are successful with that when it comes to the reading part of formative assessment" (Melissa, individual interview, December 1, 2015).

Tim and others related ideas centered on the obstacle of not having a common language and shared expectations for FAPs. While the rhetoric of the discussions from the co-researchers remained extremely positive, the anxiety of not knowing what is expected presents in Tim's description. He stated:

> It wasn't even clear to me what formative assessment meant. Formative could be that you are forming an opinion, and that is what I needed to hear, and for a lot of years, I didn't hear that and so I did not really understand. They would say summative is this, and formative is this and then start talking about it and I still didn't know what we were talking about. When they are going into specifics on each of them it is very confusing when you do not know which one is which, so that really hurt. I didn't know what they

> were talking about, so it was hard to do either one of them. (Tim, individual interview, November 11, 2015)

Jack also discussed the importance of having a common language to describe FAPs. However, his description demonstrates the resiliency of many in the teaching profession. Jack confessed:

> Okay, so when you gave out that initial survey, and I think we even talked about it. Uh, and you said what type of formative assessment practices do you use? I went and Googled formative assessment practices and just checked off the ones that I did just to see. I did that very thing, and then our administrator last year gave us 53 quick formative assessments. I keep that posted by my computer for either choosing something new or validating something I already do, so I think a list is a great idea. It gives teachers encouragement that they are doing the right thing, and here are some other things to consider that would also work effectively. (Jack, focus group, January 7, 2016)

Although co-researchers acknowledged how obstacles hindered their implementation of FAPs, the group maintained an attitude that expressed they would find a way to master the learning. One co-researcher summarized this attitude best:

> I think any time you try something for the first time, there is that learning curve. We all want to do it right the first time, but that is what I tell the kids, too. We are not going to all get it. I did not learn how to ride a bike the first time I got on one. That is my go-to reference with them. I think that is really the only reason because I was not as comfortable with it. I just did not. This turning them [the students] loose and letting them go is difficult for me. (Brenda, focus group, January 7, 2016)

The notion of an obstacle appeared 40 times as an isolated code in the quotations taken from individual interviews and the focus group. The composite of the 15 codes represented through

this research question referenced statements made by co-researchers 373 times connected to the family of codes that identified the theme—the need for common language and shared expectations.

The theme suggests that the co-researchers acknowledged their own deficits and took ownership of what needs to happen to move their understanding of FAPs forward. However, overcoming the absence of a common language and shared expectations requires efficient management of time constraints, changes to daily structures and routines, and introduction of new models of professional learning. The co-researchers did not independently control these factors or feel compelled to engage colleagues, instructional support staff, and leadership to accomplish a shift in practice. Further, the co-researchers' descriptions conceded that work must still be done to achieve a consistent level of implementation for formative assessment practices in their district. However, the teachers in this study seemed to possess valuable and rich experiences with making decisions to use FAPs instructionally, to assess for learning and adjust instruction accordingly, to determine if learning target mastery has occurred, to collaborate with others to use the data generated from FAPs, and to manage time constraints efficiently.

Research Question Four

The final research question, "What additional resources and professional learning experiences would middle school teachers find beneficial to use formative assessment practices consistently?" centered on the professional support needed to implement FAPs consistently. For the 17 co-researchers in this study, the questions used to facilitate discussion and collect data for research question four provided them with a laser-like focus. Their descriptions of the additional resources and the professional learning experiences needed to use FAPs more consistently align to the individual interview questions (see questions 11-13) and the focus group questions (see

questions 4 and 7). The main features of these questions revolve around the expectations for FAPs found in the state's teacher effectiveness model known as TKES and the district's non-negotiable practices. Co-researchers described perceived expectations through positive and negative aspects of professional learning experiences provided on campus, in district-led sessions, and at conferences. The need for differentiated professional learning is the theme identified for research question four resulting from data analysis.

Co-researchers began discussing elements associated with this theme very early during data collection. The threads of this theme appeared in the individual interviews and then reappeared early during the focus group discussion where the topics of additional resources, instructional coaching, instructional modeling, and the desire for differentiated professional learning consumed a large portion of the time. Specifically, co-researchers understood clearly the local and state expectations for FAPs. The group acknowledged the benefit of the district-provided online tool for lesson planning, but the teachers suggested modifications, including a checklist or menu containing the shared language associated with FAPs. In essence, the co-researchers desired a formative assessment toolbox built into the lesson plan template. Additionally, the co-researchers have embraced having instructional coaches in their buildings and would like to see this resource used more to model and coach middle school teachers in FAPs. With regard to professional learning, the co-researchers strongly supported the need for differentiated professional learning that would permit those teachers at various points on the continuum of understanding with FAPs to receive what they need. The group expressed the frustration of sitting through mandated professional learning based on a one-size-fits-all mentality. Through the components of this theme, the theoretical frameworks of formative assessment theory, social constructivism, and experiential learning were evident. Coaching

brings with it formative feedback, as well as the social interactions between the coach and other teachers as they collaborate to develop the best FAPs. Further, the interaction with their classroom and building environment during coaching and professional learning situations ignite growth and learning.

Beginning with the individual interviews, co-researchers posited the benefits of modifying the online tool for lesson planning. April compared the suggested tool to one that already exists in the platform for inserting standards. April explained:

> It would be really nice to me, however, just like on planbook, which is a great tool we have, there is a drop-down menu for standards, it would be nice if there was a drop-down menu for some of the formative kinds of things that we regularly do, so we could keep track of them, or having a place for you to put that data to prove you are doing it. I do not think people sometimes realize we are collecting it or using it. (April, individual interview, November 16, 2015)

Andrea described during the focus group the primary reason for this need to be met. She connected April's suggestion for modifying planbook as a means to overcome the confusion created when a common language for FAPs does not exist. Andrea stated, "It's the terminology. In college, we were not told formative assessment. We were told check for understanding, quizzes, check points, warm-up, starters, whatever you call it. It wasn't formative assessment" (Andrea, focus group, January 7, 2016). Adding common language to the digital planning tool would make it possible for teachers to then access shared data from their implementation of FAPs. April discussed the benefits of tracking data from the FAPs teachers use in order to provide formative feedback about which types are working best for students. She offered:

> It would be nice to have a more systematic way to track that and a way to compare that with where people are having success with things that you are not. If we were more unified in some of that, then in another school and they were collecting the same data, for example, on the questions where we were having the issues with kids not using complete sentences or not using the language of the question, then if I had that data in every one of my schools or in another school, and they were having success, then I would be able to ask them what they were doing. (April, individual interview, November 16, 2015)

Pamela shared her thoughts about additional resources needed and focused on options for different types of FAPs that could be entered on the lesson plan template. She said:

> I would like to say that I think there needs to be a compilation of options for some of the teachers who really struggle with this. Just hearing a learning check-up, I think if they could associate formative assessment with that, they may be more likely to use it more or realize, hey, I am doing this formative assessment because, you know, that is one of those boxes on the lesson plans. I just think a lot more people are doing it, and they do not realize it. Instead of thinking it is big they need to maybe think smaller. (Pamela, focus group, January 7, 2016)

Brenda and Patricia interacted during this discussion and together suggested a list that could be added to the lesson plans. First, Brenda offered, "Maybe just a list" (Brenda, focus group, January 7, 2016). Patricia continued this thought and added, "Yeah, a checklist or check sheet where you can say if you have done this lately" (Patricia, focus group, January 7, 2016). Brenda pulled the idea together and offered:

> Maybe just a list like a checklist. You could pull out some options, some formative assessment options, and you could say maybe you needed to change these, what you have

> been doing for the last week or two weeks or last month. Try something different. That might be a good thing for everybody to have. (Brenda, focus group, January 7, 2016)

This strand of commentary described co-researchers' willingness to take risks and try new practices, but the teachers wanted formative feedback, so that they could adjust their practices and become more consistent and proficient with their use. Several co-researchers reflected this thought along with qualities of a growth mindset. Ben related this need even to the state teacher effectiveness model known as TKES. This idea supported the co-researchers' desire for professional accountability and feedback. Ben began, "I would like better feedback from the TKES evaluation in regards to what is working and what is not working in my classroom" (Ben, individual interview, November 19, 2015). Explaining further, he stated, "I wish they [evaluators] would come into my tougher classes, the ones that I have seen as more challenging and evaluate me there because I think that feedback would be a lot more informational for me" (Ben, individual interview, November 19, 2015)

Co-researchers in the study discussed the work of instructional coaches across the data collection tools. Some mentioned assistance provided with lesson planning and ideas for different types of FAPs. Others promoted how the work of the coaches could meet their needs and the needs of the district to implement FAPs more consistently. This thread connected to codes related to additional resources and differentiated professional learning. Co-researchers referred to coaching 22 times in various contexts. Brenda noted how her coach served as a resource. She said, "I do know that the instructional coach shared with me some documents on Google that have some different types of formative assessments that you can do. I just need to use them and try some different things" (Brenda, individual interview, November 19, 2015). Another co-researcher from the same middle school referenced how feedback from her coach

made an impression. Angela stated, "I know that when we meet with our instructional coach here at the school, we look at some formative assessment practices, and she has come in to observe, and she has always been very complimentary of my questioning" (Angela, individual interview, November 19, 2015). During her individual interview, Kathy linked the coach's work to professional learning and how this resource caused her to reflect on FAPs. Kathy elaborated:

> We have had professional learning on it [formative assessment], we would get sheets from our instructional specialist on what it looks like, we had discussions, and it made me aware of what it looks like and that it is so many different things. Because of that, in my lesson planning, and also in our lesson planning we have an area for formative assessment. How are you going to formally assess? Or how are you going to use formative assessment? Every week, I am looking at that and asking how am I going to check for understanding? I think just the conversation and the sharing and the term being out there has just created more focus from my end. (Kathy, individual interview, December 4, 2015)

Kim carried the idea of coaching forward to explain that she desired someone to come alongside her in the classroom to serve as a guide and model of best practices. She first discussed the frustration of not being confident with the next steps. Kim began, "This was very daunting for me. I came out of college with my bachelor's and learned a lot doing my master's degree, but this was challenging. I kept thinking how in the world am I going to do this" (Kim, individual interview, November 13, 2015). Kim continued, "I think if money and time were not options, we need more one-on-one and on-the-spot training in the classroom. Not just sitting and talking about it. Somebody needs to come into the room with me" (Kim, individual interview, November 13, 2015).

During the focus group, the discussion of coaching continued with the eight co-researchers in that group. However, the context of their discussion also included the need for differentiated professional learning, and the co-researchers felt that the coach, school leadership, and the district should implement this model of professional learning. During the focus group, Lisa brought the topic to the forefront and focused on the expectations for FAPs that should naturally lead to consistency of practice. Lisa reflected:

> I think one of the things you could do is implement it [FAPs] in the building from the top down. If you are expected to use this in the classroom, then why is it that administrators don't use it for professional development? Why isn't it something that is a natural occurrence throughout the building all the time? That would make it more of a habit. (Lisa, focus group, January 7, 2016)

Co-researchers in the focus group moved on to other areas of discussion, and then Jack brought the group back to the issue of differentiated professional learning. His commentary suggested building leadership should conduct formative assessments with staff before conducting the professional learning. Jack explained:

> I want to just echo again what she said about top down for how we can get it implemented. I totally agree with that on professional development. Having some type of formative assessment before you put us all into that room to teach what maybe 70 percent of us already know. And I know you want to make sure, but do not make sure by telling us again. Make sure by asking us beforehand because our time is precious, and so I would appreciate that, that mindset of let's see who knows what before we just throw out the same information to everybody. (Jack, focus group, January 7, 2016)

Lisa re-entered the conversation on this issue and compared what is done for adult learners to what is expected for students. Lisa focused first on the importance of offering choice to adults, so that the professional educator is given the opportunity to guide his or her own learning. She began, "It's the quality. It's the variety of things. Why should I sit through something I have been through 23 times when there is something else like some technology formative assessments I could go to" (Lisa, focus group, January 7, 2016). Lisa continued, "We should have choice because that is part of formative assessment. Can you choose something else? Can you go on and do something else because you already have this? It should not be any different with adults" (Lisa, focus group, January 7, 2016). Jack concurred with this idea and added that a shift of this magnitude would impact school culture just as FAPs influence classroom culture. Jack described:

> If we give different kids different assessments, we say, okay, you are ready to move on, so I give you work that is suited for you. It is a concern, but as professionals that is what we have to deal with, the climate in our classroom and presenting it in such a way that that kids who need help get it and those who are ready to move on can move on, and they just accept it. So practice what we teach. I think it is that simple and very important. (Jack, focus group, January 7, 2016)

Lisa finalized her thoughts on the need to adjust professional learning expectations and leveraged how she is evaluated as an educator as support for why local leaders should differentiate to meet teachers' needs. Lisa stated:

> I think an administrator would have criticism if he came into my room and 75 percent of the kids are sitting there because they have mastered it, and they are just sitting there while I am trying to get the other 25 percent up to speed. However, that is pretty much

> what we do in professional development, faculty, staff, training, whatever. The ones that have it are still sitting there while everyone else is catching up on that particular topic. There are other things you could have them doing during that time. Not going out to eat or taking a nap. It's not that you are trying to get out of it. It's just that your time could be used for something else. (Lisa, focus group, January 7, 2016)

The co-researchers turned their attention to several other topics of discussion while responding to the guiding questions for the focus group. However, before concluding the session, Jack offered to the group a personal experience where the differentiated professional learning model was implemented. He described the experience, the success he felt, and how coaches were involved. Jack delineated:

> When I had an opportunity to work for Learn Zillion, and it's a company that was started by former teachers and administrators, and they modeled it [coaching and professional learning] very well at all our conferences. It is a very intense and jam-packed schedule with this is what we expect from you, but then they structured it in such a way that you could actually accomplish what they asked from you. We all had coaches, so the coach had maybe six or seven people on a team. Throughout the conference they would have digital surveys. How are you doing after the first day? What did you like? What did you not like? What is overwhelming you? They were short, five or six question surveys. Then they would have a meeting with the coaches, share the survey results, depending on the content level, and this last year was math, so we were all math, and let the coaches specifically go over with their team members the issues described in the surveys. It was immediate feedback, and as the administrators they discussed it that night, discussed it with the coaches, and came back and discussed it with us. I thought that was very

> effective. They were under a time crunch, so they kind of had to do it that quickly. I felt like it was a good model in that they were very responsive to the people they hired to do the work, to make sure they would get to do it because they knew the work could be overwhelming. It made us feel valued that our opinions counted and that the concerns we had were met prior to going home for the summer and just doing all this work by ourselves. That for me was a good model of how to use data to drive the coaching of the teachers. (Jack, focus group, January 7, 2016)

As Lisa discussed previously, teachers want to do the work. In her words, "Not going out to eat or taking a nap. It's not that you are trying to get out of it" (Lisa, focus group, January 7, 2016). However, in my discussions with co-researchers, I found that teachers work best in collaboration with others, such as colleagues, coaches, and local and district leadership, in order to achieve the best results for students. The theme connected to research question four—differentiated professional learning—is supported by the theoretical frameworks for this study and describes the additional resources and professional learning experiences middle school teachers found beneficial to use formative assessment practices consistently.

Summary

This transcendental phenomenological study sought to understand the factors that affect middle school teachers' implementation of formative assessment practices in a semi-rural northwest Georgia schools district. Through the use of a screening protocol and purposeful sampling, identification of participants occurred to include co-researchers for the 17 individual interviews and the focus group of eight co-researchers. These co-researchers represented four middle schools, all three grades (6-8) in middle school, and all four academic areas in middle school (English and language arts, math, science, and social studies). The co-researchers

represented a cross-section of educational years of experience from second-year teachers to those beyond 20 years of experience. Data analysis employed Moustakas's (1994) transcendental phenomenology model, comprised of *epoche*, phenomenological reduction and horizonalization, imaginative variation, and the synthesis of textural-structural descriptions of the co-researchers' meaning and essences. ATLAS.ti provided the digital tool for coding and theme identification to occur. Consequently, analysis identified aligned to each of the study's four research questions. In order of research questions, the themes included evolving implementation, knowing their students, need for common language and shared expectations, and differentiated professional learning. Themes were discussed within the framework of the study's four research questions, as each theme occurred in relationship to the questions asked in the screening protocol, the individual interviews, and the focus group. Using ATLAS.ti, these questions were linked to codes, merged into families, and connected to the research questions themselves. The study found that middle school teachers' implementation of formative assessment practices exist on a continuum that continues to evolve with new experiences and social-cultural interactions. Middle school teachers desire to know their students academically, socially, and emotionally through formative assessment practices and already possess many of the tools to accomplish this knowing. Further, middle school teachers feel frustrated by the lack of common language and competing expectations that hinder consistent implementation of FAPs. Ultimately, middle school teachers want leaders to respond to their feedback and supply differentiated professional learning. These resources are not desired because middle school teachers are selfish. Rather, middle school teachers desire to continue learning as educators and move the successful aspects of implementation for FAPs beyond the current pockets of success to the masses of educators who want mastery of learning for themselves and their students.

CHAPTER FIVE: DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

Overview

The purpose of this transcendental phenomenological study was to understand the factors that contributed to middle school teachers' implementation of formative assessment practices in a semi-rural northwest Georgia school district. All 17 co-researchers in the study represent core academic teachers from four of the five middle schools in the district and all three grades (6-8) in middle school, and they boast a combined 150 years of educational experience in middle school. A screening protocol, individual interviews, a focus group, and site documents were the four data collection tools for this study. Data analysis occurred using Moustakas's (1994) transcendental phenomenology model, and ATLAS.ti provided the digital tool for coding and theme identification to capture the descriptions of the co-researchers' shared, lived experiences with the phenomenon of formative assessment practices. This chapter begins with a summary of the findings in the context of the four research questions and continues with discussion of the findings as they relate to the themes identified, relevant literature, and the three theoretical frameworks that guided this study. The chapter also includes discussions of the implications of the study, the limitations of the study, and recommendations for future research. This chapter concludes with a summary.

Summary of Findings

For each of the four research questions that guided this study, this section delineates a concise summary of the findings. The following four research questions informed the study:

1. How do middle school teachers in a semi-rural northwest Georgia school district describe their implementation of formative assessment practices?

The 17 co-researchers in the study acknowledged that middle school teachers and schools in their district have not mastered everything related to consistent implementation of FAPs. However, the co-researchers believed their environment and culture are primed for this learning to continue. Teachers who were farther along on the continuum of learning with regard to FAPs were often used as models of instruction for others, and these teachers were willing to share their knowledge and expertise to aid others in learning. Further, the co-researchers desired formative feedback on instructional practices and wanted to continue to improve. One co-researcher summarized this finding and said, "My formative assessment has evolved through the years . . . getting a better understanding of what is formative assessment . . . it just has evolved" (Brittany, focus group, January 7, 2016).

2. What perceptions do middle school teachers have about how formative assessment theory and its practices influence their decisions to adjust instruction?

Co-researchers desired to know their students deeply in order to meet their students' needs academically, socially, and emotionally. The teachers recognized the benefit of FAPs to accomplish this level of knowing, and they perceived that the collaborative environment of their classrooms and schools will continue to foster growth and learning. The co-researchers' perceived students and themselves in crucial roles during the interactions inherent within FAPs because these interactions lead to differentiation to meet students' needs academically, socially, and emotionally. Instructionally, the co-researchers felt that openness and honesty in the classroom invited students into the formative assessment process thereby allowing teachers to adjust instruction to meet the needs of increasingly diverse student populations, including general education students, special education students, gifted education students, and English

learners. Middle school teachers in the study believed they were up to the challenge of taking learning to all students regardless of factors they were and were not able to control.

3. What obstacles do middle school teachers describe as hindering their implementation of formative assessment practices?

Co-researchers in the study described obstacles with an attitude that, in many instances, strips the power of the obstacle away. When describing time constraints, middle school teachers viewed them as mere speed bumps and showed a determination to master time rather than be mastered by time. The one issue of time teachers believed hindered them the most revolved around providing timely feedback to students, an element at the heart of formative assessment theory and its practices. Co-researchers described feelings of anguish when they discussed their desire to inform students of progress remain resolute in their efforts to find avenues to make formative feedback happen. Some focused their attention on digital tools to increase their efficiency with administering FAPs, collecting the data, and then analyzing it to make instructional adjustments. Others preferred to learn from those who have perhaps figured it out ahead of them, which denoted the highly collaborative nature and environment of the middle school arena.

The middle school teachers in the study also described the obstacles they face with competing expectations for FAPs. Central to this obstacle is the absence of a common language across all stakeholders who have responsibility to train, implement, monitor, coach, and evaluate educators in the FAPs they are expected to use. The co-researchers saw this as a significant obstacle because it causes their experiences with FAPs to feel entirely unpredictable and uncertain. Some co-researchers felt that even their colleges of education had not prepared them with clear understandings of differences between formative and summative assessments. One

co-researcher even confessed to Googling the term formative assessment practice in order to answer the questions on the screening protocol.

4. What additional resources and professional learning experiences would middle school teachers find beneficial to use formative assessment practices consistently?

The co-researchers in this study observed successes happening in their classrooms, buildings, and across the district with regard to consistent implementation of FAPs. However, these middle school teachers were not content with the status quo. Their local district has provided a number of beneficial resources, including an online tool for lesson planning with a middle-school-specific template that aligns to the district's non-negotiable practices. Further, each middle school funds a school-based position for an instructional coach, and the district funds one such individual to offer support to these building coaches and all the middle schools. Professional learning sessions are designed and conducted on-site and district-wide, and teachers are encouraged to attend state-level conferences where they can learn directly from experts in the field.

While the co-researchers believed these endeavors were making a difference, they still desired more. The teachers felt that if the lesson plan template were modified to include a checklist or drop-down menu for the expected FAPs, then they would use it. Additionally, they believed this would help to address the issue of a common language for FAPs. Addressing the issue of their needs for professional learning, the co-researchers appreciated what was provided, but they wanted choice and differentiation related to professional learning. Ultimately, why should a teacher at the high end of the continuum of learning related to FAPs be required to attend a mandated session? The teachers wished the school leadership and local leaders would assess them formatively and determine what they need before deciding for them.

Discussion

This discussion addresses the relationship between the findings of the study and the empirical research and the theoretical frameworks that underpin the study. The four identified themes from the study—evolving implementation, knowing their students, need for common language and shared expectations, and differentiated professional learning—function to guide the reader through the section and focus attention on the central elements. These elements include the definition of formative assessments practices, their frequency and common types, perceptions of FAPs and formative assessment theory, adjustments to instruction, consistent implementation, learning target mastery, the role of teachers and students, needed resources, and professional learning.

Evolving Implementation

Co-researchers in this study provided feedback related to the definition of formative assessment practices on three different occasions during data collection, including the screening protocol, individual interviews, and the focus group. Formative assessment practices are generally defined as those assessments practices used by teachers as assessments for learning—a learning check-up during the learning process that informs teachers' decisions about future instruction (Bailey & Jakicic, 2012; Marzano, 2010). This definition incorporates aspects of empirical research from the two experts referenced and highlights several key tenets of FAPs, including the terms assessments for learning, a learning check-up, informing or adjusting instruction. Bailey and Jakicic (2012) emphasized that when "the assessment occurs during the learning process, and the results will be used to help students continue to learn, it is considered formative" (p. 14). This statement addresses when the assessment takes place and links to the idea of an assessment for learning, and it highlights that an adjustment must be made, which

links to the portion where teachers' decisions are informed. Additionally, Bailey and Jakicic asserted that "the biggest difference will not be in what the assessment looks like but rather in how teachers respond to the results" (p. 14). This further addresses that an instructional adjustment or response must occur as stated in the definition.

Co-researchers were asked twice to respond to specific questions about their frequency of use for FAPs, including the screening protocol and the individual interviews. When teachers engage in the activity of teaching, assessment must occur in order to know whether or not students understand the learning expected from the instructional event (Marzano, 2010). Additionally, when teaching happens learning should occur. If learning is not taking place, can an observer accurately classify the event as teaching? Fisher and Frey (2014) argued, "Unless you check for understanding, it is difficult to know exactly what students are getting out of the lesson" (p. 2). Consequently, frequency of use with FAPs is essential for knowing if students understand the teaching. Too often, teachers rely on general questions posed to students who usually respond in the affirmative when asked if they understood something. Unfortunately, this method is useless. Fisher and Frey (2014) noted that "students aren't always self-regulated learners. They may not be aware of what they do or do not understand" (p. 1). Fisher and Frey added, "If you doubt this, consider how often you have heard students comment, 'I thought I knew this stuff, but I bombed the exam'" (p. 1). Essentially, frequent use of FAPs establishes a distinct difference between assuming students have learned and having evidence or data to know students have learned (Poe, 2012).

During the study's screening protocol and individual interviews, the co-researchers also responded to questioning about the common types of FAPs used in their classrooms. Research conducted by Dorn (2010), Poe (2012), and Volante and Beckett (2011) concluded that teachers

who share commonality of the FAPs they use demonstrate growth in the fidelity of implementation. The prime atmosphere for the common practices to develop exists within an instructional culture where teachers share, accept, and even dispute one another's beliefs (Morrissette, 2011). When teachers collaborate with colleagues, they, in turn, engage in professional learning communities and interact in ways that cause them to reflect on instructional practices. Further, Morrissette (2011) found that teachers who shared common practices were able to focus on the daily "activities of supporting their students' learning through formative assessment" (p. 257).

Co-researchers in this study described their implementation of FAPs related to the definition of formative assessment, the frequency of formative assessment use, and the types of FAPs used as an evolving implementation. While some middle school teachers described their understanding and use at the beginning levels of implementation, others provided in-depth descriptions reflecting much higher levels of understanding and use along the continuum of learning for FAPs. As a whole, the 17 co-researchers understood the key components of the definition, including assessments for learning, a learning check-up, and adjusting instruction, and the co-researchers identified these elements as essential components to bring consistency of implementation across the district. Consequently, the findings of this study corroborate the current empirical research on formative assessment practices.

The co-researchers descriptions of their implementation of FAPs align with the foundations of formative assessment theory, social constructivism, and experiential learning. Formative assessment theory promotes the regular use of FAPs to diagnose or assess students' learning target mastery (Bailey & Jakicic, 2012; Black & Wiliam, 2009; Bloom, 1968; Sadler, 1989). Formative assessment theory relates in that the work of the instructional coaches,

building leaders, and district curriculum staff has advanced the understanding and learning of the middle school teachers in the study, resulting in a unique focus on student mastery of learning targets. One co-researcher reflected on what she gained when using FAPs to diagnose student reading comprehension and writing. Angela explained, "They started the writing, I saw two things—students that maybe did not understand the article and then also those still working to understand the set up for the CSET. That really informed two things for me, us working on that article" (Angela, individual interview, November 19, 2015).

Vygotsky's (1978) social constructivism relates to this study in that the co-researchers described learning environments within their classrooms and schools where cognitive and social interactions merged regularly among adult learners and students during implementation of FAPs. This level of high-quality, social interaction creates interplay between students, peers, and teachers that "closes the gap between the learner's current status and the desired learning goal" (Clark, 2010, p. 348). Whether the students were learning from the teachers and peers or the teachers were learning from students and colleagues, the social interactions served as the vehicle for higher learning outcomes. Further, the mutual learning and interactions provided rich experiences for the co-researchers within their community of professionals. As such, this experiential aspect of learning through community relates to Dewey's (1897) experiential learning. Dewey (1897) cautioned future educators not to neglect "the fundamental principle of the school as a form of community life" (p. 78). Ultimately, in this study, teachers shared and reflected with each other, and they experienced high levels of engagement. Their flourishing engagement, in turn, fueled their implementation of FAPs.

Knowing Their Students

The unique contribution of this study's findings relates to the determination among the co-researchers to know their students—academically, socially, and emotionally—and not accept that their students will always have gaps in their learning. Co-researchers identified the need to know their students 62 times within the study's primary documents. A second-year teacher in the study attested, "To really know my students has been the biggest change as far as my teaching has gone" (Kateline, individual interview, December 1, 2015). Discussing how she communicates with colleagues who share the same students, Kathy said the process "helps me see a picture of what it looks like . . . and know who our kids are" (Kathy, individual interview, December 4, 2015). Ultimately, the co-researchers found that knowing their students makes the difference in their ability to close the achievement and learning gaps. Ben offered this explanation during his individual interview. He stated:

> Just knowing your students, I think summative assessment is too long, too big of a gap between the information that the child or student gets before the summative assessment. Formative assessment I think is a more, a better timestamp, uh, I would put it in trying to understand where their learning is and seeing where you have to go back and assess. (Ben, individual interview, November 19, 2015)

According to the definition, formative assessment occurs only when teachers use the results from the FAP to adjust instruction (Bailey &Jakicic, 2012; Dorn, 2010; Marzano, 2010; Poe, 2012). When learning mastery is measured or assessed on a regular basis, students with achievement and learning gaps benefit (Black & Wiliam, 1998a, 1998b; Doubet, 2012; Peterson & Siadat, 2009; Sadler, 1989). However, the alignment between the actual assessment practices and the instruction is the more crucial connection. According to the literature, teachers must

understand this alignment need within their FAPs and FA theory in order to consistently influence their instructional decisions and close learning gaps (Buck & Truth-Nare, 2009; Ginsburg, 2009; Morrissette, 2011; Poe, 2012).

This study's findings support and corroborate the literature on formative assessment practices. Co-researchers in this study referenced the necessity to use FAPs to adjust instruction 109 different times, acknowledged a perception of FAPs as assessment for learning 109 times, and recognized the need to align assessments with the instruction 113 times. One co-researcher described how she uses FAPs. Angela noted:

> I certainly use the formative assessments to drive my instruction. If I know the students understand . . . it [the FA] allows me, if I know what they know, I am able to do a lot more enrichment. I am able to bring in other things, more current events. (Angela, individual interview, November 19, 2015)

Further, co-researchers recognized the benefits of implementing FAPs, identified teacher and student interactions as essential to successful FAPs, embraced that formative assessment leads to differentiation, and were convinced that FAPs help meet the needs of all learners. Ben explained how FA benefits the students. He said, "They will forget something, as we often do, as our short-term memory and long-term memory like to have a nice tug-of-war. It's more of a . . . it's more of a better self-check in the moment" (Ben, individual interview, November 19, 2015). Co-researchers discussed FAPs in terms of differentiation 39 different times. Pamela expressed her perspective on using FAPs. She insisted, "I try to do it at the beginning, sometimes in the middle, and sometimes at the end throughout the whole lesson, and it leads, it leads so much into differentiation" (Pamela, focus group, January 7, 2016). The co-researchers' confidence in the ability of FAPs to meet the needs of all learners were prominent in their statements, as well. For

example, Kim described how FAPs reach various levels of students and increase her ability to step into the learning. Kim delineated:

> If someone works at a low level, that student may only see one way to get through the problem. A student on a higher level may say, hey, I did this differently, so they have to talk to each other and teach one another. It's not just what I am getting out of it as the teacher, but it is what the kids are learning from each other. They are talking and asking questions, which opens a lot of doors and then I can step in and take it deeper. What if we did this and changed something? I can then see them try it and talk or argue through it. That is the benefit to me. You get more than with just abcd on pencil and paper. (Kim, individual interview, November 13, 2015)

As noted by Black and Wiliam (2009), Dorn (2010), and Ginsburg (2009), teacher diagnosis of student learning through assessment for learning must reach beyond the classroom and into the professional learning community. Formative assessment theory builds on communities of interaction that are the core of professional learning communities (PLCs) (Bailey & Jakicic, 2012). Moreover, the theory of social constructivism constructs meaning from the interchange of perspectives that develop within social interaction rather than through a lone professional working in isolation (Gutek, 2011; Miller, 2011; Vygotsky, 1978). As noted by Gutek (2011), experiential learning viewed transformation of behavior as an interactive exchange that fostered growth and the transfer of ideas.

The middle school setting of this study is primed to pursue the level of professional growth and transformation suggested by the aforementioned theories. Middle school teachers collaborate regularly with colleagues in the same grade, across grade levels, and across the district to discuss the types of FAPs being used, the data these FAPs suggest, and the overall

proficiency of their students academically, socially, and emotionally. These collegial collaborations are ideal for accomplishing even deeper understanding of who their students in terms of learning styles, academic proficiencies and deficiencies, and common FA practices that show success in moving students forward. Additionally, these professional learning environments provide a unique platform in which to practice, model, and discuss the benefits of FAPs, differentiation practices associated with FAPs, and the diverse needs of all learners. Focusing on these intentional practices related to FAPs may propel middle school teachers to create the appropriate environment for formative assessment practices to thrive (Bailey & Jakicic, 2012; Black & Wiliam, 2009; Clark, 2010; Sadler, 1989).

Need for Common Language and Shared Expectations

The literature on FAPs established that teachers need a shared understanding of these instructional strategies that must become integrated into teachers' overall assessment practices (Morrissette, 2011; Peterson & Siadat, 2009; Poe, 2012). In an environment of professional collaboration where teachers share, accept, and dispute their common understandings, Morrissette (2011) argued that teachers' shared understanding becomes a well-developed set of "conventions of the teachers' culture, as practices . . . that enable them to engage in their day-to-day activities of supporting their students' learning through formative assessment" (pp. 256-257). Poe (2012) asserted that teachers who possess common language and shared expectations for implementation of the common practices of FA no longer guess about what students may know and be able to do. Peterson and Siadat (2009) recognized the benefit to teachers and those who evaluate them when common vocabulary is used that focuses on the essential qualities of FAPs that align with a shared definition.

This study's findings confirm this research in that co-researchers reported a frustration with competing expectations for FAPS and a common language described as "starting to happen" (Kathy, individual interview, December 4, 2015). Co-researchers understood components of the essential characteristics of FAPs, but they also admitted that common use and common understanding were not pervasive. Speaking on this issue, Kathy continued her description and said:

> Since we have incorporated it into our lesson plans, there is more discussion, such as what did you put on formative assessment for this week? What are you looking for? OH, so and so did this one, so there is starting to become one. As far as a language, I am not sure. (Kathy, individual interview, December 4, 2015)

Further, the common language and shared expectations must expand to those who support teachers' practices through coaching and curriculum support and evaluation of performance. Noting variation in these understandings, Brittany explained:

> I think it depends on the background. It depends on what their administration has encouraged for what a formative assessment is. It sort of goes back to the first question of what is the definition of a formative assessment. If you have been in a school district for many years and that administration focuses on the paper and pencil form of formative assessment versus anything reviewed and any type of check being a formative assessment, then it depends on your background and what has been emphasized and what you have been taught. (Brittany, individual interview, December 4, 2015)

As stated in the literature regarding formative assessment theory, FAPs depend on the communication of clear learning targets related to specific instructional standards (Marzano, 2010; Sadler, 1989). Mastery or proficiency of the learning target operates efficiently when a

context of mutual dependency develops between the teacher and the student, so that both parties share responsibility for monitoring and assessing (Sadler, 1989). In this cooperative environment, students receive targeted instruction, scaffolding, and modeling to move them toward self-monitoring, and teachers benefit from the learning community created through the process (Bailey & Jakicic, 2012; Black & Wiliam, 2009; Clark, 2010).

Co-researchers in this study indicated the need for further development of a common language and shared expectation for FAPs in their middle schools. Since the climate and structures exist for professional collaboration, findings suggest that leaders adopt the same process used to move students toward self-monitoring and mirror this process for the teachers. The PLC should set learning targets for teachers, instructional support staff, and evaluators to monitor and assess growth, and coaching and modeling of evidence-based formative assessment practices should be initiated to establish the shared expectations of what FAPs look like when used consistently. Formative feedback should be provided to teachers through multiple cycles of professional learning, attempting the new practice, being coached on the new practice, and then reflecting on what worked and what did not work.

Differentiated Professional Learning

The related literature on FAPs identified multiple benefits when formative assessments occur routinely, such as learning target mastery, prediction of student success, increased student achievement, and validity of internal assessments (Peterson & Siadat, 2009; Tempelaar et al., 2012; Volante & Beckett, 2011). Bell et al. (2010) asserted that teachers should be provided targeted professional learning experiences once obstacles were identified that hindered their consistent implementation. Doubet (2012) noted that teachers with even superficial knowledge of FAPs who implemented them more consistently improved student comprehension and

efficiency of instruction, and achieved differentiation to meet the needs of diverse student populations. Further, professional learning that focused on development of common language, common practices, and monitoring of instructional practices with feedback increased teachers' use of FAPs (Buck & Truth-Nare, 2009; Dorn, 2010; Poe, 2012; Volante & Beckett, 2011). The social interactions in a PLC environment created learning experiences where teachers discussed practices, reflected on student feedback, and developed specific strategies from the FA data (Doubet, 2012; Foegen, 2008; Frey & Schmitt, 2010). Specifically, middle school teachers who received targeted or differentiated professional learning closed gaps in academic deficiencies for their students (Kurtz et al., 2010; Poe, 2012; Prewett et al., 2012).

The findings from this study confirm the need for differentiated professional learning experiences. Co-researchers in this study noted how they receive extensive professional learning that is job-embedded in many instances, but they resisted the top-down, mandated model that pigeonholes all teachers into sitting through all professional learning experiences. Describing these emotions, Jack explained:

> I think sometimes it's assumed that if a few people need instruction on something then all of them need instruction on something. And, I think that's a shortcoming for professional learning, umm, because not everybody does and a formative assessment would tell you that not everybody does. That if the designers would practice what they want us to practice, they would realize there are a handful of teachers who are effectively using formative assessment. They can either come in and tell us what they are doing and make sure that the people who aren't using it effectively are in here, or they're exempt from attending, or they can provide us with something else . . . extension work. And, so, that to me is the negative piece is when I am mandated to attend something that either (a) I

> already know how to do, or (b) I'm already doing well. (Jack, individual interview, November 9, 2015)

Co-researchers in this study described a moderate to strong working knowledge of FAPs, insisted on getting to know their students, the whole student, and wanted to develop a common language and shared expectation for FAPs. According to the related literature, these are the required elements for successful implementation of formative assessment practices (Black & Wiliam, 2009; Buck & Truth-Nare, 2009; Dorn, 2010; Ginsburg, 2009; Sadler, 1989). Add to these a successful model for differentiated professional learning, and they will "transform teaching, learning, and the relationships within the classroom" (Buck & Truth-Nare, 2009, p. 479).

Formative assessment theory, social constructivism, and experiential learning intersect through the collaborative nature of adult learners (Bailey & Jakicic, 2012; Wiliam, 2011). Whereas traditional teaching models relied on the expertise and content knowledge of the lone instructor who stood and delivered to the class, teachers who engage in FAPs co-construct with their students a classroom culture that reflects a symbiotic relationship (Black & Wiliam, 2009). Sophisticated classroom interactions like these overflow into the teachers' formal and informal conversations in common areas of the school and in professional learning environments where adult learners bring with them a learning model that focuses on partnership (Clark, 2010).

In the context of this study, the co-researchers suggested that decisions about what professional learning experiences would best meet their needs occurred through one-way decision-making rather than shared decision making. Co-researchers wanted to be consulted before decisions were made and wanted building and district leaders to assess them formatively to monitor mastery of the learning. Ultimately, the teachers in this study saw a paradox between the expectations placed upon them for implementation of FAPs and the non-use of FAPs with

them as adult learners to meet their need for differentiated professional learning. Despite this disconnect, the co-researchers insisted on using FAPs. Jack stated:

> I mean it doesn't make me, uh, what is it, aversive to formative assessment? It makes me aversive to professional learning because I think good teaching requires formative assessment. So, I'm not going to let something outside of my classroom dictate what I do inside if I don't see it as being a benefit to the kids. No, it does not hinder me. I should just say that. We're going to do it whether or not I have to attend a professional learning, uh you know, course or whatever on it. I'm still going to do it. (Jack, individual interview, November 9, 2015)

Implications

The findings of this transcendental phenomenological study suggest specific implications for the educational community at large. These implications will be discussed through the lens of the empirical, theoretical, and practical applications.

Empirical

A review of the literature related to formative assessment practices revealed a gap in middle school teachers' understanding of formative assessment practices and formative assessment theory and the enacted instructional practices in the classroom. Several factors that contributed to this gap include teacher misconceptions, leader misconceptions, and the public's lack of knowledge regarding instructional decision-making (Bell et al., 2010; Dorn, 2010; Frey & Schmitt, 2010; Prewett et al., 2012). The current study contributes to the missing literature on middle school teacher's implementation of FAPs by clarifying that the co-researchers in this study do possess a working knowledge of the elements of FAPs.

The co-researchers understood the extensive benefits of FAPs and were working to leverage these benefits to increase the learning target mastery of their students and close the achievement and learning gaps. For this group of co-researchers, this knowledge coupled with their passion for knowing their students, their attitude toward overcoming obstacles, and their identification of needs in professional learning could propel them toward success. Consequently, policymakers in state legislature and at the state's department of education would benefit from recognizing teachers are professionals. As professionals, teachers are knowledgeable in best practices and do not choose to conduct FAPs because this form of assessment appears on TKES or in TAPS. Teachers in this study used FAPs before the new evaluation models and will continue to do so because of the benefits for students. This knowledge may inform the revisions of the state's current evaluation models still widely debated in local communities, the press, and at the State Capitol.

Theoretical

A key thread of formative assessment theory is the notion of formative feedback. Research tends to focus on formative feedback as it relates to using assessments for learning to inform classroom instruction (Taras, 2005). However, research by others, including Bailey and Jakicic (2012), Black and Wiliam (2009), and Clark (2010), posited that teachers may benefit equally from the formative feedback associated with assessments for learning. The co-researchers in this study expressed the desire for feedback on this level as it relates to performance evaluations, instructional coaching for professional growth, and individualized needs for targeted professional learning. Implications from these findings may suggest expansion of the theory to include learners of both sides of the assessment for learning as

beneficiaries of the formative feedback. As noted by Black and Wiliam (2009), "The responsibility for learning rests with both the teacher and the learner" (p. 7).

In response to this finding, building and central office administrators may want to consider greater inclusion of the teachers, instructional coaches, and other instructional support staff in the design and implementation of tools to provide effective feedback to content-area teachers. While paper-pencil and digital surveys are efficient means of collecting data, the knowledge that co-researchers thrived within environments of interactions may influence their design of feedback models to include face-to-face or small group sessions. With the increase of digital tools in the setting and the use of Google classroom, the district leadership may consider video tools, such as Google hangouts for video conferencing to collect teacher feedback.

Practical

Practical implications for these co-researchers rest largely upon leaders in the schools, districts, and state associated with the setting of the study. District leadership could work to be responsive to the findings and focus on implementing solutions to the specifics of the co-researchers' needs. Middle school teachers did not question or hesitate to communicate a clear expectation for formative assessment practices, as these expectations are established locally and from the state's department of education. However, co-researchers reported the absence of a shared understanding of what FAPs should look like in their classrooms. While the co-researchers' responses reflected a proficient working knowledge, the teachers felt that those who often trained them locally and evaluated them did not have shared expectations or common language for FAPs. Co-researchers also reported that even professors in their respective schools of education at the university level were disconnected from the common language of FAPs used in their classrooms. This information provides building administrators, local leaders, state

leaders, university leaders, local trainers, and evaluators the opportunity to establish commonality of perception and understanding to best support the crucial work of the classroom teachers—educating their students. If these stakeholder groups and the teachers do not have a shared expectation and vision for FAPs, then this disconnect may expand gaps in learning rather than close them.

Additionally, co-researchers' needs, such as providing a checklist or drop-down menu within the lesson planning template could be resolved with ease. Once established, this framework could be reviewed periodically as capacity is built among educators. Local leadership could facilitate this modification to planbook by working with technical support for the online tool and redesigning the lesson plan template to accommodate teachers' needs.

The practical implication that may require the maximum effort locally relates to offering differentiated professional learning. However, the district teaching and learning team has implemented several successful initiatives recently, such as the MDC cohorts mentioned in the study and have demonstrated the ability to implement initiatives with fidelity. Further, the state already funds nine Regional Educational Service Agencies (RESA). These agencies are tasked with providing support to districts in each region to improve school and district effectiveness, and they regularly provide coaching, modeling, and other professional learning support. Since co-researchers desired differentiated professional learning on FAPs, building administrators, central office support staff, and state leaders could initiate annual focus groups at each regional office. These face-to-face sessions would provide teachers a collaborative environment for articulating their professional learning needs related to FAPs. The narratives produced from these sessions could be compiled, evaluated, and used to inform decisions about differentiated

professional learning to be conducted over time in an effort to accelerate teacher and student learning.

Limitations

Limitations constitute potential weaknesses within the study, and they are not in the control of the researcher (Simon, 2011). Limitations to this study include the inability to generalize due to sample size and level, geographic location, and demographics. The actual participant sample may not be an authentic representation of middle school teachers in each school, the district, or in education in general (Kurz et al., 2010). The study included 17 participants as co-researchers across grades 6-8 and across the four core content areas in middle school. However, other teachers in those same grades and content areas may have provided different perspectives related to formative assessment practices. Further, this study focused on the phenomenon with middle school teachers and may not generalize to teachers at the elementary and high school levels. The sample size limits the study despite fitting the parameters of phenomenological research ideally (Creswell, 2013; Moustakas, 1994). The social and cultural characteristics of the geographic location may not transfer to other schools and regions, and the low socio-economic status of the students with whom these teachers work and the demographics of the teachers themselves may limit further transferability to other student and teacher populations (Mehmood et al., 2012). Finally, the researcher's bias toward formative assessment practices and role in the setting may limit the study. Creswell (2013) noted that in phenomenological research, significance exists in the "extensive time spent in the field" (p. 250) by the researcher to capture the shared, lived experiences of the participants. Moustakas (1994) cautioned that this closeness and human nature itself may produce preconceived judgements. Consequently, as researcher, I embraced *epoche*, or bracketing, of my preconceptions

(Moustakas, 1994). In turn, this process served to increase my influence and validate my interactions with the co-researchers. For the co-researchers, the close interactions provided an environment for collaboration and ease of communication with honesty.

Recommendations for Future Research

This transcendental phenomenological study contributes to the literature on middle school teachers' implementation of formative assessment practices. Since the study focused on middle school teachers in one semi-rural north Georgia school district, further research could target teachers at other levels, including elementary, high school, and college, and in other geographic regions. Additionally, I suggest that future research study the perceptions of those who evaluate teachers, such as building administrators, district-level personnel, and state personnel concerning their understanding of formative assessment practices.

Further, the findings of this study indicated that teachers desired several supports to implement FAPs more consistently. Among those supports was common or shared language for FAPs, coaching support through modeling and formative feedback, and differentiated professional learning to meet their needs. Consequently, future research could seek to address the success of these specific initiatives with middle school teachers in order to understand which may influence the consistent use of formative assessment at the highest levels. As noted in the study, levels of understanding related to FAPs vary greatly within the community of educators. Even the instructional coaches, cited in the study as a beneficial resource for teachers, possess varied levels of understanding and may require differentiated professional learning, so they can more directly meet the needs of the teachers. Future research related to the perceptions of instructional coaches and the needs they may have related to implementing FAPs would benefit their profession, as well as the teachers and educational leaders they support.

Finally, the schools of education across the country responsible for training the next generation of teachers could benefit from entering the discussion. As referenced in the study, the terminology and understanding taught in the teacher preparation programs did not match common practice in the field. Those who develop curriculum for the courses and instruct within the teacher training classes could conduct future research on the alignment of the curriculum at the collegiate level and the common language and current instructional expectations related to FAPs. If teachers are evaluated by one set of expectations and trained using a model that does not align, those who suffer in the end are the students.

Summary

This study sought to understand middle school teachers' implementation of formative assessment practices in a semi-rural, north Georgia school district. The central questions focused on how teachers described their implementation, perceived formative assessment theory and formative assessment practices, defined the obstacles that hinder consistent implementation, and identified the resources teachers need for successful implementation of FAPs. The study found that middle school teachers in this setting described their implementation with a strong sense of the rationale for the use of FAPs and a respect for the broad benefits of regularly monitoring and assessing student learning. Further, the middle school teachers' desired formative feedback on their instructional practices, and they did not shrink back from accountability for those enacted practices. Teachers acknowledged feedback and accountability as an established professional routine because they want to improve for the long-term benefit of their students and the art of teaching itself. The intensity of the co-researchers' angst concerning their desire for differentiated professional learning reiterates the old adage practice what you preach. In the end, if formative assessment practices help students, then formative assessment practices should be

used routinely to assess the need, design, implement, monitor, and evaluate differentiated professional learning for the middle school teachers. Since this research found that formative assessment practices consistently impact student learning when teachers use them to design effective learning environments with a focus on the students' learning needs, the mandate is clear – formative assessment must become the norm for all teachers who want to see their students' close gaps in learning and overall achievement.

REFERENCES

Bailey, K., & Jakicic, C. (2012). *Common formative assessment: A toolkit for professional learning communities at work.* Bloomington, IN: Solution Tree Press.

Bell, C. A., Leusner, D. M., & Sondergeld, T. A. (2010). Understanding how teachers engage informative assessment. *Teaching and Learning, 24*(2), 72-86.

Black, P., & Wiliam, D. (1998a). Assessment and classroom learning. *Assessment in Education: Principles, Policy & Practice, 5*(1), 7–74. http://dx.doi.org/10.1080/0969595980050102

Black, P., & Wiliam, D. (1998b). Inside the black box: Raising standards through classroom assessment. *Phi Delta Kappan, 80*(2), 139–144. http://dx.doi.org/10.1177/003172171009200119

Bloom, B. S. (1968). Learning for mastery. *Evaluation Comment, 1*(2), 1–12. Retrieved from http://programs.honolulu.hawaii.edu/intranet/sites/programs.honolulu.hawaii.edu.intranet/files/upstf-student-success-bloom-1968.pdf

Brookhart, S. M. (2007). Expanding views about formative assessment: A review of the literature. In H. McMillan (Ed.), *Formative assessment classroom: Theory into practice* (pp. 43-62). New York: McGraw-Hill.

Buck, G. A., & Trauth-Nare, A. E. (2009). Preparing teachers to make the formative assessment process integral to science teaching and learning. *Journal of Science Teacher Education, 20*(5), 475-494. doi:10.1007/s10972-009-9142-y

Clara, L. B., & Amy, D. B. (2011). Deep scaffolding: Enhancing the reading experiences of English language learners. *New England Reading Association Journal, 46*(2), 34-39, 101. Retrieved from http://nereading.org/

Clark, I. (2010). Formative assessment: 'There is nothing so practical as a good theory'. *Australian Journal of Education, 54*(3), 341-352. http://dx.doi.org/10.1177/000494411005400308

Costa, A. L., & Garmston, R. J. (1994). *Cognitive coaching: A foundation for renaissance schools*. Norwood, MA: Christopher-Gordon Publishers.

Creswell, J. W. (2013). *Qualitative inquiry and research design: Choosing among five approaches* (3rd ed.). Thousand Oaks, California: Sage Publications, Inc.

Cummins, J. (2011). Literacy engagement: Fueling academic growth for English learners. *Reading Teacher, 65*(2), 142-146. doi: 10.1002/TRTR.01022

Dewey, J. (1897). My pedagogic creed. *School Journal, 54*, 77–80. Retrieved from http://dewey.pragmatism.org/creed.htm

Dorn, S. (2010). The political dilemmas of formative assessment. *Exceptional Children*, *76*(3), 325-337. http://dx.doi.org/10.1177/001440291007600305

Doubet, K. J. (2012). Formative assessment jump-starts a middle grades differentiation initiative. *Middle School Journal, 43*(3), 32-38. http://dx.doi.org/10.1080/00940771.2012.11461809

DuFour, R., Eaker, R., & Karhanek, G. (2010). *Raising the bar and closing the gap: Whatever it takes*. Bloomington, IN: Solution Tree Press.

Englander, M. (2012). The interview: Data collection in descriptive phenomenological human scientific research. *Journal of Phenomenological Psychology*, *43*, 13–35. http://dx.doi.org/10.1163/156916212x632943

Faggella-Luby, M., & Wardwell, M. (2011). RTI in a middle school: Findings and practical implications of a tier 2 reading comprehension study. *Learning Disability Quarterly, 34*(1), 35-49. http://dx.doi.org/10.1177/073194871103400103

Fisher, D., & Frey, N. (2014). *Checking for understanding* (2nd ed.). Alexandria, VA: Association for Supervision and Curriculum Development.

Foegen, A. (2008). Progress monitoring in middle school mathematics: Options and issues. *Remedial and Special Education, 29*(4), 195-207. http://dx.doi.org/10.1177/0741932507309716

Fraelich, C. B. (1989). *A phenomenological investigation of the psychotherapist's experience of presence* (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses Global. (8904935).

Frey, B. B., & Schmitt, V. L. (2010). Teachers' use of classroom assessment practices. *Middle Grades Research Journal, 5*(3), 107-117. Retrieved from http://www.infoagepub.com/middle-grades-research-journal

Ginsburg, H. P. (2009). The challenge of formative assessment in mathematics education: Children's minds, teachers' minds. *Human Development, 52*(2), 109-128. doi:10.1159/000202729

Graves, A., Brandon, R., Duesbery, L., McIntosh, A., & Pyle, N. (2011). The effects of tier 2 literacy instruction in sixth grade: Toward the development of a response-to-intervention model in middle school. *Learning Disability Quarterly, 34*(1), 73-86. http://dx.doi.org/10.1177/073194871103400105

Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 105-117). Thousand Oaks, CA: Sage Publications.

Gutek, G. L. (2011). *Historical and philosophical foundations of education: A biographical introduction* (5th ed.). Upper Saddle River, NJ: Pearson.

Heritage, M. (2008). *Learning progressions: Supporting instruction and formative assessment*. Washington, DC: Council of Chief State School Officers.

Heritage, S., & Chang, S. (2012). Teacher use of formative assessment data for English language learners. *National Center for Research on Evaluation, Standards, & Student Testing*, 1-11. Retrieved from https://www.cse.ucla.edu/products/states_schools/ELL_Symposium_FINAL.pdf

Howard, R. M. (2012). ELLs' perceptions of reading. *Reading Improvement*, *49*(3), 113. Retrieved from http://eric.ed.gov/?id=EJ986940

Hsieh, H. F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research, 15*(9), 1277-1288. http://dx.doi.org/10.1177/1049732305276687

Huberman, A. M., & Miles, M. (1994). *Qualitative data analysis*. Thousand Oaks, CA: Sage Publications.

Husserl, E. (1931). *Ideas* (W. R. Boyce Gibson, Trans.). London: George Allen & Unwin.

Husserl, E. (1965). *Phenomenology and the crisis of philosophy* (Q. Lauer, Trans.). New York: Harper & Row.

Husserl, E. (1975). *The Paris lectures* (P. Koestenbaum, Trans.) (2nd ed.). The Hague: Martinus Nijhoff.

Janzen, J. (2008). Teaching English language learners in the content areas. *Review of Educational Research, 78*(4), 1010-1038. doi: 10.3102/0034654308325580

Keeley, P. (2008). *Science formative assessment: 75 practical strategies for linking assessment, instruction, and learning*. Thousand Oaks, CA: Corwin Press.

Klingner, J. K., Boardman, A. G., Eppolito, A. M., & Schonewise, E. A. (2012). Supporting adolescent English language learners' reading in the content areas. *Learning Disabilities: A Contemporary Journal*, *10*(1), 35-64. Retrieved from http://eric.ed.gov/?id=EJ977724

Knight, J. (2007). *Instructional coaching: A partnership approach to improving instruction*. Thousand Oaks, CA: Sage Publications.

Kurz, A., Elliott, S., Wehby, J., & Smithson, J. (2010). Alignment of the intended, planned, and enacted curriculum in general and special education and its relation to student achievement. *Journal of Special Education, 44*(3), 131-145. doi:10.1177/002246 6909341196

Lincoln, Y. S., & Guba, E. G. (1986). But is it rigorous? Trustworthiness and authenticity, in naturalistic evaluation. *New Directions for Program Evaluation, 30,* 15-25. http://dx.doi.org/10.1002/ev.1427

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Beverly Hills, CA: Sage Publications.

Marzano, R. J. (2010). *Formative assessment & standards-based grading*. Bloomington, IN: Marzano Research Laboratory.

McLeskey, J., Landers, E., Williamson, P., & Hoppey, D. (2012). Are we moving toward educating students with disabilities in less restrictive settings? *Journal of Special Education, 46,* 131-140. doi:10.1177/0022466910376670

Mehmood, T., Hussain, T., Khalid, M., & Azam, R. (2012). Impact of formative assessment on

academic achievement of secondary school students. *International Journal of Business and Social Science*, *3*(17), 101-104. Retrieved from http://ijbssnet.com/journals/Vol_3_No_17_September_2012/11.pdf

Merriam, S. B. (2009). *Qualitative research: A guide to design and implementation.* San Francisco, CA: Jossey-Bass.

Meyen, E. L., & Greer, D. L. (2010). Applying technology to enhance STEM achievement for students with disabilities: The blending assessment with instruction program. *Journal of Special Education Technology, 25*(3), 49-63. http://dx.doi.org/10.1177/016264341002500306

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: A sourcebook of new methods* (2nd ed.). Thousand Oaks, CA: Sage Publications.

Miller, P. H. (2011). *Theories of developmental psychology* (5th ed.). New York: Worth Publishers.

Morrissette, J. (2011). Formative assessment: Revisiting the territory from the point of view of teachers. *McGill Journal of Education (Online), 46*, 247-265. http://dx.doi.org/10.7202/1006438ar

Moustakas, C. (1994). *Phenomenological research methods*. Thousand Oaks, CA: Sage Publications.

O'Day, J. (2009). Good instruction is good for everyone—or is it? English language learners in a balanced literacy approach. *Journal of Education for Students Placed at Risk, 14*, 97-119. doi: 10.1080/10824660802715502

Patton, M. (1990). *Qualitative evaluation and research methods*. Beverly Hills, CA: Sage Publications.

Patton, M. (2002). *Qualitative research and evaluation methods* (3rd ed.). Thousand Oaks, CA: Sage Publications.

Pease-Alvarez, L., Samway, K. & Cifka-Herrera, C. (2010). Working within the system: Teachers of English learners negotiating a literacy instruction mandate. *Language Policy*, *9*(4), 313-334. doi: 10.1007/s10993-010-9180-5

Peterson, E., & Siadat, M. V. (2009). Combination of formative and summative assessment instruments in elementary algebra classes: A prescription for success. *Journal of Applied Research in the Community College, 16*(2), 92-102. Retrieved from http://eric.ed.gov/?id=EJ897812

Piaget, J. (1970). *Genetic epistemology*. (E. Duckworth, Trans.). New York: Columbia University Press.

Poe, K. W. (2012). *Formative assessment strategies in the middle school classroom* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses. (Order No.1534806)

Prewett, S., Mellard, D. F., Deshler, D. D., Allen, J., Alexander, R., & Stern, A. (2012). Response to intervention in middle schools: Practices and outcomes. *Learning Disabilities Research & Practice*, *27*(3), 136-147. doi:10.1111/j.1540-5826.2012.00359.x

Reeves, D. (2009). *Leading change in your school: How to conquer myths, build commitment, and get results*. Alexandria, VA: Association for Supervision and Curriculum Development.

Rodwell, M., & Byers, K. (1997). Auditing constructivist inquiry: Perspectives of two stakeholders. *Qualitative Inquiry*, *3*: 116-134. doi: 10.1177/107780049700300106

Sadler, D. R. (1989). Formative assessment and the design of instructional systems. *Instructional Science, 18*(2): 119-144. doi:10.1007/BF00117714

Schutz, A. (1967). *A phenomenology of the social world*. Evanston, IL: Northwestern University Press.

Scriven, M. (1967). The methodology of evaluation. In R. Tyler, R. Gagne, and M. Scriven (1967). *Perspectives on Curriculum Evaluation* (AERA Monograph Series – Curriculum Evaluation). Chicago, IL: Rand McNally and Co.

Severson, K. (2012, August 21). No end to housing bust in the 'carpet capital'. *NY Times*, p. A3.

Shute, V. J. (2008). Focus on formative feedback. *Review of Educational Research, 78*(1), 153-189. http://dx.doi.org/10.1002/j.2333-8504.2007.tb02053.x

Simon, M. K. (2011). *Dissertation and scholarly research: Recipes for success* (2011 ed.). Seattle, WA: Dissertation Success, LLC.

Suter, W. N. (2012). *Introduction to educational research: A critical thinking approach* (2nd ed.). Thousand Oaks, CA: Sage Publications.

Taboada, A., Kidd, J. K., & Tonks, S. M. (2010). English language learners' perceptions of autonomy support in a literacy classroom. *Research in the Schools, 17*(2), 39-53. Retrieved from http://eric.ed.gov/?id=EJ942910

Taras, M. (2005). Assessment—summative and formative—some theoretical reflections. *British Journal of Educational Studies, 53*(4), 466-478. http://dx.doi.org/10.1111/j.1467-8527.2005.00307.x

Tempelaar, D. T., Kuperus, B., Cuypers, H., Henk van, d. K., Evert van, d. V., & André Heck. (2012). The role of digital, formative testing in e-learning for mathematics: A case study in the Netherlands. *RUSC, 9*(1), 284-305. http://dx.doi.org/10.7238/rusc.v9i1.1272

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 http://files.eric.ed.gov/fulltext/EJ936752.pdf

Vygotsky, L. S. (1962). *Thought and language*. Cambridge, MA: MIT Press.

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.

Watkins, N. M., & Lindahl, K. M. (2010). Targeting content area literacy instruction to meet the needs of adolescent English language learners. *Middle School Journal*, *41*(3), 23-32. http://dx.doi.org/10.1080/00940771.2010.11461718

Wiliam, D. (2011). *Embedded formative assessment*. Bloomington, IN: Solution Tree Press.

APPENDICES

Appendix A IRB Approval Letter

LIBERTY UNIVERSITY
INSTITUTIONAL REVIEW BOARD

September 25, 2015

David W. Thacker
IRB Approval 2304.092515: A Phenomenological Study of Middle School Teachers' Implementation of Formative Assessment Practices in a Semi-Rural, Northwest Georgia District

Dear David,

We are pleased to inform you that your study has been approved by the Liberty IRB. This approval is extended to you for one year from the date provided above with your protocol number. If data collection proceeds past one year, or if you make changes in the methodology as it pertains to human subjects, you must submit an appropriate update form to the IRB. The forms for these cases were attached to your approval email.

Thank you for your cooperation with the IRB, and we wish you well with your research project.

Sincerely,

G. Michele Baker, MA, CIP
Administrative Chair of Institutional Research
The Graduate School

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Appendix B Script for Introduction of Study to Participants

Thank you for taking the time to attend this meeting. I will explain the parameters of a research study being conducted by David W. Thacker, a doctoral student with Liberty University.

As the school's instructional coach, I will serve only as the site coordinator, or liaison, for the study. As such, I will not participate or become a co-researcher in this study at any time. I am providing this information to you as a potential participant in the study because of your role as a full-time academic content teacher in one of the five middle schools in this district.

Background Information:

The purpose of the study is to understand the factors that contribute to teachers' implementation of formative assessment practices among middle school teachers in a semi-rural northwest Georgia school district. Formative assessment practices are generally defined as those assessment practices used by teachers as assessments for learning—a learning check-up during the learning process that informs teachers' decisions about future instruction (Bailey & Jakicic, 2012; Marzano, 2010).

Procedures:

In the next 48 hours, you will receive an email inviting you to participate in the first phase of the study, the screening protocol. The email will include a hyperlink to an electronic Google form where you will be asked to provide your informed consent to participate in this phase of the study. This protocol serves to provide Mr. Thacker with demographic information and the range of your personal experience with implementing formative assessment practices. From this information, he will select those who will participate in the subsequent aspects of the research study as co-researchers. If you agree, please do the following:

(a) check the box consenting to participate and sign the form electronically
(b) respond completely to the screening protocol
(c) click submit at the conclusion of the screening protocol
(d) complete this portion within the next seven days.

Mr. Thacker will email you notification if you are selected to continue as a participant in the study. If you are selected, you will be asked to come alongside Mr. Thacker as a co-researcher in the remainder of the study. Co-researchers will interact in this research study through questioning, dialogue, and the reflective process. Those selected will be interviewed individually for 20-30 minutes using semi-structured questions. The interviews will be digitally recorded and transcribed, and you will be asked to review the transcript for accuracy. Your confidentiality will be protected through the use of pseudonyms.

If you have any further clarifying questions, please contact Mr. David W. Thacker via email at dwthacker@liberty.edu.

Appendix C Screening Protocol Recruitment Letter

Academic Content Teachers:

My name is David W. Thacker, and I am a doctoral student with Liberty University. I am conducting research as part of my dissertation program. I would like to invite you to participate in this study as a screening protocol participant. The study seeks to understand the factors that contribute to teachers' implementation of formative assessment practices among middle school teachers. You were selected as a screening protocol participant because of your role as a full-time academic content teacher in one of the five middle schools in this district.

If you would like to participate in this study as a screening protocol participant, I would ask you to do the following:

(a) electronically sign and submit the informed consent form included below

(b) participate in the online screening protocol below by responding to questions that will aid me in selecting participants for the study

(c) respond by either agreeing or disagreeing to participate within 5 days of receiving the invitation

(d) if you agree, please respond to the screening protocol questions within the following 7 days.

I will make final selection of participants for the next stages of the study and will notify you via email if you are selected.

If you are selected, I will ask you to participate in an individual interview of 20-30 minutes in length conducted by me. I will conduct the interview using a set of semi-structured, open-ended questions that I will pose to each participant. I will digitally record and transcribe the interview verbatim. I will ask you to review the transcription to ensure accuracy. Once I

complete interviews, I may also ask you to participate in a focus group. However, your participation in the individual interview will not guarantee your participation in the focus group. However, the individual interview is the next step toward determining those who will later participate in the focus group interview. Throughout the duration of the study, I will guard your confidentiality through the use of pseudonyms.

I appreciate your consideration of my study and look forward to hearing from you. Feel free to contact me if you have questions about the study.

Sincerely,

David W. Thacker

dwthacker@liberty.edu

Appendix D Screening Protocol for Potential Co-researchers

Thank you for consenting to participate in this online screening protocol for this study to understand the factors that contribute to teachers' implementation of formative assessment practices among middle school teachers in a semi-rural northwest Georgia school district. Please read the purpose statement and instructions sections below before answering the screening protocol questions.

Purpose of Screening Protocol:

Your responses to questions in this online screening protocol will aid me in selecting participants for the study with diversity in characteristics, including years in the district, total years of teaching experience, years of middle school teaching experience, years at current grade level, years in current content area, and gender. Your participation in the screening protocol will not guarantee your participation in other aspects of the study. However, the screening protocol is the first step toward determining those who will later participate in an individual interview and a focus group interview.

Instructions for Screening Protocol:

The screening protocol questions below will take approximately 20 minutes to complete. Please respond to the questions based on your personal history and experiences. Please note that some questions require a specific response, some offer the opportunity for more than one selection, and others are open-ended questions. Finally, the submit button on the online form must be used to collect your responses. I will guard your confidentiality through the use of pseudonyms, both for your name and your position, and the location of the study.

Screening Protocol Questions:

Demographics

1. What is your name (first and last)? I will change this information to a pseudonym for the study.

2. What is your gender?
    a. male
    b. female

3. What is your middle school location? These are pseudonyms.
    a. Applegate Middle School
    b. Brighthouse Middle School
    c. Capstone Middle School
    d. Dartmouth Middle School
    e. Edgewater Middle School

4. What grade (6, 7, or 8) in middle school do you primarily teach?

5. How many years have you taught this grade in middle school?

6. How many total years have you taught middle school?

7. Not including middle school, how many total years have you taught at other levels?

8. Were the years you taught other than middle school primarily at the elementary or high school level?

9. What academic content area do you primarily teach in middle school?
    a. English/language arts
    b. mathematics
    c. science
    d. social studies

10. How many years have you taught this academic content area in middle school?

Understanding and Use of Formative Assessment Practices

11. Consider the following definition. Formative assessment practices are generally defined as those assessment practices used by teachers as assessments for learning—a learning check-up during the learning process that informs teachers' decisions about future instruction. What, if anything, would you change or add to this definition?

12. How often do you use formative assessment practices with middle school students? If possible, please use words or phrases to indicate the frequency with which you use them, such as once or twice a week.

13. What types of formative assessment practices do you use? If possible, please list and describe those you use.

Appendix E Informed Consent Form for Screening Protocol Participants

A phenomenological study of middle school teachers' implementation of formative assessment practices in a semi-rural northwest Georgia school district

David W. Thacker
Liberty University
School of Education

You are invited to participate in a research study that seeks to understand the factors that contribute to teachers' implementation of formative assessment practices among middle school teachers. You were selected as a possible participant because of your role as a full-time academic content teacher in one of the five middle schools in this district. I ask that you read this form and ask any questions you may have before agreeing to be in the study.

David W. Thacker, a doctoral candidate in the School of Education at Liberty University, is conducting this study.

Background Information:

The purpose of the study is to understand the factors that contribute to teachers' implementation of formative assessment practices among middle school teachers in a semi-rural northwest Georgia school district. Formative assessment practices are generally defined as those assessment practices used by teachers as assessments for learning—a learning check-up during the learning process that informs teachers' decisions about future instruction (Bailey & Jakicic, 2012; Marzano, 2010).

Procedures:

If you agree to be in this study, I would ask you to do the following things:

Participate in an online screening protocol by responding to questions that will aid me in selecting participants for the study with diversity in characteristics, including years in the district, total years of teaching experience, years of middle school teaching experience, years at current grade level, years in current content area, and gender. The screening protocol will be sent to you through a digital link via email and will take approximately 20 minutes to complete. Your participation in the screening protocol will not guarantee your participation in other aspects of the study. However, the screening protocol is the first step toward determining those who will later participate in an individual interview and a focus group interview.

Risks and Benefits of being in the Study:

Minimal risks exist in the study, but these risks are no more than you would encounter in everyday life.

No direct benefits exist for the screening protocol participants in this study. The information gained from the screening protocol will be used to select co-researchers for the study.

Compensation:

No one will be compensated in any way for participation in this study or the screening protocol.

Confidentiality:

I will keep the records of this study private. In any type of report that I might publish, I will not include any information that will make it possible to identify a participant. I will store research records securely in a locked cabinet where only I will have access. Only I will have direct access to the digital records of the responses. I will guard your confidentiality through the use of pseudonyms, both for your name and your position, and the location of the study.

The screening protocol responses and any notes made from the screening protocol will all be kept in a locked cabinet. I will be the only one who has access to the cabinet and to the digital records of the responses. I will maintain the data for a period of three years following the completion of the study. At that time, all data (hard copies and digital files), notes, and recordings will be erased and/or shredded.

Voluntary Nature of the Study:

Participation in this study and the screening protocol is voluntary. Your decision whether or not to participate will not affect your current or future relations with Liberty University. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

How to Withdraw from the Study:

If you decide to withdraw from the study, simply email me at dwthacker@liberty.edu. Should you decide to withdraw from the study, no part of any collected data from you will be used in the study. I will destroy such data immediately upon your withdrawal.

Contacts and Questions:

The researcher conducting this study is David W. Thacker. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact me at dwthacker@liberty.edu. You may also contact my advisor, Gail Collins, Ed.D., at glcollins2@liberty.edu.

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, **you are encouraged** to contact the Institutional Review Board, 1971 University Blvd, Carter 134, Lynchburg, VA 24515 or email at irb@liberty.edu.

Please notify the researcher if you would like a copy of this information to keep for your records.

Statement of Consent:

I have read and understood the above information. I have asked questions and have received answers. I consent to participate in the study.

Signature: _____ Date: _____

Signature of Investigator: _____ Date: _____

Appendix F Recruitment Letter for Co-Researchers

Academic Content Teachers:

My name is David W. Thacker, and I am a doctoral student with Liberty University. I am conducting research as part of my doctoral program. I would like to invite you to participate in this study as a co-researcher, someone who comes alongside the researcher by through questioning, dialogue, and the reflective process. The study seeks to understand the factors that contribute to teachers' implementation of formative assessment practices among middle school teachers. You were selected as a potential co-researcher from responding to the screening protocol and because of your role as a full-time academic content teacher in one of the five middle schools in this district.

If you would like to participate in this study as a co-researcher, I would ask you to do the following:

(a) electronically sign and submit the informed consent form included below

(b) if you agree, please respond to this invitation within the following 7 days.

I will make contact after hearing from you to schedule a time before or after school for the individual interview of approximately 20-30 minutes.

I will conduct the interview using a set of semi-structured, open-ended questions that I will pose to each participant. I will digitally record and transcribe the interview verbatim. I will ask you to review the transcription to ensure accuracy. Once I complete interviews, I may also ask you to participate in a focus group. However, your participation in the individual interview will not guarantee your participation in the focus group. However, the individual interview is the next step toward determining those who will later participate in the focus group interview. The

focus group interview will require 45-60 minutes. Throughout the duration of the study, I will guard your confidentiality through the use of pseudonyms.

I appreciate your consideration of my study and look forward to hearing from you. Feel free to contact me if you have questions about the study.

Sincerely,

David W. Thacker

dwthacker@liberty.edu

Appendix G Informed Consent Form for Individual Interviews

A phenomenological study of middle school teachers' implementation of formative assessment practices in a semi-rural northwest Georgia school district

David W. Thacker
Liberty University
School of Education

You are invited to participate in a research study that seeks to understand the factors that contribute to teachers' implementation of formative assessment practices among middle school teachers. You were selected as a possible participant because of your role as a full-time academic content teacher in one of the five middle schools in this district. I ask that you read this form and ask any questions you may have before agreeing to be in the study.

David W. Thacker, a doctoral candidate in the School of Education at Liberty University, is conducting this study.

Background Information:

The purpose of the study is to understand the factors that contribute to teachers' implementation of formative assessment practices among middle school teachers in a semi-rural northwest Georgia school district. Formative assessment practices are generally defined as those assessment practices used by teachers as assessments for learning—a learning check-up during the learning process that informs teachers' decisions about future instruction (Bailey & Jakicic, 2012; Marzano, 2010).

Procedures:

If you agree to be in this study, I would ask you to do the following things:

Participate in an individual interview with me before or after the school day. The interview will occur in your school's conference room at a mutually agreed time. The interview will use a series of semi-structured, open-ended questions that will be asked of each interview participant. I will digitally record the interview and transcribe it verbatim. I will give you the opportunity to review the transcription to ensure accuracy. The interview will take approximately 20-30 minutes. If necessary, I may contact you for clarification of information once transcription of the interview is completed.

Submit sample lesson plans for me to review. Submission may occur through email, hard copies, or the web-based platform (planbook.com) used by the district. I will request these when scheduling the individual interviews.

Submit blank teacher-made formative assessments used in the classroom. Submission may occur through email, or hard copies. I will request these when scheduling the individual interviews.

Risks and Benefits of being in the Study:

Minimal risks exist in the study, but these risks are no more than you would encounter in everyday life.

No direct benefits exist for the interviewee participants in this study. The information gained from this study may benefit the community of educators in understanding middle school teachers' perceptions of formative assessment practices and the factors that might increase teachers' use of formative assessment practices. As teachers learn more about formative assessment and implement these practices more consistently, students may benefit.

Compensation:

No one will be compensated in any way for participation in this study.

Confidentiality:

I will keep the records of this study private. In any type of report that I might publish, I will not include any information that will make it possible to identify a participant. I will store research records securely in a locked cabinet where only I will have access. I will guard your confidentiality through the use of pseudonyms, both for your name and your position, and the location of the study.

The digital recordings, any notes taken during the interview, the transcription of the interview, and notes made on the transcription will all be kept in a locked cabinet. I will be the only one who has access to the cabinet. I will maintain the data for a period of three years following the completion of the study. At that time, all data, notes, and recordings will be erased and/or shredded.

Voluntary Nature of the Study:

Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with Liberty University. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

How to Withdraw from the Study:

If you decide to withdraw from the study, simply email me at dwthacker@liberty.edu. Should you decide to withdraw from the study, no part of any collected data from you will be used in the study. I will destroy such data immediately upon your withdrawal.

Contacts and Questions:

The researcher conducting this study is David W. Thacker. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact me at dwthacker@liberty.edu. You may also contact my advisor, Gail Collins, Ed.D., at glcollins2@liberty.edu.

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, **you are encouraged** to contact the Institutional Review Board, 1971 University Blvd, Carter 134, Lynchburg, VA 24515 or email at irb@liberty.edu.

Please notify the researcher if you would like a copy of this information to keep for your records.

Statement of Consent:

I have read and understood the above information. I have asked questions and have received answers. I consent to participate in the study.

☐ The researcher has my permission to digitally-record me as part of my participation in this study.

Signature: _____ Date: _____

Signature of Investigator: _____ Date: _____

Appendix H Informed Consent Form for Focus Group Interview

A phenomenological study of middle school teachers' implementation of formative assessment practices in a semi-rural northwest Georgia school district

David W. Thacker
Liberty University
School of Education

You are invited to participate in a research study that seeks to understand the factors that contribute to teachers' implementation of formative assessment practices among middle school teachers. You were selected as a possible participant because of your role as a full-time academic content teacher in one of the five middle schools in this district. I ask that you read this form and ask any questions you may have before agreeing to be in the study.

David W. Thacker, a doctoral candidate in the School of Education at Liberty University, is conducting this study.

Background Information:

The purpose of the study is to understand the factors that contribute to teachers' implementation of formative assessment practices among middle school teachers in a semi-rural northwest Georgia school district. Formative assessment practices are generally defined as those assessment practices used by teachers as assessments for learning—a learning check-up during the learning process that informs teachers' decisions about future instruction (Bailey & Jakicic, 2012; Marzano, 2010).

Procedures:

If you agree to be in this study, I would ask you to do the following things:

Participate in a focus group consisting of eight to 10 teachers from the five middle schools in your district before or after the school day. The interview will occur in a conference room at a mutually agreed time and location at one of the five middle schools. The focus group interview will use a series of semi-structured, open-ended questions that will be asked during the focus group. I will facilitate the focus group and take notes. I will digitally record the focus group and transcribe the discussion verbatim. I will provide a copy of the transcription to each participant in the focus group. The focus group will take approximately 45 minutes. If necessary, I may contact you for clarification of information once transcription of the focus group interview is completed.

Submit sample lesson plans for me to review. Submission may occur through email, hard copies, or the web-based platform (planbook.com) used by the district. I will request these when scheduling the individual interviews.

Submit blank teacher-made formative assessments used in the classroom. Submission may occur through email, or hard copies. I will request these when scheduling the individual interviews.

Risks and Benefits of being in the Study:

Minimal risks exist in the study, but these risks are no more than you would encounter in everyday life.

No direct benefits exist for the focus group participants in this study. The information gained from the focus group discussion may benefit the community of educators in understanding middle school teachers' perceptions of formative assessment practices and the factors that might increase teachers' use of formative

assessment practices. As teachers learn more about formative assessment and implement these practices more consistently, students may benefit.

Compensation:

No one will be compensated in any way for participation in this study or the focus group interview.

Confidentiality:

I will keep the records of this study private. In any type of report that I might publish, I will not include any information that will make it possible to identify a participant. I will store research records securely in a locked cabinet where only I will have access. I will guard your confidentiality through the use of pseudonyms, both for your name and your position, and the location of the study.

The digital recordings, any notes taken during the focus group, the transcription of the focus group interview, and notes made on the transcription will all be kept in a locked cabinet. I will be the only one who has access to the cabinet. I will maintain the data for a period of three years following the completion of the study. At that time, all data, notes, and recordings will be erased and/or shredded.

Voluntary Nature of the Study:

Participation in this study and the focus group is voluntary. Your decision whether or not to participate will not affect your current or future relations with Liberty University. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

How to Withdraw from the Study:

If you decide to withdraw from the study, simply email me at dwthacker@liberty.edu. Should you decide to withdraw from the study, no part of any collected data from you will be used in the study. I will destroy such data immediately upon your withdrawal.

Contacts and Questions:

The researcher conducting this study is David W. Thacker. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact me at dwthacker@liberty.edu. You may also contact my advisor, Gail Collins, Ed.D., at glcollins2@liberty.edu.

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, **you are encouraged** to contact the Institutional Review Board, 1971 University Blvd, Carter 134, Lynchburg, VA 24515 or email at irb@liberty.edu.

Please notify the researcher if you would like a copy of this information to keep for your records.

Statement of Consent:

I have read and understood the above information. I have asked questions and have received answers. I consent to participate in the study.

☐ The researcher has my permission to digitally-record me as part of my participation in this study.

Signature: _____ Date: _____

Signature of Investigator: _____ Date: _____

Appendix I Sample Field Notes Individual Interview

Sample of select questions and field notes form individual interview (Jack):

1. Consider the following definition. Formative assessment practices are generally defined as those assessment practices used by teachers as assessments for learning—a learning check-up during the learning process that informs teachers' decisions about future instruction (Bailey & Jakicic, 2012; Marzano, 2010). What, if anything, would you change or add to this definition?

- Change part about future learning, sometimes it's current learning or current teaching
- Technically, future is next second, but most think of future as next day, two days, or week, could be thumbs up or thumbs down, check and change my instruction
- Like the first part in terms of what FA is, makes sense, agree with it

4. Please describe an experience you have had as a teacher with using formative assessment. Be as specific and detailed as possible. Please include the grade level and content area of the students you were teaching.

- Math grade 6, exponents, base, power, specific vocabulary, understand how to write and calculate exponents using correct notation
- Used observation as FA, did examples together, circulated, had one-on-one conversations
- Heard a lot of "Now, I remember." Students struggles with place value
- Teacher can't just ask for the right answer, observation allowed me to drive instruction to heart of misconception

8. Please describe an instructional situation where you would and would not use FA practices? Explain your reasoning.

- Effective teachers assess, check if students got it or not, anything else is not teaching

- Compared not assessing to sending package to relative and never verifying it got there
- Just like giving busy work you never intend to grade, going to trash it
- Moment you start checking it, then it becomes formative assessment

12. Consider that professional learning refers to any learning experience where your school leadership, an outside consultant, your school district, or someone during a conference you attended instructed you. Describe any positive experiences you have had with professional learning related to FA practices. Did this experience help you implement FA practices more consistently? Why or why not?

- Sometimes, more of a professional learning issue and not an issue with FA
- Shortcoming of PL in general, assuming everybody needs PL on some practice and not everybody does
- A formative assessment would tell you that, designers of PL should practice what they want us to practice, exempt some people from those they do not need and provide them with something else

Appendix J Sample Field Notes Focus Group

Sample of select questions and field notes from the focus group interview:

3. I provided the following definition during the individual interviews. Formative assessment practices are generally defined as those assessment practices used by teachers as assessments for learning—a learning check-up during the learning process that informs teachers' decisions about future instruction (Bailey & Jakicic, 2012; Marzano, 2010). Is there anything else you can elaborate on here that you did not say in your individual interview?

- Not always written in plans, drives instruction, on a daily basis, not always planned, periodically, beginning/middle/end of class, writing as FA
- Language of FAPs, terminology, check for understanding, leads to differentiation, formative versus summative, lecturing versus FAPs, self-assessment as FAP, types of FA, fists-to-five, tickets-out-the-door, Jack's confession—Googled FAPs
- FAPs are on-going, using more digital platforms for FAPs, really like learning check-up aspect, clarify part about future instruction—could be immediately, later in class, tomorrow, or down the road
- Evolution of learning, disconnect from college instruction, especially terminology

4. What steps do you think need to occur to implement formative assessment practices more consistently? Why?

- Options in lesson plans online, lists or checklists for reference, drop-down menu on planbook website, clarify and establish common language, formative versus summative
- Need to see it modeled more, set clear expectations for everyone—teachers and administrators, establish expectations from the top down

5. Describe one or more experiences where you used data from formative assessments to adjust your instruction. What was the context? How did you use the information and why?

- Writing provides good source of what kids know, using creative illustrations, checkpoints with writing or projects
- MAP data, used for grouping, tracking student growth, used in grade level meetings, collaborative discussions, create math levels for small groups

7. For this question, consider that professional learning refers to any learning experience where your school leadership, an outside consultant, your school district, or someone during a conference you attended instructed you. Is there anything you could elaborate on here that you did not already say during the individual interviews about school, district, or self-selected professional learning related to the use of formative assessment practices?

- Example of Learn Zillion model from Jack, ask beforehand about specific needs or desires for PL
- Assess adults formatively, too, and gather feedback for what is needed, teachers should have a voice in their own learning
- Respect teachers as professionals, veteran teachers may or may not need the same training as a first-year person, differentiate the PL for us
- One-size-fits-all mindset does not work and cause frustration, time is valuable, teachers have other things to do (not take a nap or leave for lunch)
- Administration and instructional coaches should have input on who gets what PL, minimum requirements should be set

Appendix K Sample Reflective Journal Entries

Samples of select entries from reflective journal:

October 2, 2015

I sincerely believe formative assessment practices are essential to identifying learning gaps. This makes me think of misconceptions in math FALs, like the one about the changes in temperature. Once teachers know the gaps, then instruction can be adjusted to meet students' needs. I do see some teachers using formative assessment practices really well. I wonder how much they share the same understanding or even have a common vocabulary for understanding it. I am uncertain if teachers understand or misunderstand the language of formative assessment, but I do think teachers learn a lot from one another.

November 9, 2015

I think Jack understands a lot about formative assessment, but I think he knows even more about his students. The way he described them in the math lesson was just like he recalled the expression on their faces and knew the moment they finally got the learning. Maybe he does overthink the kinds of questions he asks them. It's good to learn even better questioning techniques, but he seems pretty solid. His interview was a lot longer than I expected. Maybe I let him talk too much. I wonder how long it will take to transcribe.

January 7, 2016

This group really took off with the conversation today. They brought forth more of a common understanding of the definition than I expected. I am not surprised at their desire for differentiated professional learning. I was somewhat surprised by the intensity and level of frustration with the "everybody gets this training" approach. They also liked the idea of students developing self-evaluation strategies by high school.

Appendix L GaDOE TAPS Standards and Rubrics

Georgia Department of Education · TAPS Performance Standards and Rubrics

Performance Standard 1: Professional Knowledge

The teacher demonstrates an understanding of the curriculum, subject content, pedagogical knowledge, and the needs of students by providing relevant learning experiences.

Level IV *In addition to meeting the requirements for Level III*	Level III *Level III is the expected level of performance.*	Level II	Level I
The teacher continually demonstrates extensive content and pedagogical knowledge, enriches the curriculum, and guides others in enriching the curriculum. *(Teachers rated on Level IV continually seek ways to serve as role models or teacher leaders.)*	The teacher consistently demonstrates an understanding of the curriculum, subject content, pedagogical knowledge, and the needs of students by providing relevant learning experiences.	The teacher inconsistently demonstrates understanding of curriculum, subject content, pedagogical knowledge, and student needs, or lacks fluidity in using the knowledge in practice.	The teacher inadequately demonstrates understanding of curriculum, subject content, pedagogical knowledge and student needs, or does not use the knowledge in practice.

Performance Standard 2: Instructional Planning

The teacher plans using state and local school district curricula and standards, effective strategies, resources, and data to address the differentiated needs of all students.

Level IV *In addition to meeting the requirements for Level III*	Level III *Level III is the expected level of performance.*	Level II	Level I
The teacher continually seeks and uses multiple data and real world resources to plan differentiated instruction to meet the individual student needs and interests in order to promote student accountability and engagement. *(Teachers rated on Level IV continually seek ways to serve as role models or teacher leaders.)*	The teacher consistently plans using state and local school district curricula and standards, effective strategies, resources, and data to address the differentiated needs of all students.	The teacher inconsistently uses state and local school district curricula and standards, or inconsistently uses effective strategies, resources, or data in planning to meet the needs of all students.	The teacher does not plan, or plans without adequately using state and local school district curricula and standards, or without using effective strategies, resources, or data to meet the needs of all students.

Performance Standard 3: Instructional Strategies

The teacher promotes student learning by using research-based instructional strategies relevant to the content to engage students in active learning and to facilitate the students' acquisition of key knowledge and skills.

Level IV *In addition to meeting the requirements for Level III*	Level III *Level III is the expected level of performance.*	Level II	Level I
The teacher continually facilitates students' engagement in metacognitive learning, higher-order thinking skills, and application of learning in current and relevant ways. *(Teachers rated on Level IV continually seek ways to serve as role models or teacher leaders.)*	The teacher consistently promotes student learning by using research-based instructional strategies relevant to the content to engage students in active learning, and to facilitate the students' acquisition of key skills.	The teacher inconsistently uses research-based instructional strategies. The strategies used are sometimes not appropriate for the content area or for engaging students in active learning or for the acquisition of key skills.	The teacher does not use research-based instructional strategies, nor are the instructional strategies relevant to the content area. The strategies do not engage students in active learning or acquisition of key skills.

Performance Standard 4: Differentiated Instruction

The teacher challenges and supports each student's learning by providing appropriate content and developing skills which address individual learning differences.

Level IV *In addition to meeting the requirements for Level III*	Level III *Level III is the expected level of performance.*	Level II	Level I
The teacher continually facilitates each student's opportunities to learn by engaging him/her in critical and creative thinking and challenging activities tailored to address individual learning needs and interests. *(Teachers rated on Level IV continually seek ways to serve as role models or teacher leaders.)*	The teacher consistently challenges and supports each student's learning by providing appropriate content and developing skills which address individual learning differences.	The teacher inconsistently challenges students by providing appropriate content or by developing skills which address individual learning differences.	The teacher does not challenge students by providing appropriate content or by developing skills which address individual learning differences.

Performance Standard 5: Assessment Strategies

The teacher systematically chooses a variety of diagnostic, formative, and summative assessment strategies and instruments that are valid and appropriate for the content and student population.

Level IV *In addition to meeting the requirements for Level III*	Level III *Level III is the expected level of performance.*	Level II	Level I
The teacher continually demonstrates expertise and leads others to determine and develop a variety of strategies and instruments that are valid and appropriate for the content and student population and guides students to monitor and reflect on their own academic progress. *(Teachers rated on Level IV continually seek ways to serve as role models or teacher leaders.)*	The teacher systematically and consistently chooses a variety of diagnostic, formative, and summative assessment strategies and instruments that are valid and appropriate for the content and student population.	The teacher inconsistently chooses a variety of diagnostic, formative, and summative assessment strategies or the instruments are sometimes not appropriate for the content or student population.	The teacher chooses an inadequate variety of diagnostic, formative, and summative assessment strategies or the instruments are not appropriate for the content or student population.

Performance Standard 6: Assessment Uses

The teacher systematically gathers, analyzes, and uses relevant data to measure student progress, to inform instructional content and delivery methods, and to provide timely and constructive feedback to both students and parents.

Level IV *In addition to meeting the requirements for Level III*	Level III *Level III is the expected level of performance.*	Level II	Level I
The teacher continually demonstrates expertise in using data to measure student progress and leads others in the effective use of data to inform instructional decisions. *(Teachers rated as Level IV continually seek ways to serve as role models or teacher leaders.)*	The teacher systematically and consistently gathers, analyzes, and uses relevant data to measure student progress, to inform instructional content and delivery methods, and to provide timely and constructive feedback to both students and parents.	The teacher inconsistently gathers, analyzes, or uses relevant data to measure student progress, inconsistently uses data to inform instructional content and delivery methods, or inconsistently provides timely or constructive feedback.	The teacher does not gather, analyze, or use relevant data to measure student progress, to inform instructional content and delivery methods, or to provide feedback in a constructive or timely manner.

Performance Standard 7: Positive Learning Environment

The teacher provides a well-managed, safe, and orderly environment that is conducive to learning and encourages respect for all.

Level IV *In addition to meeting the requirements for Level III*	Level III *Level III is the expected level of performance.*	Level II	Level I
The teacher continually engages students in a collaborative and self-directed learning environment where students are encouraged to take risks and ownership of their own learning behavior. *(Teachers rated as Level IV continually seek ways to serve as role models or teacher leaders.)*	The teacher consistently provides a well-managed, safe, and orderly environment that is conducive to learning and encourages respect for all.	The teacher inconsistently provides a well-managed, safe, and orderly environment that is conducive to learning and encourages respect for all.	The teacher inadequately addresses student behavior, displays a negative attitude toward students, ignores safety standards, or does not otherwise provide an orderly environment that is conducive to learning or encourages respect for all.

Performance Standard 8: Academically Challenging Environment

The teacher creates a student-centered, academic environment in which teaching and learning occur at high levels and students are self-directed learners.

Level IV *In addition to meeting the requirements for Level III*	Level III *Level III is the expected level of performance.*	Level II	Level I
The teacher continually creates an academic learning environment where students are encouraged to set challenging learning goals and tackle challenging materials. *(Teachers rated as Level IV continually seek ways to serve as role models or teacher leaders.)*	The teacher consistently creates a student-centered, academic environment in which teaching and learning occur at high levels and students are self-directed learners.	The teacher inconsistently provides a student-centered, academic environment in which teaching and learning occur at high levels or where students are self-directed learners.	The teacher does not provide a student-centered, academic environment in which teaching and learning occur at high levels, or where students are self-directed learners.

Performance Standard 9: Professionalism

The teacher exhibits a commitment to professional ethics and the school's mission, participates in professional growth opportunities to support student learning, and contributes to the profession.

Level IV *In addition to meeting the requirements for Level III*	Level III *Level III is the expected level of performance.*	Level II	Level I
The teacher continually engages in a high level of professional growth and application of skills and contributes to the development of others and the well-being of the school and community. *(Teachers rated as Level IV continually seek ways to serve as role models or teacher leaders.)*	The teacher consistently exhibits a commitment to professional ethics and the school's mission, participates in professional growth opportunities to support student learning, and contributes to the profession.	The teacher inconsistently supports the school's mission or seldom participates in professional growth opportunities.	The teacher shows a disregard toward professional ethics or the school's mission or rarely takes advantage of professional growth opportunities.

Performance Standard 10: Communication

The teacher communicates effectively with students, parents or guardians, district and school personnel, and other stakeholders in ways that enhance student learning.

Level IV *In addition to meeting the requirements for Level III*	Level III *Level III is the expected level of performance.*	Level II	Level I
The teacher continually uses communication techniques in a variety of situations to proactively inform, network, and collaborate with stakeholders to enhance student learning. *(Teachers rated as Level IV continually seek ways to serve as role models or teacher leaders.)*	The teacher communicates effectively and consistently with students, parents or guardians, district and school personnel, and other stakeholders in ways that enhance student learning.	The teacher inconsistently communicates with students, parents or guardians, district and school personnel, or other stakeholders or communicates in ways that only partially enhance student learning.	The teacher inadequately communicates with students, parents or guardians, district and school personnel, or other stakeholders by poorly acknowledging concerns, responding to inquiries, or encouraging involvement.

The contents of this form were developed under a grant from the U. S. Department of Education. However, these contents do not necessarily represent the policy of the U. S. Department of Education, and you should not assume endorsement by the Federal Government.

Appendix M Enumeration Table

Open-Codes	Enumeration of Open-Code Appearance across Code Families	Themes by Research Question
Adjust Instruction	109	Research Question One: Evolving Implementation
Assessments for Learning	109	
Benefits of FA Types	73	
Digital FA	23	
Evolution of Implementation/Understanding	11	
FA Definition	68	
FA Frequency	37	
FA Increased Frequency	22	
FA Increased Reason	23	
FA No Change in Frequency	2	
FA No Change Reason	4	
FALs	43	
Formative Feedback	19	
Importance of Shared Language for FA	39	
In the Moment	22	
Learning Check-Up	26	
Lesson Plans	19	
Listening	9	
Meaningful Reason	5	
Meaningful Statement	5	
Peer Assessment	3	
Questioning	38	
Self-Assessment	19	
Types of FA	97	
Writing as FA	27	

Open-Codes	Enumeration of Open-Code Appearance across Code Families	Themes by Research Question
Adjust Instruction	109	Research Question Two: Knowing their Students
Alignment between Assessment and Instruction	113	
Assessments for Learning	109	
Assessments of Learning	9	
Classroom Environment	32	
Common FA Practices	43	
Common Unit Assessments	13	
Differentiation	39	
Evolution of Implementation/Understanding	11	
FA Data Use	65	
Formative versus Summative	22	
In the Moment	22	
Knowing their Students	62	
Overall Assessment Practices	28	
Perceptions of FA Theory	74	
Professional Learning	77	
Reflect on Instructional Practices	54	
SA Data Use	7	
Student Perceptions of Assessment	13	
Student Role in FA	53	
Successful FA Practices	30	
Successful Reason	30	
Unsuccessful FA Practices	26	
Unsuccessful Reason	26	

Open-Codes	Enumeration of Open-Code Appearance across Code Families	Themes by Research Question
Adjust Instruction	109	Research Question Three: Need for Common Language and Shared Expectations
Assessments for Learning	109	
Common FA Practices	43	
Consistent Implementation	56	
Expectations for FA Practices	42	
FA Data Use	65	
Importance of Shared Language for FA	39	
Knowing their Students	62	
Learning Target Mastery	42	
Learning Target Non-Mastery	25	
Not Use FA Practices Instructionally	22	
Not Use FA Practices Reason	23	
Obstacles to Implementation of FA Practices	52	
Professional Learning	77	
SA Data Use	7	
Students Perceptions of Assessment	13	
Teacher Role in FA Practices	83	
Use FA Practices Instructionally	17	
Use FA Practices Reason	17	
Additional Information	19	Research Question Four: Differentiated Professional Learning
Additional Resources	35	
Beneficial Resources	34	
Coaching	22	
Consistent Implementation	56	
Differentiated Professional Learning	12	
Expectations for FA Practices	42	
Lesson Plans	19	
Negative Professional Learning	22	
Non-Negotiable Practices	4	
Positive Professional Learning	34	
SIOP	6	
TKES	8	

Appendix N Sample of Math FAL

CONCEPT DEVELOPMENT

Mathematics Assessment Project
CLASSROOM CHALLENGES
A Formative Assessment Lesson

Using Positive and Negative Numbers in Context

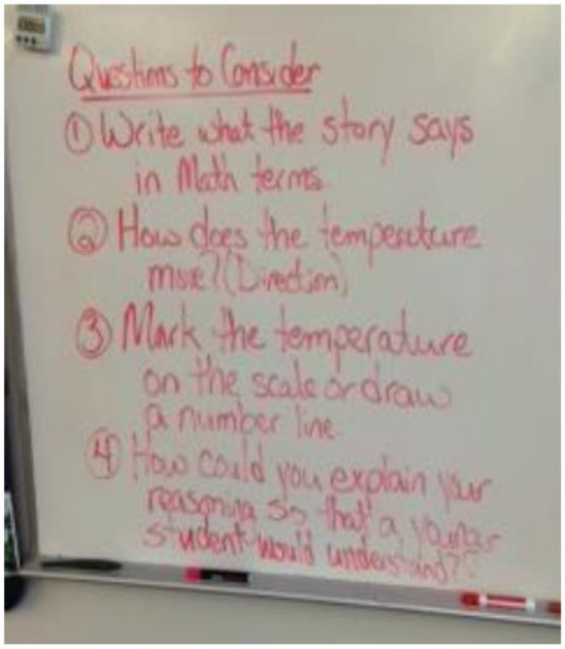
Mathematics Assessment Resource Service
University of Nottingham & UC Berkeley
Beta Version

Appendix O Sample Lesson Plan

Monday 10-19-2015 School Day 49	Tuesday 10-20-2015 School Day 50	Wednesday 10-21-2015 School Day 51	Thursday 10-22-2015 School Day 52	Friday 10-23-2015 School Day 53
Science **Essential Question:** What are the two main types of weathering that can occur? What are the physical processes that cause weathering? How does physical weathering occur?	**Science** **Essential Question:** What are the two main types of weathering that can occur? What are the physical processes that cause weathering? How does physical weathering occur?	**Science** **Essential Question:** What are the two main types of weathering that can occur? What are the physical processes that cause weathering? How does physical weathering occur?	**Science** **Essential Question:** What are the two main types of weathering that can occur? What are the physical processes that cause weathering? How does physical weathering occur?	**Science** **Essential Question:** What are the two main types of weathering that can occur? What are the physical processes that cause weathering? How does physical weathering occur?
Warm-up / Activating Strategy: Sentence frames to provide an opportunity to discuss with table partners the lessons from the previous day/week and to discuss ideas that will be talked about in class. Demonstrations of big ideas needed to understand content.	**Warm-up / Activating Strategy:** Sentence frames to provide an opportunity to discuss with table partners the lessons from the previous day/week and to discuss ideas that will be talked about in class. Demonstrations of big ideas needed to understand content.	**Warm-up / Activating Strategy:** Sentence frames to provide an opportunity to discuss with table partners the lessons from the previous day/week and to discuss ideas that will be talked about in class. Demonstrations of big ideas needed to understand content.	**Warm-up / Activating Strategy:** Sentence frames to provide an opportunity to discuss with table partners the lessons from the previous day/week and to discuss ideas that will be talked about in class. Demonstrations of big ideas needed to understand content.	**Warm-up / Activating Strategy:** Sentence frames to provide an opportunity to discuss with table partners the lessons from the previous day/week and to discuss ideas that will be talked about in class. Demonstrations of big ideas needed to understand content.
Adjusting / Differentiation: Small group, peer translations, resources provided in English and Spanish for appropriate reading levels. Teacher direction on activeboard and Elmo, picture flash cards for vocabulary Small group setting.	**Adjusting / Differentiation:** Small group, peer translations, resources provided in English and Spanish for appropriate reading levels. Teacher direction on activeboard and Elmo, picture flash cards for vocabulary Small group setting.	**Adjusting / Differentiation:** Small group, peer translations, resources provided in English and Spanish for appropriate reading levels. Teacher direction on activeboard and Elmo, picture flash cards for vocabulary Small group setting.	**Adjusting / Differentiation:** Small group, peer translations, resources provided in English and Spanish for appropriate reading levels. Teacher direction on activeboard and Elmo, picture flash cards for vocabulary Small group setting.	**Adjusting / Differentiation:** Small group, peer translations, resources provided in English and Spanish for appropriate reading levels. Teacher direction on activeboard and Elmo, picture flash cards for vocabulary Small group setting.
Teaching Strategies and Activities: All classes - Vocabulary tic-tac-toe	**Teaching Strategies and Activities:** All classes - Vocabulary tic-tac-toe	**Teaching Strategies and Activities:** All classes - Vocabulary tic-tac-toe	**Teaching Strategies and Activities:** All classes - Vocabulary tic-tac-toe	**Teaching Strategies and Activities:** All classes - Vocabulary tic-tac-toe
3/4th Pd - Pre_Test Unit #3; Compare and contrast two types of weathering 5/6th Pd - Pre_Test Unit #3; Graphic organizer types of weathering	3/4th Pd - Finish compare and contrast of weathering types. Create Prezi on different types of weathering - computer lab 5/6th Pd - Rock cycle diagram	3/4th Pd - Final Prezi, prepare for presentation 5/6th Pd - Types of weathering notes with graphic organizer, foldable	3/4th Pd - Presentation of prezi 5/6th Pd - Types of weathering notes with graphic organizer, foldable	3/4th Pd - Finish presentation of Prezi's 5/6th Pd - Weathering, Erosion and Deposition sort
Formative Assessments: Teacher observation and questioning Completion	**Formative Assessments:** Teacher observation and questioning Completion	**Formative Assessments:** Teacher observation and questioning Completion	**Formative Assessments:** Teacher observation and questioning Completion	**Formative Assessments:** Teacher observation and questioning Completion
Summarizing Activity / Preview of Tomorrow: Ticket out the door, Kahoot, Short answer written response	**Summarizing Activity / Preview of Tomorrow:** Ticket out the door, Kahoot, Short answer written response	**Summarizing Activity / Preview of Tomorrow:** Ticket out the door, Kahoot, Short answer written response	**Summarizing Activity / Preview of Tomorrow:** Ticket out the door, Kahoot, Short answer written response	**Summarizing Activity / Preview of Tomorrow:** Ticket out the door, Kahoot, Short answer written response
Standards: **S6CS1** Students will explore the importance of curiosity, honesty, openness, and skepticism in science and will exhibit these traits in their own efforts to understand how the world works. **S6CS3** Students will use computation and estimation skills necessary for analyzing data and following scientific explanations. **S6CS4.a** Use appropriate technology to store and retrieve scientific information in topical, alphabetical, numerical, and keyword files, and create simple files. **S6CS5** Students will use the ideas of system, model, change, and scale in exploring scientific and technological matters.	**Standards:** **S6CS1** Students will explore the importance of curiosity, honesty, openness, and skepticism in science and will exhibit these traits in their own efforts to understand how the world works. **S6CS3** Students will use computation and estimation skills necessary for analyzing data and following scientific explanations. **S6CS4.a** Use appropriate technology to store and retrieve scientific information in topical, alphabetical, numerical, and keyword files, and create simple files. **S6CS5** Students will use the ideas of system, model, change, and scale in exploring	**Standards:** **S6CS1** Students will explore the importance of curiosity, honesty, openness, and skepticism in science and will exhibit these traits in their own efforts to understand how the world works. **S6CS3** Students will use computation and estimation skills necessary for analyzing data and following scientific explanations. **S6CS4.a** Use appropriate technology to store and retrieve scientific information in topical, alphabetical, numerical, and keyword files, and create simple files. **S6CS5** Students will use the ideas of system, model, change, and scale in exploring scientific and technological matters.	**Standards:** **S6CS1** Students will explore the importance of curiosity, honesty, openness, and skepticism in science and will exhibit these traits in their own efforts to understand how the world works. **S6CS3** Students will use computation and estimation skills necessary for analyzing data and following scientific explanations. **S6CS4.a** Use appropriate technology to store and retrieve scientific information in topical, alphabetical, numerical, and keyword files, and create simple files. **S6CS5** Students will use the ideas of system, model, change, and scale in exploring scientific and technological matters.	**Standards:** **S6CS1** Students will explore the importance of curiosity, honesty, openness, and skepticism in science and will exhibit these traits in their own efforts to understand how the world works. **S6CS3** Students will use computation and estimation skills necessary for analyzing data and following scientific explanations. **S6CS4.a** Use appropriate technology to store and retrieve scientific information in topical, alphabetical, numerical, and keyword files, and create simple files. **S6CS5** Students will use the ideas of system, model, change, and scale in exploring scientific and technological matters.

Appendix P Sample Formative Assessments

Grade 7 Math



Grade 6 Social Studies

1-2 Minute Essay
After I complete a day of lecture for Social Studies, I will give my students an index card and provide a prompt. Then I will set the timer (1-2 minutes depending upon the complexity of the prompt). Students will have 30 seconds to get their thoughts together after reading the prompt. Once the timer begins, they should write as much as possible, providing enough information to assess their understanding. When the timer goes off, all writing stops. Note: This is sometimes difficult for students in gifted education because they want to finish what they are saying. I just have to assure them that they will not be penalized for unfinished thoughts.

Grade 6 Science (Writing)

CSET in Science Starter week: 7

Question: Why is salt a mineral but sugar is not?

Claim:

Set-up
Evidence

Tie-Up

Final Draft

Grade 8 English and Language Arts

Verb Moods

What do you think I said today about verb moods?

Note: Students respond online using Padlet.

Appendix Q Audit Trail

September 25, 2015 received IRB approval for study 2304.092515

September 30, 2015 conducted pilot study at nearby middle school; discovered need to create questions cards for interviewees to follow; learned from using recording software

October 2, 2015 met with school instructional coaches; discussed introduction of the study; provided my reflections on FAPs; answered questions

October 16, 2015 introduction of study held at Brighthouse Middle School (pseudonym)

October 18, 2015 introduction of study held at Capstone Middle School (pseudonym); emailed potential participants at Brighthouse the Screening Protocol Recruitment invitations

October 19, 2015 introduction of study held at Applegate Middle School (pseudonym); emailed potential participants at Applegate the Screening Protocol Recruitment invitations; emailed potential participants at Capstone Middle School (pseudonym) the Screening Protocol Recruitment invitations

October 21, 2015 introduction to study held at Dartmouth Middle School (pseudonym) and Edgewater Middle School (pseudonym); answered login questions via email about online Screening Protocol

October 22, 2015 emailed potential participants at Dartmouth and Edgewater the Screening Protocol Recruitment invitations

October 25, 2015 emailed potential participants left off first emails

October 27, 2015 emailed reminders and follow-up requests to first groups of potential Participants

November 1, 2015 emailed final reminder ahead of November 4, 2015 cut-off date

November 2, 2015 applied criterion purposeful sampling to screening protocol and identified

sample of participants to become co-researchers; participants consented electronically, but I also had paper copies signed at the time of the individual interviews

November 4, 2015 began scheduling individual interviews via email; I found I had to schedule a few at a time for the week and then schedule a few more

November 9, 2015 conducted first individual interview (Jack); the first one went over the predicted 20 minutes; I learned to keep the co-researcher more on track

November 10, 2015 conducted second individual interview (Melinda)

November 11, 2015 conducted individual interviews three and four (Pamela and Tim)

November 12, 2015 conducted individual interview five (Teresa)

November 13, 2015 conducted individual interviews six and seven (Kim and Patricia)

November 16, 2015 conducted individual interviews eight and nine (April and Lisa)

November 19, 2015 conducted individual interviews 10-13 (Andrea, Angela, Ben, and Brenda); tried to reach goal of completing interviews before Thanksgiving break but did not

November 21-30, 2015 transcribed completed individual interviews; first three were slow going, but the process sped up as I got used to listening and typing

December 1, 2015 conducted individual interviews 14-15 (Kateline and Melissa)

December 4, 2015 conducted individual interviews 16-17 (Brittany and Kathy)

December 4-15, 2015 completed transcription of individual interviews and emailed co-researchers their transcripts for member checking; reminded them of access to lesson plans and collection of formative assessment samples (outlined in consent forms)

December 15-16, 2015 applied purposeful sampling and selected eight co-researchers for focus group

December 18, 2015 emailed invitations to co-researchers for focus group; experienced anxiety

about all co-researchers showing up

January 7, 2016 conducted focus group interviews lasting approximately 45 minutes

January 8-11, 2016 began transcribing focus group interview; transcribed this more quickly than expected

January 18, 2016 emailed co-researchers in focus group the transcript for member checking; reminded them of collection of lesson plans and sample formative assessments

January 19-February 9, 2016 focused on collecting lesson plans and sample FA for data analysis

February 13-23, 2016 began data analysis process by uploading primary documents to ATLAS.ti and reading through them; reviewed field notes and reflection journal to bracket out preconceptions; generated initial codes in ATLAS.ti and linked them to the individual interview questions and focus group questions creating code families; linked these codes to the study's four research questions and theoretical framework creating code families associated with them; completed multiple cycles of coding; read through codes and transcripts repeatedly; generated reports linking codes and quotations; used these to identify themes

February 24-29, 2016 drafted Chapter 4 and made edits to previous chapters to submit to dissertation chair

February 29, 2016 submitted draft to dissertation chair; continued drafting of Chapter 5

March 1, 2016 received revisions back from dissertation chair; began working on those

March 2-6, 2016 completed draft of remaining portions of dissertation including Appendices; submitted draft of entire dissertation to chair