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TEACHER PERCEPTIONS OF FORMATIVE ASSESSMENTS ON STUDENT
LEARNING IN K-12 CLASSROOMS

By
Stacey Robinson

A Dissertation Submitted to the
Gardner-Webb University School of Education
in Partial Fulfillment of the Requirements
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Approval Page

This dissertation was submitted by Stacey Robinson under the direction of the persons listed below. It was submitted to the Gardner-Webb University School of Education and approved in partial fulfillment of the requirements for the degree of Doctor of Education at Gardner-Webb University.

Jenny Sabin, Ed.D.
Committee Chair

Date

Jennifer Putnam, Ed.D.
Committee Member

Date

Sydney Brown, Ph.D.
Committee Member

Date

Prince Bull, Ph.D.
Dean of the School of Education

Date

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Abstract

TEACHER PERCEPTIONS OF FORMATIVE ASSESSMENTS ON STUDENT LEARNING IN K-12 CLASSROOMS. Robinson, Stacey, 2019: Dissertation, Gardner-Webb University.

A mixed methods design was utilized to examine teacher perceptions of formative assessments and its impact on student motivation. Teachers from 32 public schools in a southeastern school district were invited to participate in a formative assessment survey using a Likert scale to share their perceptions of their understanding and use of formative assessments in the classroom. The survey and interview items addressed teachers' own self-efficacy values as they relate to their implementation of formative assessments and their relationship with motivating students to learn. Data analysis indicated most teachers had a strong understanding of formative assessments, but some of their responses showed they confused formative assessments with summative assessment measures. Although most of the participating teachers indicated they shared learning goals with their students, some of the data showed the learning goals were directly related to proficiency goals on state-mandated tests. Additionally, teachers who had established protocols for self-assessment practices in their classroom did not include one form of self-assessing with students actually grading their own work. Finally, even though half of the teachers interviewed stated formative assessment practices had the greatest impact on motivating their students to learn, the other half of the teachers contributed it to other factors. Based on the findings of the research study from the district data, recommendations, professional development needs, and ideas for future research needs were identified and shared in detail.

Keywords: formative assessments, teacher perceptions, feedback, motivation,
student learning

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Chapter 1: Introduction

School districts across the nation have been inundated with a variety of assessments in recent years due to federal mandates from the No Child Left Behind Act (NCLB) and the Race to the Top initiatives (Brink, 2017). These mandates require students, along with classroom teachers, to meet rigorous standards and competencies. Public schools must show students proficient in reading, writing, math, and science and soon, must also demonstrate proficiency in digital learning competencies (Department of Public Instruction [DPI], 2018; Frey, 2009; Stiggins, 2005). A teacher's job is to help students master these competencies. Due to the large number of requirements and accountability in schools today, teachers must teach students in the classroom setting to perform well on the high stakes, standardized tests (Vande Corput, 2012); however, teachers evaluate student daily work, give feedback on papers in the form of grades, and then become perplexed on why students are not mastering the intended learning competencies (Ontiveros, 2017; Ramsey & Duffy, 2016).

None of the federal initiatives mandated by the government concerning education offer help or support through formative assessment (Black & Wiliam, 1998). Ramsey and Duffy (2016) stated,

Formative assessments, a collection of formal and informal processes used to gather evidence for the purpose of improving student learning, provides teachers and students with continuous, real time information that informs and supports instruction. (p. 6)

It is imperative that teaching and learning coexist in a space where teachers and their students communicate with one another about student understanding. The

information provided through formative assessment helps modify teaching and helps students engage in the learning process. The evidence gathered throughout the process allows the teaching to meet the individualized needs of the students. This process is the truest definition of formative assessments (Black & Wiliam, 1998).

Formative assessments provide data for teachers on their students' progress towards learning goals (Earl, 2003; Ontiveros, 2017; Ramsey & Duffy, 2016). It provides valuable information to teachers on misconceptions and what steps are next in the instructional phase to help students master skills. The process of continuously integrating formative assessment with teaching and learning throughout the learning cycle actively involves both the teacher and the student, includes peer and self-assessments, and provides feedback to help close gaps in learning (Black, Harrison, Lee, Marshal & Wiliam, 2003; Earl, 2003). “Relevant assessment allows students to make connections between curriculum, instruction, assessment and students' daily lives” (Earl, 2003, p. 68). A great benefit to teachers and students, assessment, in itself, can be a motivating tool to learn. Earl (2003) noted that assessments could help stimulate student interest and provide students the necessary tools to take risks.

Nature of the Problem

Due to the history of these standardized assessments in schools having an emphasis on summative assessment practices, teachers traditionally assess using these same methods routinely in the classroom rather than utilizing formative assessments (Ramsey & Duffy, 2016; Snyder, 2016). Summative assessments test student knowledge after the learning takes place, while formative assessments take place continuously throughout the unit, sometimes even on a daily basis. Formative assessments used during

the learning process help target areas where students have misconceptions to better improve student learning (Earl, 2003); however, there are several problems concerning formative assessment practices in schools.

First, Ramsey and Duffy (2016) reported many teachers have a limited knowledge on formative assessment strategies. Many teachers do not understand the formative assessment process or how to utilize formative assessment practices effectively in the classroom. Ontiveros (2017) confirmed when teachers do not understand the process, they resort back to previous ways they were taught. Also, some teachers have not been given the opportunity to utilize formative assessments appropriately to promote maximum student achievement (Stiggins, 2005). Finally, many teachers do not understand the impact formative assessments have on student motivation to learn (Black et al., 2003; Ontiveros, 2017). Best practices in effective implementation of formative assessments improve student learning over time (Earl, 2003). These practices have many benefits for teachers and students, including motivating students to learn as they take ownership of their learning.

The impact of the problem is substantial and affects students across the country, as students in grades kindergarten through 12th grade participate in high stakes, summative assessments (Frey, 2009). Students across the nation perform in a competitive world and yet continue to make slow growth, as standards change and become increasingly harder to master. According to Deruy and Journal (2016), a Quality Counts report ranked the nation's kindergarten through 12th grade education system, as a whole, with a grade of a C (a performance score of 74.4%), based on the National Assessment of Educational Progress (NAEP). Comparing recent NAEP scores to NAEP

scores from 30 years ago, progress has been slow, and changes need to take place to help students master content to make more substantial growth. As standardized tests are increasingly administered, with the main focus being summative style assessments, teachers are not fully utilizing formative assessments to make an everlasting impact on student learning to help motivate students to learn (Ramsey & Duffy, 2016).

Formative assessments have many goals including providing feedback to students, offering critical information to the teacher, and providing a summary of data for record keeping (Earl, 2003). These assessments show what the students know and understand, along with how they arrived at that process. When a teacher looks at the data closely, they see the misunderstandings and the next steps of instruction to help students arrive at the correct way of thinking. Formative assessments can help guide teachers in identifying gaps in knowledge and determine how to make adjustments in instruction (Earl, 2003). They also allow students to take ownership of their learning while teachers clarify learning targets and offer immediate feedback. Without analyzing mistakes made during the learning process, teachers have a hard time helping students improve their learning (Brookhart, 2008).

Ontiveros (2017) stated many teachers collect data but do not know how to use the data to make major instructional adaptations. Snyder (2016) reiterated that many teachers gather data to have grades for students and do not use the data to drive future instruction. Teachers also create formative assessments not aligned to the standards and spend a limited amount of time reflecting on data (Ontiveros, 2017). Without proper training and staff development, teachers have a hard time learning the process and cannot see the benefits. Ramsey and Duffy (2016) stated to improve formative assessment,

teachers have to improve their instructional practice, and this is the biggest challenge across districts in the nation. Snyder acknowledged most teacher preparation programs give little guidance to future teachers on sound assessment practices. Districts have had to implement a major overhaul in how they train teachers to look at assessments.

Originally, assessments were created to ascertain student knowledge to sort students into two categories: those ready for the workforce and those ready for more schooling (Earl, 2003). Wagner and Kegan (2006) agreed the educational system was not created to fulfill the demands of the 21st century society.

Significance of the Problem

Since schools place a high emphasis on summative assessments, teachers have a reluctance to implement time-consuming formative assessment practices in the classroom (Black et al., 2003; Frey, 2009). Earl (2003) stated since the creation of summative assessments, students are being compared with their peers with little direction or advice on how to improve. In the past, school training instructed teachers to give summative assessments at the end of instruction in the form of grades to ascertain student knowledge (Earl, 2003).

Teachers also may not understand how grades can hinder student motivation to learn. Black and Wiliam (1998) explained feedback in the form of grades teach students they lack ability, so they become unmotivated, believing they are unable to learn. Earl (2003) determined grades to be demotivating tools for some learners. In fact, student motivation decreases and has a negative impact on student learning during frequent high stakes testing (Frey, 2009; Harlen & Crick, 2003).

It is not just a small problem within a few districts or isolated to a small

percentage of grade levels. Frequent high stakes testing is a nation-wide problem that affects millions of students in kindergarten through 12th grade. The average student takes 112 standardized tests during his or her lifetime in public schools, with an average of eight standardized tests in a given year (Strauss, 2015). Based on these statistics, testing replaces approximately 20-25 hours of teaching in an academic school year. Table 1 shows the breakdown of the number of hours students spend on testing each year. A vast percentage of this time is spent on summative assessments (Waldman, 2015).

Table 1

Average Testing Time in Hours Per Year by Grade Level

Grade Level	Hours
K	8.5
1	10.4
2	11.9
3	20.6
4	22.1
5	23.2
6	22.4
7	23.2
8	25.3
9	22.6
10	23.9
11	22.5
12	15.9

Table 1 shows students between third and 11th grade spend over 20 hours testing. There are many types of tests, including formative and summative, given across many grade levels in different subject areas. In one state, there are 11 types of state standardized tests and six federal types of standardized tests. Many of the federal tests administered are summative assessments, and these types of tests take longer to prepare students for throughout the school year (DPI, 2018). Waldman (2015) stated it could take

between 2-4 months to receive assessment results back at the school level, delaying the tests' use for instructional purposes. Table 2 has the breakdown of standardized tests by subjects given in kindergarten through 12th grade in a given year on one state's website (DPI, 2018).

Table 2

Types of Standardized Tests by Subjects in K-12 Grades

ELA/Reading	Math	Science	Social Studies	Technology
11	9	8	3	3

Table 2 shows many standardized tests administered predominately in the area of reading and English language arts.

NCLB began the discussion for many teachers on what the difference was between formative and summative assessments, as many had not understood the concepts before (Snyder, 2016). In 2011, new Race to the Top initiatives encouraged states to develop and implement reform strategies concerning four core components, including adopting in-depth college- and career-ready standards and assessments and creating data systems to measure student success to inform teaching and help turn around low-performing schools (Miller & Hanna, 2014). As part of the Race to the Top initiatives, a new standard was added to the teacher evaluation system (DPI, 2018). The new standard allowed states to calculate teacher performance based on student achievement levels on end-of-grade tests. Based on their students' achievement levels, teachers either exceeded expected growth, met expected growth, or did not make expected growth (DPI, 2018). Comparisons based on student performance began between teachers within schools, districts, and the state. Since teacher accountability is now at the forefront, an increased

focus on teacher classroom assessment practices has begun (Snyder, 2016). Today, teachers feel the pressure even more to have students perform well. Many teachers focus on summative, standardized assessments due to student performance results. This practice impacts the effectiveness of teachers.

Due to many state tests being summative in nature, teachers also give their own classroom assessments in summative ways, meaning after instruction is over or at the end of units of study; however, summative assessments are not best practice for improving student achievement. Stiggins (2005) explained some teachers are now beginning to realize once-a-year summative tests are not beneficial in making instructional decisions to help individual students. Ramsey and Duffy (2016) stated, “Pressures from new and more rigorous academic standards and state summative assessments created an interest and demand for data-driven instruction and good formative assessment” (p. 5).

Formative assessment can make an impact when they are conducted during the learning process to gauge a student’s understanding and provide instructional information to the teacher on how to help the student (Black & Wiliam, 1998; Ontiveros, 2017; Ramsey & Duffy, 2016).

Black et al. (2003) stated students who receive formative assessments perform better on achievement tests. This result is due to the formative assessment cycle where teachers address content while students learn and then teachers gather evidence through informal or formal assessments. After delivering feedback on their understanding, teachers reflect and plan lessons based on the needs of their students, and the cycle continues with more teaching and learning. Figure 1 shows the formative assessment cycle.

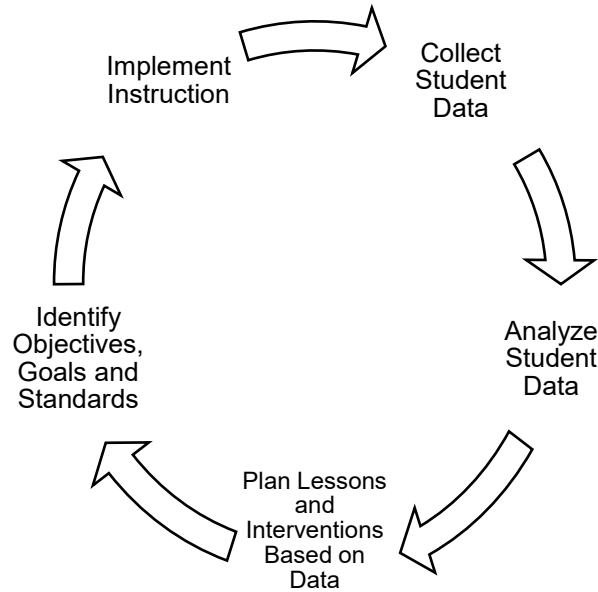


Figure 1. Formative Assessment Cycle.

The formative assessment cycle is constantly addressing student levels of understanding while making adjustments to the classroom instruction; however, some teachers do not fully understand formative assessments and do not utilize them during the teaching process for their intended purposes to increase student motivation to learn (Ontiveros, 2017; Ramsey & Duffy, 2016).

Ramsey and Duffy (2016) confirmed some teachers regularly use some types of formative assessment strategies in their classrooms, although their implementation is uneven. Summative assessments are vital and contain relevant information, but formative assessments help drive instruction and check a student's understanding during the learning. Over the last few years, formative assessments emerged as an important tool for school and student improvement (Stiggins, 2005).

There are many types of formative assessments that are beneficial to students and teachers, like progress monitoring, self-assessments, peer assessments and feedback.

Drago-Severson and Blum-DeStefano (2016) insisted, “Feedback is the process of relaying or feeding back information to individuals or groups about their performance to inform current and future behaviors in alignment with particular goals or desired results” (p. 17). Earl (2003) noted many teachers all across the nation give feedback to students about their progress in the hopes that students will utilize it to learn and grow, but some teachers give feedback that is not motivating students to improve their performance. Some teachers deliver feedback improperly. The majority of feedback on assessments given today by teachers is evaluative, meaning a numerical grade is given, where students do not have the necessary information on how to improve (Bennett, 2016). The feedback is in the form of a grade or with “good job” written at the top of the paper, with neither method signifying to the student specifically what they did well or areas upon which to improve.

Although evaluative feedback provides information to a student in the form of a grade, Earl (2003) clarified when it is the only feedback a student receives, it can be more harmful than originally thought. When students receive feedback in the form of grades, they are compared to their peers' achievements (Earl, 2003). At this point in instruction, it is too late to guide student misconceptions to make an impact and improve student learning. Evaluative feedback affects student identity and self-efficacy in relation to learning (Earl, 2003). Evaluative feedback expresses approval or disapproval without giving further guidance on how to become better. Alternatively, Black et al. (2003) stated when feedback is thoughtful and includes guidance on the next steps on how to improve, it leads to motivation for students to learn. One such type of feedback is descriptive feedback. Descriptive feedback specifies a better way of completing a task

and it allows students to suggest ways they can improve. Motivated students learn and grow when a teacher provides specific feedback related to student work on areas in which they performed well and specific areas they need to reevaluate. It will be pertinent and helpful to educators and administrators to see the importance of providing specific, written feedback and how it motivates students to learn.

Teachers can also give students ample time to improve upon their mistakes after they receive feedback as part of the formative assessment process, but few teachers take the time to do this in the classroom. Earl (2003) demonstrated motivation occurs within students when teachers treat mistakes as a normal part of learning and growing along with giving students a chance to rethink and redo their work. Black et al. (2003) believed changes in teacher classroom practices can make teaching and learning more effective.

Purpose of the Study

The purpose of this mixed methods study was to gather and analyze teacher perceptions of formative assessments in one school district. Items asked pertained to the definition of formative assessment, how often teachers utilized it in the classroom, and the kinds of formative assessments they delivered to students. The study provided important information on teacher current knowledge and performance. During the second phase of the research, teacher interviews took place and data looked at certain teachers who understood and used formative assessments. The data helped identify if teachers who use formative assessments have students who are motivated to learn based on teacher perceptions. The teacher interviews helped deepen the research on formative assessments already gathered during the first phase of the research by triangulating the data. Both instruments used during the research helped answer the research questions on

formative assessments. The information gathered from both the quantitative and qualitative data strengthens the research since patterns and themes emerged from the survey and teacher interviews combined. Data looked to compare elementary, middle and high school teachers to see who was more familiar with the formative assessment process. All data from the research helped the candidate see areas of strengths and weaknesses within the district pertaining to formative assessment to further identify ways professional development could be offered in the future. Current research on formative assessment can help teachers become more aware of best practices motivating students to learn and improve student learning, especially since there are so many low-performing schools identified within the district.

This study obtained new data on teacher perceptions of formative assessment practices and its benefits, since there are deficiencies in the research since Race to the Top initiatives passed into legislation in 2009. Much of the research in this area of study takes place before this time period. With even more summative assessments being administered than ever before, research is needed to understand teacher understanding of the formative assessment process now and their perceptions of how it motivates students to learn.

Research Site

The research study took place in one district in a southeastern state. The school district consists of 32 schools including 14 elementary schools, nine middle schools, eight high schools, and two alternative schools. The district serves approximately 18,700 students with an average class size ranging from 19 to 23 students. The researcher does work within one of the elementary schools in the district. The researcher has worked for

15 years in the district and has led some professional development within her school. The researcher does have experience with analyzing data to draw conclusions and make recommendations. The problem identified within the study was within the researcher's ability to study by collecting data through surveys and teacher interviews about formative assessments within the district. The researcher identified which groups of teachers understood and utilized formative assessments and which groups needed additional training and professional development.

Research Questions

The research study identified teacher understanding of formative assessment and their commitment to its effective use in the classroom. The following research questions guided the study.

1. To what extent do teachers understand the formative assessment process as measured by the Formative Assessment survey and teacher interviews?
2. To what extent do teachers engage in the formative assessment practice as measured by the Formative Assessment survey and teacher interviews?
3. How does teacher self-efficacy about formative assessment impact implementation in the classroom as measured by the Formative Assessment survey and teacher interviews?
4. How do teachers who use formative assessment perceive its impact on student motivation to learn?

Definition of Key Terms

The following definitions are vital in understanding key terms throughout the research study.

Assessment as learning. A type of assessment students use to further their own learning in the form of peer and self-assessments (Earl, 2003).

Assessment for learning. A type of assessment to track a child's progress usually in the form of formative or summative assessments. Teachers can use these types of assessments to guide them in their future instruction (Earl, 2003).

Criterion-referenced. Information that tells students where they stand in relation to the specified learning objective (Marzano, Pickering & Pollock, 2001).

Evaluative feedback. Feedback in the form of grades or general comments that does not convey enough information to students on how to improve their learning (Hattie & Temperley, 2007).

Feedback. It is helpful information given to someone to improve their understanding and is used for the basis of improvement.

Formative assessment. "Ongoing process students and teachers engage in when they focus on learning goals, take stock of where current work is in relation to the goal and take action to move closer to the goal" (Brookhart, 2008, p. 2).

Growth mindset. The belief that abilities and talents can be developed through effort and hard work (Dweck, 2008).

Intrinsic motivation. The desire to engage in an activity purely for the sake of participating in and completing a task (Deci, Vallerand, Pelletier, & Ryan, 1991).

Motivation. The willingness of someone to do something (Harlen & Crick, 2003).

Norm-referenced. Feedback that tells students where they are in reference to other students but does not outline details about their learning (Marzano et al., 2001).

Self-efficacy. Personal judgements of performance capabilities on a particular task at a particular point in time (Stipek, 1998).

Self-regulate. To control one's own learning environment (Hattie & Temperley, 2007).

Summative assessment. An assessment done at the end of learning to determine a child's understanding.

Teacher perception. The thoughts teachers have about their students based on their background knowledge and life experiences (Brink, 2017).

Research Study

This mixed methods study had many dependent variables. Cramer and Howitt (2004) stated a dependent variable in a study is dependent on other factors and is the presumed effect. The dependent variables in the research study are formative assessments, teacher perceptions, self-efficacy, and student motivation. Knowledge of formative assessments was measured by answers given on the Formative Assessment survey by teachers and measured more through the in-depth teacher interviews in the second phase of the research. Teacher perceptions were measured throughout the study through the Formative Assessment survey and through the use of teacher interviews, as the answers were based on the perceptions of the teachers. Self-efficacy was measured through answers given on sections of the Formative Assessment survey and the teacher interviews to see if teacher self-efficacy of their knowledge of formative assessments impacted their implementation in the classroom. Student motivation was measured through answers given in sections of the teacher interviews during the second phase of the research study.

Organization of the Study

Chapter 1 introduced the study, the problems related to formative assessment, the purpose of the study, and the impact of the study. A brief background on assessments with a review of the literature was stated. Next, the significance of the problem was detailed. Last, the research questions were listed followed by the definitions of key terms to understand the research and how the dependent variables were measured.

Chapter 2 begins with a restatement of the problem. The conceptual framework is listed with a brief history of assessments. A review of the related literature is shared in regard to formative assessments and motivation including actual studies done with data presented.

Chapter 3 lists the problem again with a description of the methodology for the study. The research site and participants are heavily described along with the description of the instruments and their validity and reliability. The procedures describe in detail how the study was done along with how the data were analyzed. A summary statement of the methodology is listed along with the interview items located in the appendices.

Chapter 4 presents demographic data on all participants in the study. Data are shared and sectioned off by each research question. First, the findings from the survey and interview data on understanding and utilization of formative assessments are shared. Then, data on teacher self-efficacy of their understanding in relation to their implementation are shared. Last, data on the impact of formative assessments on motivation are presented.

Chapter 5 summarizes the findings of the research study along with implications. Then recommendations for the district gathered from the data are identified based on

improving classroom practices and suggestions on professional development that can be offered and ideas for future research in the area of formative assessments are listed.

Chapter 2: Literature Review

Introduction

Formative assessments provide data for teachers on their students' progress towards learning goals and provide valuable information to teachers on misconceptions and the steps needed in the next instructional phase to help students master skills (Black & Wiliam, 1998; Earl, 2003; Ramsey & Duffy, 2016). Formative assessment is integrated with teaching and learning continuously throughout the learning cycle, actively involves both the teacher and the student, includes self- and peer assessments, and provides feedback to help close gaps in learning (Black et al., 2003; Earl, 2003). Earl (2003) claimed, “moving towards assessments for and as learning will require teachers to have courage, stamina, motivation, and capacity” (p. 110). Teachers and students both have to be highly committed and willing to put forth a lot of effort for the information gained to be used for effective practices.

Teachers have a huge impact on student learning if they use assessments in the correct manner and offer effective feedback to motivate and encourage students. Black and Wiliam (1998) recognized teachers need to know about their students' understanding, including difficulties, so lessons can be adapted to meet the students' varied and unique needs. The information gained from formative assessments aids teachers in the next steps of instruction and tells students what to focus on more clearly (Danielson, 2006). “Teachers now realize, it is not about teaching, it is about learning” (Black et al., 2003, p. 95). Danielson (2006) clarified teacher leaders influence the type of assessments and learning going on in classrooms and are the experts in the patterns of learning for students. “Teachers can engage students, draw them into the learning that assessment

encompasses by interweaving it with teaching and learning and it can be a motivator by stimulating the students' interest" (Earl, 2003, p. 68).

Stipek (1998) confirmed motivation is relevant to learning due to it being an active process. It requires students to be deliberate and conscious of the effort they give to their learning. Teachers should provide a learning environment conducive for students to be actively engaged in the learning activities to help motivate them to learn. At the heart of formative assessments, is the belief children are the top priority. By listening to their thought processes, including them in the learning goals, and providing feedback, students can truly begin to grow as learners (Bennett, 2016; Pollock, 2012). These types of assessments and ways of thinking take time and a gradual shift. Through effective modeling and training, formative assessments allow students to take control of their own learning by enhancing and modifying their understanding; however, many teachers across the nation do not have a keen knowledge on the definition of formative assessments, do not understand how to effectively implement formative assessment practices, and do not know the importance it can have on student motivation to learn (Ramsey & Duffy, 2016).

The purpose of this mixed methods study was to gather and analyze teacher perceptions of formative assessments in one school district. Items were asked pertaining to the definition of formative assessment, how often teachers utilized it in the classroom, and the kinds of formative assessments they delivered to students. The study provided important information on teacher current knowledge and performance. During the second phase of the research, teacher interviews gathered data to look at certain teachers who understood and used formative assessments. The data helped identify if teachers who used formative assessments had more motivated students based on teacher

perceptions. The teacher interviews helped deepen the research on formative assessments already gathered during the first phase of the research by triangulating the data. Both instruments used during the research helped answer the research questions on formative assessments. The information gathered from both the quantitative and qualitative data strengthened the research since survey data and themes emerged from the teacher interviews. Data were looked at to compare elementary, middle, and high school teachers to see who was more familiar with the formative assessment process. All data from the research helped the candidate see areas of strengths and weaknesses within the district pertaining to formative assessment to further identify ways professional development could be offered in the future. It can help teachers become more aware of best practices motivating students to learn and improve student learning, especially since there are so many low-performing schools identified within the district. This chapter examined concepts related to formative assessments, gave a brief history of assessments in school, and reviewed literature pertaining to formative assessments, teacher self-efficacy in their formative assessment practice, and the relationship between assessments and student motivation to learn.

Conceptual Framework

The key conceptual framework in the study revolved around the concepts of formative assessments. Clarke (2003) stated formative assessments are increasingly linked with constructivism, where the learner is mostly responsible for learning and the construction of their own knowledge. Clarke identified constructivist teachers as ones who allow students to be a part of their own learning by presenting their own ideas, listening to peers' ideas, receiving feedback, and nurturing students' natural curiosity

through frequent use of the learning cycle model. Figure 2 shows the conceptual framework of formative assessments with constructivism at the center.

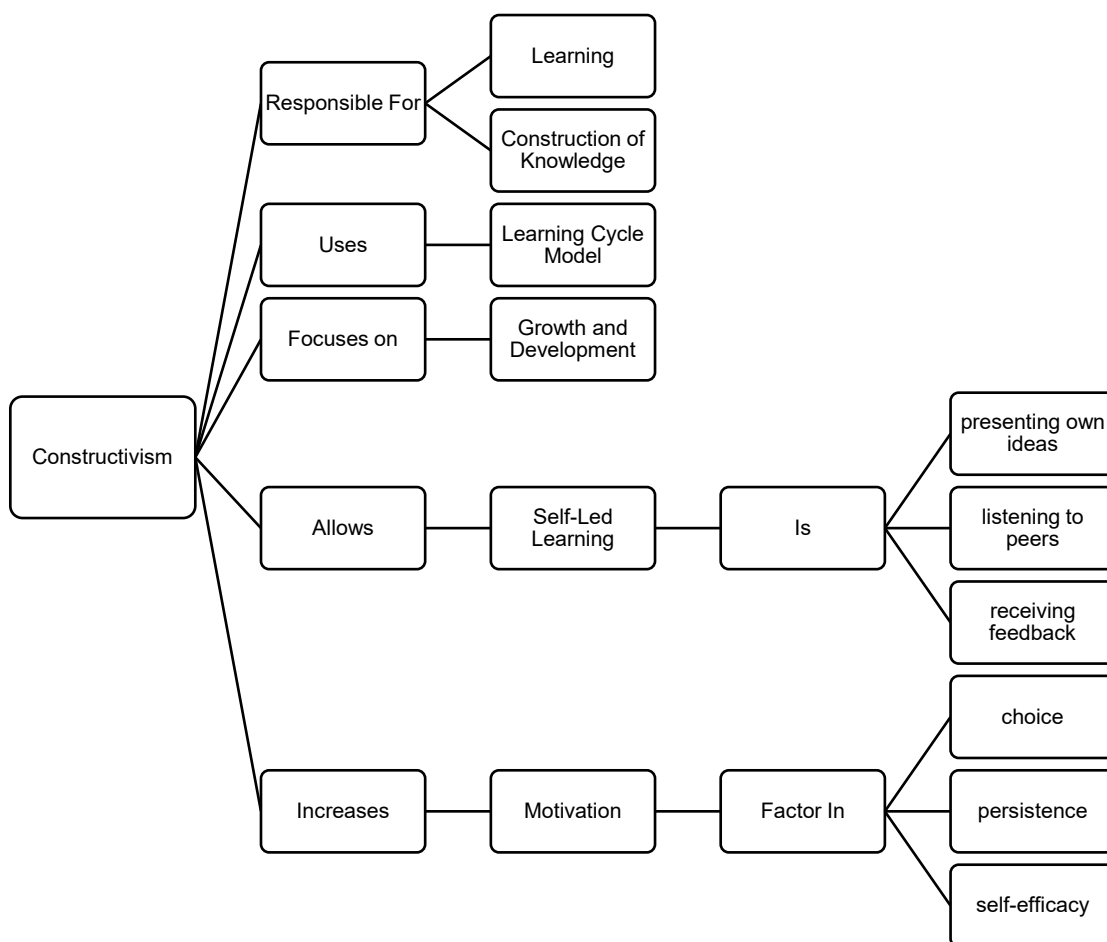


Figure 2. Conceptual Framework of Formative Assessments.

In Figure 2, constructivism is the main idea around formative assessment with a focus on growth and development to increase motivation to learn.

Constructivism. The central theme in formative assessments is constructivism. Constructivism is where students learn by constructing new knowledge and skills by comparing it to their prior knowledge (Pagán, 2006). Constructivism focuses on how people grow, learn, and develop and recognizes a person creates meaning of the things

they are actively responsible for in the world (Drago-Severson & Blum-DeStefano, 2016). The constructivist teacher gains satisfaction in the classroom with students who are more motivated to learn (Clarke, 2003). Those with a constructivist view state learning must involve students and teachers working together, with both taking an active role and reflecting on how they best learn, what was learned, and what needs further clarification (Knights, 2012). Students must be an active participant in the process in order for it to be beneficial. Constructivism addresses four important aspects of the learning process: (a) student inclination to learn, (b) how to construct knowledge that can be most effectively understood, (c) the most effective order in which to present material, and (d) the nature of student motivation (Pagán, 2006). Constructivism encourages discussion and interaction between the teacher and student as much as possible. The discussions involve students talking about the learning material and arriving at their own conclusions (Aulls, 2002). Constructivists first articulate clear learning objectives students should accomplish by the end of a unit or course (Clarke, 2003). These goals provide structure and a clear measuring tool for instructors and students on what students should understand at the end of the learning process. Common personal characteristics associated with constructivism include good self-regulation, increased self-efficacy, willingness to participate, and commitment and motivation to learn (Pagán, 2006).

Motivation. “Motivation is the study of why people think and behave as they do” (Graham & Weiner, 1996, p. 63). Atkinson (1964) stated expectancy-value theories help determine motivation by what one expects to get, compared to the chances they will actually get it. Students who perceive negative variations between the learning targets and their performance create dissatisfaction, motivating them to change their behavior

(Atkinson, 1964). Graham and Weiner (1996) also stated expectancy value theory is the growing recognition of expectancies and incentives as major factors in motivation.

Atkinson described the key factors in motivation are choice and persistence. They are in direct control of behavior. Atkinson found there are three factors in motivation to an achievement-related goal: the motive for success, the likelihood one will be successful at the task, and the incentive value of the success (Atkinson, 1964).

Harlen and Crick (2003) stated motivation is the willingness of someone to do something. There are two types of motivation, intrinsic and extrinsic. Intrinsic motivation is related to the interest and commitment a student has in completing a task, while extrinsic motivation is related to the rewards a student could receive upon completion of the task (Bennett, 2016; Clinkenbeard, 2012). Graham and Weiner (1996) found children and adults lose some interest in a task when an external reward is offered. Intrinsic motivation relies heavily on students who want to achieve greatness without any extrinsic rewards and to perform well for the pure enjoyment of dedication, hard work, and effort. Stipek (1998) reported intrinsic motivation is where people will seek opportunities to develop and master learning goals. They will actively seek tasks to help them achieve their goals and they want to engage in activities at their own accord. Even allowing students choice helps foster their interest and has the advantage to motivate them. It teaches self-management skills students need for success later in life (Stipek, 1998).

A major shift in the classroom to help motivate students is to stop comparing students to other students and to start having students compare their own prior performance with their current performance (Black et al., 2003; Stipek, 1998). This type

of motivational change can have a major impact on students in the classroom as they take control of their own learning. In order for a student to be motivated to learn on their own, they have to have intrinsic motivation.

Many effective strategies related to formative assessments, like engaging students in goal setting, assessing their knowledge using multiple ways, providing clear feedback, self-assessing and peer assessing, have strong correlations with motivating students to learn (Stipek, 1998). Teachers have a considerable impact in implementing these formative assessment strategies effectively, according to constructivist theories, to provide meaning to student judgments about their own competencies and their expectations for success (Stipek, 1998).

Teachers who praise work based on effort and give purposeful, focused feedback on the process of learning help motivate students to want to do better during the next steps of learning (Dweck, 1999; Pollock, 2012). Research shows the belief that failure is caused by low ability can be changed into the belief failure is caused by low effort (Dweck, 1999; Stipek, 1998).

Students who receive feedback on formative assessments in the form of comments are motivated to perform better on future assignments than students who receive only grades, confirming corrective feedback has the power to improve student learning (Bailey & Jakicic, 2012); therefore, Marzano et al. (2001) confirmed through their research that teachers are the most important factor to improve student learning. Black et al. (2003) noted feedback is such a powerful tool because it affects student cognitive and motivational factors. In turn, students begin to feel confident they understand the concepts and skills and take responsibility for their learning and it

increases their motivational factor.

By allowing students to understand and become part of the formative assessment process, students take ownership of their work and become actively involved. Classroom assessments influence student constructs of how they see themselves as proficient learners (Brookhart, 2004; Frey, 2009). Earl (2003) clarified the extent to which individuals see themselves as competent is in direct relation with their willingness to try new things and become self-motivated.

People's self-efficacy beliefs play a huge factor in their level of motivation. It is reflected in how much effort they exude and their determination in the face of obstacles (Bandura, 1997; Graham & Weiner, 1996).

Self-efficacy. Stipek (1998) and Bandura (1997) defined self-efficacy as the personal judgments of someone's performance capabilities on a particular task, during a specific point in time. Teacher self-efficacy on their understanding and use of formative assessments impacts student self-efficacy. According to Bandura (1977), self-motivation involves standards against which to evaluate performance and factors in one's own self-efficacy. After repeated strong efficacy expectations are experienced with success, failures create negative feelings that diminish over time. Bandura (1977) commented failures are overcome by sustained effort.

Teachers who have high self-efficacy on formative assessments succeed in choosing appropriate, instructional techniques; communicate with students effectively; and increase student achievement (Kurt, Güngör, & Ekici, 2014). When teachers possess a strong self-efficacy on their knowledge of formative assessments, they can provide students with clear information about where they are in the learning process and aid the

student in increasing their self-efficacy (Bennett, 2016). Teachers knowledgeable in delivering effective forms of formative assessments, like descriptive feedback, contribute to student self-efficacy (Bandura, 1997). When students persevere and redo their work, they work their way through challenging content or skills to strengthen their self-efficacy (Bennett, 2016).

When students are able to apply information from prior learning tasks to new learning situations, it has a positive impact on their own self-efficacy to master skills to affect their levels of interest (Bandura, 1997; Bennett, 2016). As a result, a teacher's understanding of formative assessments contributes to a student's positive or negative perceptions regarding their own self-efficacy.

A Brief History of Assessments

Formal assessments in schools started as a way for teachers to assess students and sort them by those ready for the work force and those ready to continue on to higher levels of education (Earl, 2003). According to Earl (2003), assessments in schools began to take on a more summative role, due to teachers using assessments to make decisions about placement of students based on achievement levels. Summative assessments take place after instruction and learning are completed at the end of a unit, course, or academic year to give a final measure of student performance (Ainsworth & Viegut, 2008; Bailey & Jakicic, 2012). Teachers use summative assessments such as standardized tests to produce concrete evidence of a student's score in a subject area and compare it to peers of the same ability level.

In 1981, the national government appointed a commission to investigate the state of the education system in America because of concerns about the nation's education

system compared to others around the world (McMenemy, 1985). The commission reported back that mediocracy had taken over today's youth and threatened our educational foundations (Brink, 2017; McMenemy, 1985). America had become a nation at risk of falling incredibly behind if educational reforms were not put into place (Graham, 2013); therefore, standardized testing became a main focus of the national government, to constantly monitor student progress to make sure the United States stayed competitive with other nations.

Later, NCLB, established in 2001, mandated all students meet rigorous standards in reading, writing, mathematics, and science by their scores on high stakes, standardized testing (Dee & Jacob, 2010). Dee and Jacob (2010) clarified the hallmark features of the act compelled states to conduct student assessments to identify schools failing to make adequate progress.

Eight short years later, in 2009, the American Recovery and Investment Act was signed as part of the Race to the Top initiatives (Brink, 2017). It encouraged states to develop and implement reform strategies concerning four core components including adopting in-depth college- and career-ready standards and assessments and creating data systems to measure student success to inform teaching and help turn around low-performing schools (Miller & Hanna, 2014). Ainsworth and Viegut (2008) countered,

The unfortunate result of initiating one program to improve student achievement on top of another and another and another, creates initiative fatigue. This has led to a growing sense of fragmentation, frustration and even cynicism about where to place our attention and energies, for to focus on everything is to focus on nothing.

(p. 1)

Standardized testing, mandated by law, has put a significant emphasis on summative assessments in school systems across the country, impacting assessment practices in everyday classrooms as well (Marzano et al., 2001). Historically, feedback delivered to students on a routine basis has commonly mirrored summative assessment practices and is delivered by the teacher at the end of instruction (Pollock, 2012). Earl (2003) stated a result of summative assessments compares students and provides them with little to no direction on how to improve. Due to the government's focus on summative type assessments, many teachers do not have the knowledge base for how to utilize formative assessments in everyday learning in the classroom (Ramsey & Duffy, 2016). Others have a reluctance to implement formative assessment practices and see them as time consuming (Black et al., 2003; Frey, 2009). In effect, many teachers have missed the most opportune time to help students grow and understand the most during the learning process.

The Use of Summative Assessments

Many teachers use summative assessments more often than not. At the beginning of lessons, teachers usually write the standard being addressed for the week on the board. Pollock (2012) confirmed teachers usually set the objective for learning, where it does not involve the student and it is usually badly written. The focus is more on the activity than the goals and objectives. Teachers normally deliver instruction to the students while asking simple questions along the way to check for understanding. Pollock agreed some teachers ask the class as a whole if they understand the concept. If a majority raises their hands, they move on. Black et al. (2003) noted teachers hand out assignments to check for understanding but then spend a majority of time grading the assignment in privacy to

check for mastery. Teachers compile grades in the gradebook for documentation purposes, pass the assignment back out without discussion or sharing the information with students, and then move on to the next topic without reviewing or reteaching the material ever again (Black et al., 2003; Brookhart, 2008). Teachers who get behind in their grading will even return the papers weeks later, after the topic has been over for quite some time. Teachers delivering feedback in this manner allow students to miss out on valuable learning opportunities, and it happens all across the nation (Black et al., 2003).

The primary form of feedback most students receive is called evaluative feedback (Bennett, 2016; Black et al., 2003). It comes in the form of a mark on their paper to see if they understood the material after instruction was over. This traditional form of feedback has actually shown regression for students in some studies (Marzano et al., 2001). Teachers believe grades are a motivating factor to improve student work, but research states otherwise (Earl, 2003). Clarke (2003) acknowledged grades, marks, and stickers are external rewards to show approval but do not offer guidance or instruction to the student on how to improve. Research proves students who receive external rewards have a misalignment and aim for the reward, not the achievement; and it encourages competition and comparison with peers, instead of cooperation through peer assessments (Graham & Weiner, 1996).

Overwhelmed teachers believe they have to grade everything a student does in class, consequently having stacks upon stacks of ungraded papers (Pollock, 2012). Bailey and Jakicic (2012) acknowledged research in the field proves this method does not help a child learn because the student is not gaining anything from the evaluation of their

assignment. Many teachers feel the need to have documentation of student progress on any given skill to prove student understanding. If they offer more comments than actual grades, they will not have any proof come report card time. Clarke (2003) reported teachers identify and measure their own self-worth through marking children's work and they must have grades to prove it. Black et al. (2003) found, "marking fails to offer guidance on how work can be improved, reinforces under-achievement and information gained from it is inadequately used for future instruction" (p. 10).

Earl (2003) affirmed teachers have a misconception their testing has to be a formal process, where grades or feedback is given separately from teaching. They cannot process formative assessments can be used to adapt teaching to meet the needs of students. This method of assessing students is ingrained in teachers' minds as best practice. It takes place commonly in classrooms all across America, with no plan of improving student learning, the ultimate goal in every classroom.

Black and Wiliam (1998) revealed when attention is given to grades, student self-esteem is lowered, students feel a low self-worth due to being compared to others, it has a strong negative impact on less-successful students, and teachers do not have enough information on how to address their students' learning needs. Through evaluative feedback, students are constantly being compared with other children and how their abilities are in relation to their peers. Clarke (2003) confirmed this has a direct impact on student self-efficacy or their belief in how they perceive their abilities. Pollock (2012) also confirmed students with low self-esteem believe they lack ability and are less motivated to perform better based on their evaluative feedback. Earl (2003) declared students who receive poor grades may choose to avoid future experiences, due to the

chance of failing and by devaluing the assessment process and school itself. Studies have even shown when a student receives both evaluative and descriptive feedback in the form of comments and a grade, the student only looks at the grade and ignores the comments (Earl, 2003). All the work the teacher did to help the child improve was wasted, since the child will not use it to improve their understanding.

Brink (2017) and Frey (2009) explained teachers have taken on more of the summative assessment practices in their own classrooms because it is what is shown time and time again, either through professional development, lesson modeling, or the sharing of information from colleagues. Bandura (1977) stated, “From observing others, one forms a conception of how new behavior patterns are performed and on later occasions the symbolic construction serves as a guide for action” (p. 192). Bandura (1997) showed evidence teacher beliefs in their instructional efficacy can play a factor in determining how they structure learning in their classroom and impact student evaluations of their own understanding. Bandura (1997) articulated,

Teachers who believe strongly in their ability to promote learning create mastery experiences for their students, but those beset by self-doubts about their instructional efficacy construct classroom environments that are likely to undermine students’ judgments of their abilities and their cognitive development (p. 241).

Teacher self-efficacy and attitudes about formative assessments can impact student growth and learning in the classroom. Snyder (2016) articulated many teachers are feeling overwhelmed at times at how much is shared with them at staff development training and they cannot process it all. Some are not even utilizing the new information

learned about formative assessments, and others are becoming increasingly frustrated trying to understand it all (Snyder, 2016). It is imperative to provide effective, proper training and staff development to teachers. Increasing teacher self-efficacy improves student self-efficacy.

A Shift Towards Formative Assessments

Stiggins (2005) explained some teachers began to realize once-a-year summative tests are not beneficial in making instructional decisions to identify ways to help individual students.

Ramsey and Duffy (2016) argued,

Over the past decade, pressures from new and more rigorous academic standards and summative assessments have created an interest in and demand for data-driven instruction and good formative assessments. Teachers need timely information about student performance to inform their lesson planning and help them quickly adjust instruction to meet student needs today and tomorrow. (p. 5)

Assessment for learning started shifting the way of teaching, where educators used and tracked data from student understanding to modify the next steps in instruction (Black et al., 2003). These types of assessments were formative, where the assessment took place during the learning to help assist teachers with misconceptions and errors students made. It also helped students monitor their own progress. Formative assessment can be pretests given to students before formal instruction occurs, but more importantly they are used to gauge student progress throughout the learning cycle (Ainsworth & Viegut, 2008). Ramsey and Duffy (2016) confirmed effective formative assessment is integrated with teaching and learning continuously during the learning

process to provide feedback and dialogue to adjust instruction from both the teacher and student. Formative assessments can be formal like quizzes where you have actual documentation of a child's understanding, but they can be informal through observations and discussions to gain clarity as well. Some other examples of formative assessments are exit tickets, students using thumbs up, think-pair-share, progress monitoring, student conferences, and peer and self-assessments (Marzano et al., 2001; Ramsey & Duffy, 2016). Ainsworth (2010) argued,

When educators understand the primary reason for assessing their students and then diagnosing the results to accurately infer what students need next in terms of their learning, assessment becomes as important as, if not more important than, the particular standards and lessons they teach. (p. 137)

Black and Wiliam (1998) recognized teachers need to know about their students' understanding, including difficulties, so they can adapt their lessons to meet the students' unique needs and take the necessary steps which vary from student to student. Brown, Roediger, and McDaniel (2014) pointed out teachers can use frequent low-stake quizzes to understand what students know and the areas where they have misconceptions. This type of assessment is no longer summative when the assessing takes place during the learning to make adjustments for the benefit of the students.

Dweck (2008) stated teachers have a growth mindset if they believe in their ability to promote learning. It is based on the belief everyone can change and grow through application and experience, and the qualities you possess are things you can cultivate through your efforts (Dweck, 2008). Teachers who understand and utilize formative assessments in their classrooms, not only have a strong efficacy of their

abilities as a teacher but begin to enable students to take ownership of their own learning and increase their self-efficacy (Bandura, 1997). Stipek (1998) warned, “Teachers who are overwhelmed and not well prepared believe other teachers can teach children effectively, but they themselves lack the skills, patience and other qualities required to help students master the curriculum” (p. 206). Teachers who have low self-efficacy on their abilities to teach impact student beliefs of their own abilities.

Successful formative assessment must meet many goals, including providing feedback to students, offering critical information to the teacher, providing a summary of data for record keeping, and helping with curriculum changes in the classroom (Earl, 2003); however, research has shown some teachers are not using formative assessments properly in the classroom (Brink, 2017; Ramsey & Duffy, 2016).

Misalignment of Formative Assessments

Ramsey and Duffy (2016) studied formative assessment practices in three urban school districts; and although they found some teachers using formative assessments, the implementation was irregular. Ramsey and Duffy reported, “Teachers who do use formative assessment have a limited repertoire when it comes to formative assessment strategies and the current tools and training districts provide are not sufficient” (p. 6). Stipek (1998) agreed some teacher expectations are based on erroneous information and instructional decisions are based on these invalid judgments, while other teachers are resistant to change from the beginning.

Feedback is a type of formative assessment not implemented properly lots of times but is so important in helping students grow in their learning (Pollock, 2012). Clarke (2003) agreed feedback is a vital component of formative assessments, yet it is

filled with bad practice and misguided views. Teacher misconceptions are that more written words on a student's paper are equivalent to quality feedback (Bennett, 2016). Pollock (2012) agreed teacher grading habits are hard to change, even when teachers are shown new research in the area of the positive effects of informal feedback and students self-assessing themselves. Many teachers do not understand the value in students giving feedback, so self-assessment and peer assessment are never even utilized in the classroom to make improvements (Black et al., 2003). Some teachers fear they will lose control of their classrooms if they give students more control in the learning process (Clarke, 2003); however, Pollock emphasized teachers can learn these informal assessment techniques because they require small changes in how teachers utilize resources and time, but they generate achievement gains. If the teacher is the one generally assessing, students never get the opportunity to self-regulate. It is vital for improving learning and a prime factor to help motivate them to learn.

Teachers are the key to opening doors and leading students to want to receive feedback in order to improve their learning. Teachers are the ones who share the learning outcomes with students and ask the right questions to ascertain their understanding. Danielson (2006) clarified teacher leaders can influence the type of learning going on in classrooms and are the experts in the patterns of learning for their students. It is a teacher's job to know each student's progress through the collecting and analyzing of data for the next steps of instruction. Teachers and students both have to be highly committed and willing to put forth a lot of effort for the information gained to be used for effective practices. "Teachers now realize, it's not about teaching, it's about learning" (Black et al., 2003, p. 95). The information gained from formative assessments will aid teachers in the

next steps in instruction and will tell students what to focus on more clearly (Danielson, 2006). “Teachers need to understand curriculum dictates the objective to be learned and the goals to meet them but the needs of the student controls the pace and style of the lesson” (Black et al., 2003, p. 68).

Assessments will continue to be a battle for educators as they strive to change their thinking and move towards using assessments to help drive instruction. Formative assessments can provide thorough feedback to students to motivate them to improve their learning, but the driving force has to start with teachers first (Bennett, 2016; Danielson, 2006). Equally skilled teachers and school leaders, who possess a deep understanding of competency-based learning, enable students to become involved and knowledgeable in their own learning to make a positive impact (Frey, Hattie, & Fisher, 2018).

Effective Formative Assessment Strategies

Formative assessment has several valuable components to improve student achievement, including the sharing of learning goals with students, involving students in their own learning, and providing feedback to students (Black & William, 1998).

Ainsworth (2010) illustrated,

The one true purpose of educational assessment is to correctly determine student understanding of the standards in focus and then to use those assessment results to inform, modify, adjust, enrich and differentiate instruction to meet the learning needs of all students. (p. 137)

Hattie (2015) synthesized 1,200 analyses of influences on achievement and found several formative assessment practices ranked at the top to impact student achievement. At the heart of formative assessments is the belief that children are the top priority. By

listening to their thought processes, including them in the learning goals, and providing feedback, students can truly begin to grow as learners. These types of assessments and ways of thinking take time and a gradual shift through modeling and training but can allow students to take more control of their own learning.

Formative assessments can take place frequently throughout the learning process. Assessment as learning is the most effective way to enhance student learning because not only is the teacher using information learned to design the next steps in instruction, but the students' role is emphasized more with taking responsibility for their own learning and self-assessing their understanding (Earl, 2003). When assessment takes place during the learning, it implies students receive feedback during the most appropriate time, where they can address misconceptions right as they happen with the teacher's guidance (Pollock, 2012). Brookhart (2008) shared formative assessments give both the teacher and the student information on how students do with learning goals in the classroom. Bailey and Jakicic (2012) confirmed multiple researchers have stated formative assessments improve student achievement. At this stage of learning, being compared to others is irrelevant and not the central focus. Danielson (2006) affirmed formative assessments are strictly for students to improve their learning and there are no rating scales or consequences for performance. It is just a basis for everyone to know the child's position compared to their learning, and it guides them in what needs to be done in order to close the gap. "Formative assessment is assessment but it does not affect the final grade but is part of the instructional process and contributes to learning" (Danielson, 2006, p. 96).

Identifying the learning goals and objectives. One of the first steps in utilizing effective formative assessments in the classroom is including students in knowing and understanding the goals and objectives of the lesson (Marzano et al., 2001). Objectives are the reference point and are descriptors of what students are expected to know in schools. Objectives make the public aware of what students need to know and provide students with clear learning targets (Earl, 2003). Many teachers write the objective or goal on the board to satisfy an administration request but never involve students. It is vital for students to know what the expectations are before the lesson can begin in order to achieve the objective. Black and Wiliam (2007, as cited in Bailey & Jakicic, 2012) agreed students can achieve a learning goal only if they understand the goal and can ascertain what they need to do to reach it. Marzano et al. (2001) commented goal setting is an important process in helping students navigate their learning; however, many teachers simply write an objective on the board and it does not provide a clear picture of what students are expected to know or do as the goal is not communicated to them (Black et al., 2003).

Marzano et al. (2001) claimed the objective written on the board must be in student-friendly terms for them to understand the expectations. Marzano (2006) recommended writing standards using “I can” statements. One strategy to meet this goal would be for students to self-assess themselves on the knowledge of the skills before the lesson. Teachers can also have students score themselves on the effort they put into the work before the lesson and then rate themselves again after the lesson. Self-assessments can be done daily before the lesson and afterward each day covering the students' understanding of the specific objective.

During instruction, teachers can model the expectations of the learning goal by discussing out loud with students how to do the work and reflect on the process to get there. The immediate and specific feedback allows students to understand the next steps. During the next phase, the teacher can work side by side with students by including them more in the learning process. Students can provide feedback to one another through peer assessment and have open communication with the teacher based on feedback to each other to gain further understanding (Black et al., 2003). During the last stage where students work independently, they can still acquire specific feedback from the teacher to further their understanding. Bailey and Jakicic (2012) stated bringing students into the assessment process helps students relate their work to the learning goals. It allows them to receive timely feedback to identify their strengths and weaknesses, so they can move forward in their learning.

A good strategy for teachers is to have collaborative time built into the lesson for students to share their understandings before and after lessons with their peers (Black et al., 2003). Research shows students are more likely to ask questions of one another in a safe environment and then pose questions to the teacher when desiring to extend their learning (Black et al., 2003). Allowing students to take an active role in understanding the objectives is a major shift in thinking for teachers. Pollock (2012) confirmed teachers need to stop perceiving the objectives as a to-do list for themselves and utilize it as a tool for students to use to check their own understanding.

Clarke (2003) claimed feedback needs to be focused, with a clear understanding of the learning objective for both the teacher and the student. Some teachers are too focused on the learning activity instead of the objective, and it confuses students. One

example given by Clarke is where a teacher assigned students the objective of making a list of what a pet needs. The actual standard stated for students to make a list. With the wording, some students were misguided and focused more on the pet aspect rather than the objective of making a list. The teacher may create a lesson involving making a list for a pet, but the objective should clearly state the student will make a list, so the focus is clear.

An important component sometimes overlooked is evaluating the instructional goal after learning has taken place (Marzano et al., 2001). At the end of a unit, teachers can discuss with students how well they achieved the goal to track their progress. This allows the students and teachers to make adjustments in the next steps of instruction as well. Marzano et al. (2001) shared studies with setting goals and objectives had between an 18-41 percentile gain for students in the classroom.

Rubrics. Another type of formative assessment utilized in the classroom is the implementation of rubrics, where teachers give clear expectations and then provide focused feedback on student work. Many teachers have the misconception rubrics are for their use when grading an assignment (Marzano et al., 2001). A rubric can be used by the teacher in guiding students to see the level of proficiency they have mastered, but rubrics can also be effective forms of formative assessments (Marzano et al., 2001). Rubrics can help students see the level of mastery expected of them in order to achieve success before the lesson has even begun. Rubrics help clarify instructional goals and have the criteria written down for the teachers, students, and even parents to visually see (Earl, 2003). Rubrics are visual tools to help students see what different levels of performance can look like for an assignment. Earl (2003) commented, “having an image of where they are

going, how long it takes to get there and what the stages look like both motivates and provides targets students can visualize and strive for along the way” (p. 95). During the middle of learning, teachers can have students look at work samples and compare them to the rubric. Students need a clear picture of what makes quality work. It allows students to see concepts clearly stated in the rubric and be able to identify them in work, or they can see areas missing in the work samples but clearly stated in the rubric. This type of assessing helps them to apply it to their own work to see what is missing and what aligns with the expectations on the rubric. Bailey and Jakicic (2012) affirmed there are many benefits of students being engaged in the learning process because they are active participants in understanding what makes quality work. Marzano et al. (2001) stated one of the most powerful and impactful types of rubrics are effort and achievement rubrics. Marzano et al. (2001) confirmed students can self-evaluate their understanding and mastery of learning objectives using an achievement rubric with a scale from 1-4. They can also assess the amount of effort they put into doing the work on the same 1-4 scale. They can revisit these rubrics at any time during the learning process to motivate them and to improve their learning.

Feedback. After students understand the objectives of the lesson, the teacher can offer immediate and specific feedback in the form of oral or written comments to help guide student understanding of the concepts and steer them in the right direction if they have any misconceptions. For real learning to take place, the teacher needs to focus on the objective of the lesson and address concerns about misconceptions related to the objective (Brookhart, 2008; Hattie & Timperley, 2007; Marzano et al., 2001). Pollock (2012) claimed feedback describes what the learner did and did not do in relation to the

learning goal. The teacher does not need to point out every misspelled word, messy penmanship, or grammatical error. Hattie (2015) stated, “Feedback is among the most powerful influences on achievement” (p. 87). Black and Wiliam (1998) asserted feedback to any student should be about what the student can do to improve their work, without being compared to other students. Many researchers are consistent in what components are needed for effective feedback. Most of the changes in regard to feedback have to take place within the teacher for the motivation of the learner to begin (Drago-Severson & Blum-DeStefano, 2016).

The feedback needs to give a clear, manageable understanding of the next steps in learning and the direction needed to meet the learning goals. Drago-Severson and Blum-DeStefano (2016) acknowledged the most effective type of feedback is continuously ongoing between the teacher and student, involving two-way communication, frequent check-ins with one another, and many opportunities to improve and grow. The best feedback should let students know precisely what is and is not correct (Marzano et al., 2001).

Some feedback is better received in written form, but it can be given orally with students through face-to-face conversations; and a common misconception is that written feedback is better (Pollock, 2012). Brookhart (2008) counteracted some of the best feedback comes through discussions with students. If the teacher is walking around and giving oral feedback to students individually and notices she is repeating herself because several students have the same misconception, she needs to address the feedback to the audience as a whole, so all students can hear the same feedback (Black et al., 2003).

Feedback needs to be delivered immediately while students are still learning

about the particular skill, so they still have time to work on the learning target (Brown et al., 2014). Studies done with the timing of feedback show feedback given immediately after a test has a 26 percentile gain for students and is a larger gain than feedback after one test item or delayed after a test (Hattie & Timperley, 2007; Marzano et al., 2001). Feedback about a skill returned much later after the learning process is pointless, since students have moved on and will not have the time to apply the feedback given (Brookhart, 2008). The more delay there is in receiving feedback, the less likely improvements will be made during the learning process (Brookhart, 2008); however, Brown et al. (2014) counteracted and suggested some evidence shows delays in feedback produce better long-term memory than feedback given immediately.

There are different kinds of feedback students can receive from teachers to impact learning. Effective feedback to students is specifically stated through oral or written comments and is not general in nature (Bennett, 2016; Brookhart, 2008). Most teachers give general comments like “good job with this paragraph,” instead of explicitly stating what made it great. When a teacher writes a statement not specific like “add more details,” it does not benefit a child because they cannot distinguish between a relevant and irrelevant detail (Black et al., 2003). Written feedback can be descriptive or evaluative. Evaluative feedback comes in the form of grades or general comments but does not provide detailed or specific enough information to the student with guidance on how to improve (Bennett, 2016). Descriptive feedback provides students with detailed, specific information on how to improve their learning. Descriptive feedback takes what the learner has written and addresses misconceptions. It provides specific instructions through comments on how to improve to empower the student to further investigate to

take the next steps (Earl, 2003). Descriptive feedback is not separate from learning but takes place during the process to give information to the child about their understanding and works best when no grades are involved (Bennett, 2016; Earl, 2003). Brookhart (2008) insisted descriptive comments have the best chance of being read by students if they are not accompanied with a grade. This type of feedback includes information on what the student has done well and specifically what the student needs to work on, with guidance on where to find the information if applicable (Brookhart, 2008; Hattie & Timperley, 2007).

Many studies have examined the effects of descriptive feedback on students. Page (1958, as cited in Brookhart, 2008) found student achievement levels are higher when they receive descriptive feedback in the form of comments, as compared to letter grades. Other researches have replicated Page's study over the years and have received the same results. Students who receive comments on their overall work aim to improve their learning through future tasks and are not discouraged during the learning process (Earl, 2003). Butler and Nisan (1986, as cited in Brookhart, 2008) confirmed through their studies, students who received descriptive comments during their initial tasks performed better on final performance tasks and were self-motivated. In their study, it is important to note teachers who gave descriptive comments on specific tasks had a positive impact on student motivation to learn. Consistent feedback on how to improve throughout lessons helps student performances during end-of-year summative assessments if delivered correctly (Marzano et al., 2001).

Black et al. (2003) shared about his studies done with the feedback students received on written work. The three groups each received different feedback. Some

received marks, some received comments, and some received a combination of both. The research showed students who received only comments on their written work showed the greatest learning gains, supporting why effective, descriptive feedback is so important (Black et al., 2003).

Hattie and Timperley (2007) reported feedback can come in different forms: feedback pertaining to the task, feedback about the thought process, feedback about self-regulation, and feedback about the learner. Feedback about the task tells you if it is right or wrong along with the quality of the work. Feedback about the thought process helps learners with the steps they used to solve the problem. It helps them look at other possible strategies to get the correct answer. Feedback on self-regulation is the process students use to monitor their own learning (Brookhart, 2008). It is important because these types of learners internalize when they need more information and yearn for more feedback from their teacher to gain the necessary knowledge. Feedback about the learner is where the teacher says, “Good job, Timmy!” It does not address the standards or the specific learning targets. The learner cannot grow in their learning using this process. Feedback does not need to be full of positive comments to make the student feel good about their work, but should offer genuine, constructive feedback to deepen their understanding (Drago-Severson & Blum-DeStefano, 2016; Hattie & Timperley, 2007). Table 3 lists types of effective feedback given in the classroom to improve student learning.

Table 3

Types of Effective Feedback

Type of Feedback	Definition
Individual oral feedback	The teacher can orally praise the student in regard to specific learning targets and give corrective feedback when necessary.
Whole class oral feedback	The teacher can orally discuss the classes understanding of a learning target, discuss the process used to get there and the next steps to gain mastery.
Student self-assessing with teacher assistance	These are mastery checks during the learning process where the students check their own work while the teacher calls out the answers. Students receive immediate feedback on their understanding. Teachers grading student work without the student does not allow the student to see the misconceptions they have in order to grow.
Marking completed by teacher	This type of quality marking is done by the teacher using specific feedback, mostly taken place during writing assignments to encourage students to go back and improve upon their mistakes or misunderstanding.
Marking completed by students' peers with teacher assistance	This is also done with the teacher calling out the answers while peers check over work. Peers immediately gain a clearer understanding of the thought process needed in their own work while providing quick feedback to the student who completed the work. The teacher has a set of graded formative assessments to be able to quickly check students' understanding.

Table 3 includes many types of feedback teachers used over time to improve student learning and quickly provides teachers with a clear picture of student misconceptions and understanding.

Feedback to students will look different based on each learner receiving it. Drago-Severson and Blum-Stefano (2016) stated teacher feedback should be tailored to individual students based on their strengths and weaknesses, but student personalities should be considered. For this reason, Marzano et al. (2001) asserted feedback should be

criterion referenced and not norm referenced. Marzano et al. (2001) stated norm-referenced feedback tells students where they are in reference to other students but does not outline details about their learning, where criterion-referenced feedback does. The teachers in Marzano's studies shared when they gave marks and comments, the students read the mark first and compared it to their peers and rarely even looked at the comments. Criterion-referenced feedback comes in the form of comments only in relation to the learning goal without grades. Criterion-referenced feedback is the best because research shows it has a powerful impact on student learning (Marzano et al., 2001). During the learning, specifically the guided practice or independent practice sections, teachers can walk around the room and check student understanding. Teachers ask specific questions to students to gauge their understanding further, have deeper discussions with particular students, or make comments on their assignments to address their needs or clarify where they can go to find more information on a certain topic.

Black et al. (2003) emphasized teachers need to avoid giving feedback in the form of grades where students can compare themselves to one another, so they can focus their attention on improving. Students need to understand everyone has room to improve. "Schools that value excellence in progress send the message that everyone can improve and by feeding back to students about things that are within students' control, emphasizing that more improvement is possible" (Black et al., 2003, p. 76). Students are not graded in an evaluative way and all students receive some form of feedback to improve their learning, where the teacher is offering individualized feedback based on student needs (Earl, 2003).

Feedback is insightful to students because it allows them to see their current

performance and compare it to their performance goal to make necessary adjustments. Earl (2003) affirmed “understanding students' incomplete understandings, false beliefs, misconceptions and misinterpretations of concepts gives teachers some clues for creating conditions for learning. These preconceptions must be addressed before new learning can take place” (p. 50). Earl illustrated, “a major role for teachers in the learning process is to provide the kind of feedback to students that encourages their learning and provides directions along the way, bringing them closer to independence” (p. 90). Brookhart (2008) also recognized giving effective and specific feedback is a skill teachers must learn to help students grow.

Time to reflect after receiving feedback. For true learning and growth to take place, students must have time to reflect on the feedback given and have time to work on addressing the errors (Marzano et al., 2001; Pollock, 2012). Teachers rarely give enough class time to even read the suggested comments. Black and Wiliam (1998) agreed students have to have opportunities to show their understanding at different times during the learning process. After students have received the feedback, they can construct a plan for how they will move forward and make adjustments to their understanding by correcting mistakes, finding the correct answers, and improving their learning (Bailey & Jakicic, 2012). Teachers can help students use their feedback effectively and timely by designing lessons to allow students opportunities to adjust their work after receiving feedback. It is not enough to just give students time to utilize the feedback given and adjust their work, but teachers need to take the time to reexamine the work after students have had ample time to reflect (Brookhart, 2008; Marzano et al., 2001). Students may need continuous support and more feedback to clarify the end result or the learning

objective (Earl, 2003). It is also important during the process that the teacher shares the value of making mistakes and how students and adults can learn from them. Teaching students that people learn the most from their mistakes is an important life lesson.

Drago-Severson and Blum-DeStefano (2016) relayed the important factor in teachers modeling vulnerability and having an openness to feedback in order to grow. Teachers need to teach students that everyone makes mistakes and learns from them with the help of others by collaborating together.

By test taking time, students will grow in their understanding and it will be reflected in their grade during summative assessments. Their feedback all throughout the learning process helped improve their understanding. If you administer a test and a student performs poorly, it is imperative to give them feedback on areas in which they can improve. Instead of moving on to the next unit, the teacher can retest the student to show mastery of the skill. A teacher should never give the same exact test because the student could have memorized the test and it will not show the teacher accurately the skills learned (Brown et al., 2014). Brown et al. (2014) declared the best method is to give a test similar in content but with different questions and answers to ensure the teacher can accurately measure student understanding and growth.

Self-assessments. Black and Wiliam (1998) claimed formative assessment is fruitful when students give effective feedback to themselves through self-assessments, so they see the gaps in understanding to improve their learning. Students should play a key role in grading their assessments to help promote achievement (O'Connor, 2011); however, Stipek (1998) acknowledged some teachers have trouble giving up control in their classrooms and handing over the control to students, due to the fact teachers are held

accountable for student learning now more than ever. Allowing students to self-assess their own learning though has many positive outcomes.

One way students can self-assess is by marking their own finished work. Students can benefit from marking or checking their own work, only when the teacher is calling out the correct answers and the student is checking their work. Students do not benefit from regularly checking someone else's work. Clarke (2003) stated marking student work by a peer is counter-productive because the student who completed the work does not get to see their mistakes they made and grow from it. It only works if they completed a few problems and then the answers are checked as a class before the student moves on to complete the other problems. If all the problems are completed before feedback from the teacher is given, the student has no more problems to work on to correct their mistakes. Through this misguided classroom practice, students complete all problems using the wrong method and the wrong way of thinking is engrained in their brain. Clarke agreed students need time to learn how to mark their own work but will benefit greatly from checking a few problems with feedback from the teacher before moving on to complete more problems.

Brown et al. (2014) identified one of the best habits a student can use to calibrate their understanding is regular self-assessing of what they do and do not understand. Students can monitor their own progress of their learning outcomes and chart their performance through the use of charts. When students take ownership of their work and can self-evaluate based on learning objectives using rubrics, they are more proficient in understanding their own needs (Marzano et al., 2001). It allows them to become independent and successful learners (Pollock, 2012). Some students can even self-assess

and reflect to decide their level of understanding. Black et al. (2003) confirmed it is a useful process because they decide for themselves their level of understanding instead of waiting for the teacher.

Sadler and Good (2006, as cited in Brookhart, 2008) revealed self-assessments are stronger in improving learning than peer assessment because the feedback answers students' own questions and students get to monitor, evaluate, and make future plans on their own work based on the learning objective. In the studies done by Black and Wiliam (1998), research showed self-assessments are an essential component of effective formative assessments because they provide students with three necessary elements: the learning goal, their present understanding, and some feedback on how to close the gap. The most powerful feedback for students in calibrating their own knowledge of what they know and do not know is through self-assessments, assuming they are not hurt by the corrective feedback and are receptive to make the necessary improvements (Brown et al., 2014). When students self-assess and engage in learning to improve from their misunderstandings, they have a growth mindset where they believe their own achievements are in their hands (Brown et al., 2014).

Peer assessments. Another effective form of formative assessments is peer assessment and it is a valuable component to improving learning as well. Students can peer assess and learn to give effective feedback to one another to improve student learning. Clarke (2003) suggested a few strategies when allowing students to provide feedback, like having students partner up with another student who has a similar ability level. Just like a student needs time to work and edit their writing before the teacher reviews it, the same is needed before a student looks over it. Feedback from peers is best

given orally, instead of through written feedback and should focus on the learning objective (Clarke, 2003). Just like feedback from the teacher, peers should start with a positive comment before suggesting on ways to improve. Clarke confirmed many of the same rules applied to teachers in providing effective feedback also need to be utilized when students give feedback to peers.

Teachers can be overwhelmed with the demands of meeting the needs of students with class sizes up to 30 students. Students who can seek feedback through self-assessments and peer assessments will be more engaged, active in the learning process, and will achieve better over time (Pollock, 2012). Successful students are the ones who utilize peers and themselves to initiate feedback about their work and understanding. Black and Wiliam (1998) admitted peer and self-assessments have shown success with students ages 5 years and older. They take the necessary time to reflect on their own work compared to the learning objective. They also interact and collaborate purposefully with peers. Students are actively learning how to speak and communicate with peers to give and receive feedback. They begin to seek out peers who they know will be able to give them constructive criticism, while also building relationships to increase their understanding and learning. Peers who communicate with one another use a shared language to provide meaning to struggling students and they are able to except criticism better from a peer rather than from the teacher (Black et al., 2003). Through their studies, Marzano et al. (2001) emphasized cooperative learning among students is a great strategy to increase peer feedback and had a high effect size around .73.

Motivation to Learn

Bennett (2016) acknowledged, “An individual’s motivation is determined by the

reasons he or she has for wanting to take on or complete any task, and the combination of factors inherent in motivation is unique to each individual student” (p. 40).

Many effective strategies related to formative assessments have strong correlations with motivating students to learn (Stipek, 1998). When teachers implement these strategies and place an emphasis on the student’s effort in relation to their work and not their ability, it can have a great effect in motivating them to learn (Stipek, 1998).

Research shows the belief failure caused by low ability can be changed into the belief failure is caused by low effort (Dweck, 1999; Stipek, 1998). Teachers who praise work based on effort and give purposeful, focused feedback on the process of learning help motivate students to want to do better on the next steps in learning (Mueller & Dweck, 1998). People’s self-efficacy beliefs play a huge factor in their level of motivation and are reflected in how much effort they exude (Bandura 1997; Graham & Weiner, 1996). Bandura (1997) believed student self-efficacy of their capabilities to master skills affects their aspirations, their level of interest in future work, and their academic accomplishments. Mueller and Dweck (1998) confirmed, “Praise related to effort may lead children to focus on the process of their work and improvements that hard work offers. They may focus on learning goals associated with high achievement motivation” (p. 34).

According to motivational researchers, students are motivated to learn both by success and skill (Earl, 2003). Students who believe they hold the key to their own success and failures are more likely to be concerned with learning goals and improving rather than grades. According to Earl (2003) and Wiener (1985), when people succeed or fail, they blame it on certain phenomenon: effort, ability, task difficulty, or luck. Only

one of these is in the learner's control: effort. They can listen better during class, they can ask specific questions to the teacher, and they can study better. All of these are affected by their effort and can affect their achievement, all while being in their scope of control.

Earl commented,

The extent to which individuals see themselves as competent and capable has a dramatic effect on their willingness to learn. When people consistently fail, they lose their motivation to learn and go to great lengths to avoid the pain of failure. When people believe they are able succeed, they are willing to try new and challenging tasks, even when such tasks are difficult.

Those with a constructivist view state learning must involve students and teachers working together, with both taking an active role and reflecting on how they best learn, what has been learned, and what needs further clarification (Knights, 2012).

Assessment within itself can be a motivator. Earl (2003) admitted assessment can help stimulate student interest and provide them the necessary tools to take risks. For assessment to be relevant, it must allow students to make connections between curriculum, instruction, assessment, and their everyday lives (Earl, 2003). During the process, students need reassurance that mistakes are part of the process of learning and are a natural obstacle all learners face. It enhances motivation to learn when their mistakes are discussed with timely feedback and time is given to work on the mistakes (Earl, 2003; Marzano et al., 2001).

Benefits for Students

For formative assessments to work, students need to take an active role in understanding their knowledge and finding ways to close the gap (Earl, 2003). Many

students are content to get by with doing the bare minimum and to give as little effort as possible; however, formative assessments have created a shift, where students have a more focused and purposeful approach to learning (Black et al., 2003). Sadler (1989, as cited in Black et al., 2003) explained students need to know the gap of a desired goal and his or her present state in order close the gap. Even teachers who help guide and give aid to students to help in the process cannot make as much of an impact as the student who is doing the learning (Drago-Severson & Blum-DeStefano, 2016).

Students receiving timely and specific feedback during the learning process report many positive outcomes, including short-term and long-term benefits (Hattie & Timperley, 2007). Pollock (2012) and Marzano et al. (2001) insinuated the use of goal sheets is to provide specific feedback to students about how the effort they put into their work relates to their understanding. Students can rate their effort and see the relationship between their achievement rates, especially their long-term understanding across a unit of study. Students can self-assess and talk with peers about how their increased effort positively impacts their understanding and increases their scores. Teachers have noted students quickly show a change in their learning, with an increased focus on their schoolwork and increased engagement almost immediately (Pollock, 2012). Goal setting is also a life-long skill students can learn and take with them in many aspects of their life to be successful.

As a result of effective feedback and the two-way, open communication between the teacher and the student, previously unmotivated students become more active in their learning and strive to become stronger in their knowledge of the content (Pollock, 2012). When students receive descriptive feedback through specific comments on how to

improve, students are motivated to make the correct changes (Stipek, 1998). They engage in their learning, strive to become better, and grow from their mistakes. Engaged and active learners achieve better understanding and reach goals by actively seeking feedback on their work (Pollock, 2012). Constructive feedback given to students creates opportunities for students to self-direct their own learning and enhance their motivation (Stipek, 1998). The ultimate goal for students is to continuously self-evaluate so they can reflect, modify, improve, and take pride in their successes (Clarke, 2003).

According to Clarke (2003), after students identify their own achievement based on the learning objective, they share their knowledge with their peers. It helps students increase their self-esteem and motivation to continue improving on their work (Black et al., 2003; Earl, 2003). The environment begins to feel safe, where all students can freely express themselves because all students are here to learn and grow (Black et al., 2003).

Students begin to enjoy and value the learning process because they appreciate the teacher taking the time to answer misunderstandings. Black et al. (2003) found students are not as pressured to succeed on tests but truly desire to want to understand the material. Black et al. (2003) declared

As teachers came to listen more attentively to the students' responses, they began to appreciate more fully that learning was not a process of passive reception of knowledge, but one in which the learners were active in creating their own understandings. It became clear that, no matter what the pressure to achieve good test scores, learning cannot be done for the student; it has to be done by the student. The teacher's role is to scaffold this process and give support in the task. But is also becomes increasingly clear that teachers also need to train their

students to take responsibility for their own learning and assessment. (p. 59)

Students leading their own learning become confident they can master the progress needed in learning by utilizing their own efforts (Black et al., 2003).

Benefits for the Teacher

Not only do students receive great benefits from utilizing formative assessments, but teachers do too. The teacher also becomes motivated by giving and receiving feedback from the student and acknowledges the new information gained to drive future instruction based on student misunderstandings (Pollock, 2012). The discussions between students and teachers based on their effort and achievement rubrics help teachers receive immediate feedback about their lessons and teaching (Marzano et al., 2001). Students self-assess their own understanding by giving themselves a score and teachers use the score to formally assess student understanding of the skill to take the next steps, by providing them with vital information on what to reteach. When students give each other helpful and critical feedback during peer assessment, it allows the teacher time to walk around and observe students and prepare helpful interventions (Black et al., 2003). Also, Rollins (2017) demonstrated when students are in groups and give each other feedback on assignments, the teacher has a smaller percentage of students to give feedback to because instead of walking around to all 28 desks, the teacher only gives feedback to four to seven groups.

The teacher is the one in the classroom with all the right tools and strategies to make the most impact in the classroom. With today's massive budget cuts in education, items like technology, manipulatives, and materials are harder to come by in classrooms to help improve student learning. In the midst of the budget cuts, teachers still positively

impact student learning outcomes in the classroom. The endeavor starts with providing students with the objective of the lesson based on the curriculum standards. “Goal setting prepares students for lessons in which they can use powerful help-seeking strategies from their self, peers, and teacher without waiting for broad scale initiatives to provide expensive equipment and software” (Pollock, 2012, p. 19). In doing so, a teacher has students who improve their learning, increasing student achievement and scores.

Marzano et al. (2001) argued teachers can also benefit from utilizing their own achievement rubrics when assessing students on assignments daily. Teachers can walk around and monitor student understanding and score students using the achievement rating scales to make a list of students who need more time to master skills based on the learning objectives. It helps identify who might need more one-on-one assistance, but also if the majority of the classroom is not mastering the skill, the teacher needs to adjust the whole group teaching methods to meet the needs of the classroom. Pollock (2012) believed a great strategy for teachers is to have different colored clipboards for each subject and write down their score on a scale from 1-4. Students with a blank space is an understood level three 3 it saves teachers time by not writing it down, as hopefully a majority of the class will be at this level. Pollock stated to not erase the score because these can be data points to look at trends over time and you can share the scores with the students as immediate feedback to address their misunderstandings. Another benefit for teachers is by the time you have walked around and scored everyone's understanding, you have quickly collected a formative grade without having to take the time to grade all those papers piled up at the end of each lesson. Pollock revealed teachers find when they understand student performance, it helps them create differentiated groups to meet their

individual needs and adapt lesson plans for future instruction.

According to Clarke (2003), another benefit for teachers is they find students better behaved in classrooms when they are motivated to learn. Students understand their role as a learner, and they let go of the power struggle with the teacher. They listen to the teacher more and focus on finding the best ways to learn (Clarke, 2003). Teachers who implement effective feedback have seen its positive impact and become more conscious about the type of feedback and marking they now give (Brookhart, 2008; Marzano et al., 2001). Teachers also described how wonderful it feels when their students are empowered to learn and how it makes the teacher's job much more satisfying (Black et al., 2003).

Summary

Teachers have a huge challenge in utilizing formative assessments to tap into students' untapped potential and truly motivate them to learn. Much of the research shows firm evidence on how teachers can make minor tweaks in their classrooms to effectively communicate feedback to their students through multiple forms of formative assessments, motivating students and improving learning (Bennett, 2016; Brink, 2017; Hattie & Timperley, 2007; Marzano et al., 2001). Students play a vital role, almost 50%, as the greatest source of learning in the classroom, but the next and greatest source of learning we have control of is the quality of the teacher (Hattie, 2015). Approximately 20-25% of the learning is in the hands of the teacher and supports why there is a need to equip them with better formative assessment practices to motivate students to learn and, in effect, improve student achievement (Hattie, 2015). Formative assessments are ongoing throughout the learning process and involve constantly monitoring student

understanding in relation to the learning goal (Black et al., 2003; Earl, 2003).

Black and Wiliam (1998) claimed they did a review with over 20 studies that showed formative assessments have substantial learning gains for students. The studies done with the children ranged from ages 5 to college level, including multiple subjects and multiple countries. The effect size for these studies were between 0.4 and 0.7, which is higher than most effect sizes for other interventions done in the classroom. The effect size means a gain for a student between one and two grades and a country's educational ranking could dramatically increase. Black and Wiliam (1998) suggested a country like England, where they ranked in the middle compared to 41 other countries, could move them to being one of the top five.

“Implementing assessment for learning requires personal change and it means changing the way a teacher thinks about their teaching and their view of their role as a teacher” (Black et al., 2003, p. 80). Many of the formative assessment strategies linked to an increase in motivation require a significant amount of knowledge of student skills from the teacher (Stipek, 1998). Formative assessments are only as effective as the teacher utilizing the information gained from the data to adjust instruction to close the gaps.

Chapter 3: Methodology

Restatement of the Purpose

The purpose of this mixed methods study was to gather and analyze teacher perceptions of formative assessments in one school district. Data were collected in two phases, making it an explanatory mixed methods study since the quantitative data from the survey were collected first. The explanatory mixed methods design captured the best of both quantitative and qualitative data in two different phases with a more in-depth exploration in the second phase (Creswell, 2002). First, quantitative data were collected electronically through surveys given to kindergarten through 12th grade teachers who volunteered for the study. Items asked pertained to the definition of formative assessments and how they gathered during follow-up teacher interviews during the second phase of the research study. The teacher interviews helped gain more in-depth knowledge of their understanding of formative assessments and the perception of how they motivated students to learn. The interviews helped build a true understanding of teacher formative assessment knowledge because they could have clicked certain answers on the Formative Assessment survey inaccurately. During the teacher interview portion of the study, participants had to explain their answers using their own words and understanding with no answers being provided.

Both instruments used during the research helped answer the research questions on formative assessments. The information gathered from both the quantitative and qualitative data strengthened the research, and additional themes emerged from the teacher interviews. All data from the research helped the candidate see areas of strengths and weaknesses within the district pertaining to formative assessment and to further

identify ways professional development could be offered in the future.

This study was beneficial in obtaining new data on teacher perceptions of formative assessment practices and their benefits, due to deficiencies in the research since the 2009 Race to the Top initiatives were passed into legislation. With even more emphasis on summative assessments, research was needed to understand teacher understanding of the formative assessment process now and their perceptions of how it motivates students to learn.

Research Questions

The research study addressed teacher understanding of formative assessment and their commitment to its effective use in the classroom. The following research questions guided the study:

1. To what extent do teachers understand the formative assessment process as measured by the Formative Assessment survey and teacher interviews?
2. To what extent do teachers engage in the formative assessment practice as measured by the Formative Assessment survey and teacher interviews?
3. How does teacher self-efficacy about formative assessment impact implementation in the classroom as measured by the Formative Assessment survey and teacher interviews?
4. How do teachers who use formative assessment perceive its impact on student motivation to learn?

Research Site

This mixed methods study took place in a southeastern state. The district was comprised of a strong military student population and students had varied socioeconomic

statuses. The school district was composed of 31 schools including 13 elementary schools, nine middle schools, eight high schools, and two alternative schools. The district served approximately 18,700 students with a graduation rate of 82.5%. In the 2017-2018 school year, 63.3% of the schools met or exceeded expected growth. The average class size ranged from 19 to 23 students. The average percentage of students who attended school daily was 94%.

In the 2017-2018 school year, 40% of the schools in the district received a failing grade. Table 4 shows the percentage of schools receiving each performance grade.

Table 4

District Performance Grades for 2017-2018

Percentage	Performance Grade
3.3%	A
6.7%	B
50%	C
26.7%	D
13.3%	F

It is important to note only one school received a letter grade of A, and the majority of schools received a C or a D.

There were various tested subject areas within the district, including biology, English II, math, and science. Student test performance was reported as five different achievement levels. Levels 1 and 2 were below grade level, while level 3 was at grade level. Levels 4 and 5 showed the student was college and career ready. Table 5 lists each tested subject and the breakdown of students performing at each level. Data were obtained from the 2017-2018 district report card.

Table 5

Tested Subjects by Achievement Levels

Subject	Level 1	Level 2	Level 3	Level 4	Level 5
Biology	26%	22%	9%	31%	12%
English II	27%	26%	11%	35%	---
Math	33%	25%	8%	25%	9%
ELA/Reading	28%	26%	11%	29%	6%
Science	24%	18%	10%	37%	12%

Based on the table, there were high percentages of students who performed below grade level within the district.

Participants

The participants in the study were elementary, middle, and high school teachers within one school district in a rural, southeastern state. Approximately 1,300 teachers worked within the district, and 50% of those teachers had more than 10 years of experience. The average number of teachers at each school setting ranged from 38-48 teachers. The average teacher with an advanced degree, including a master's degree or doctorate degree, was nearly 22%, and 39 teachers had National Board Certification.

The participants were part of a convenience sample. Convenience sampling is a type of nonprobability sampling where participants of the target population meet certain criteria, such as easy accessibility, close proximity, availability to meet, or the willingness to participate in the study (Etikan, Musa, & Alkassim, 2016). Convenience sampling is affordable and easy, and the participants are readily available. The researcher chose the participants due to their easy accessibility and close proximity to complete the study.

In order for the study to be valid and reliable, the confidence level has to be at

95% or higher, with a margin of error being 5%. The researcher hoped for 23% of the total number of teachers in the district to participate to validate the study. According to Creswell and Creswell (2014), this number would ensure responses would accurately reflect the entire population of teachers in the district and would validate the study.

Research Method and Design

This mixed methods study gathered quantitative and qualitative data from teacher perceptions on the Formative Assessment survey and teacher interviews. The rationale for choosing a mixed methods approach was because it strengthens a research study. Creswell (2007) stated, “Mixed methods designs are useful when the qualitative and quantitative approach, each by itself, is inadequate to best understand a research problem and the strengths of the research and its data can provide the best understanding” (p. 20). Creswell (2007) clarified mixed methods triangulate data and help decrease bias and weaknesses, another benefit of choosing the mixed methods approach.

Conceptual Framework

The key conceptual framework driving the study revolved around the concepts of formative assessments. “Formative assessment is increasingly linked with the constructivist model, in which the learner is responsible for learning and the construction of knowledge” (Clarke, 2003, p. 5). The rationale for choosing the survey and interview items was to help identify answers to the research questions in the study. Also, both sets of items were based on the conceptual framework so the instruments would align properly.

Instruments

Formative Assessment survey. The Formative Assessment online survey was

given to participants through Google Forms. Its purpose was to collect quantitative data about teacher perceptions of formative assessments. It contained 24 items including demographic items relating to teacher's background in education. The three demographic items included grade level taught, years of experience, and highest level of education. The one and only open-ended item asked participants their understanding of formative assessments. The remaining items used the Likert scale response format ranging from strongly disagree to strongly agree. McLeod (1970) explained Likert scales have the advantage in that they do not expect a simple yes or no answer from the participants but rather allow for degrees of their perception.

Rationale. Bennett (2016) stated the rationale for creating online surveys for teacher participants allows teachers to answer the items at their own pace. Also, participants feel more comfortable answering items outside the presence of the researcher and tend to be more honest.

Addition to the survey. The first item on the survey asked participants their understanding of formative assessments. The item was created by the researcher with help from professors with methodology and curriculum and instruction backgrounds.

Survey structure. Alover (2016) created the Formative Assessment items and divided the survey into three sections. Dr. Alover granted the candidate permission to use the Formative Assessment survey, and the permission to use the survey is located in Appendix A. The first section is titled "What is Formative Assessment" and includes three items asking participants to agree or disagree with statements about formative assessment. Section 2 is titled "Instructional Practices" and was composed of 12 statements asking participants about how often they use different types of formative

assessments such as reviewing the lesson objective, incorporating feedback in the classroom, using rubrics, modifying teaching based on formative assessments, and having students self-assess. The last section is called “Types of Formative Assessment” and it included five statements for the participant to explain the degree to which they agreed or disagreed with the statements regarding formative assessments.

Validity and reliability. Alover (2016) established reliability of the survey by using Cronbach’s Alpha. The data showed the Formative Assessment survey had an overall reliability of $\alpha= 0.6$ (Alover, 2016). To validate the instrument, teachers who completed the survey were asked items to ensure they understood the items, and all participants agreed they understood the items (Alover, 2016). “After participants completed the survey, the reliability of the formative assessment was evaluated by subjecting the data to the internal consistency/reliability in SPSS (Cronbach alpha reliability coefficient) for all variables” (Alover, 2016, p. 59). To ensure validity, the survey possessed areas of formative assessment practices outlined in the literature as determined by leading researchers in formative assessment practices (Alover, 2016; Stiggins, 2005).

Teacher interviews. The second instrument used in the research study was a set of formative assessment interview items. The interview protocol included how the interview would take place, the purpose, and how the information would be collected and handled. Interview protocols established a way for data to be collected in a fair and valid manner. Merriam (2009) stated qualitative research is reliable and valid when the investigation is conducted in an ethical manner and fair to all participants. The researcher read the interview protocol to all participants so as to not create bias in the

study, and all interviews were conducted in the same method.

Interview structure. The instrument contained eight items broken into three sections: understanding formative assessment, utilizing formative assessment, and motivational factors. One item asked about understanding formative assessments, six items asked about utilizing formative assessments, and one item asked about student motivation. The sections and items were chosen by the researcher based on the need for gathering accurate data to answer the research questions. Merriam (2009) declared, “Asking good questions is key to getting meaningful data” (p. 114) and agreed items need to be easily understood and asked in a clear and concise way. The research candidate designed the instrument, and a professor with a background in statistics and psychometrics validated the instrument by checking the items for content validity and reliability. He suggested breaking items up into separate parts and to make sure there were not any assumptions or bias. Based on his recommendations, suggested changes were made.

Procedures

Once the Institutional Review Board (IRB) gave permission to do the study, the researcher submitted a letter to the superintendent and explained the study and included a copy of the participant consent form, the Formative Assessment survey, and the teacher interview items. The letter outlined the purpose of the study and the plan for collecting data.

Once the district gave permission for the research, an informational letter explaining the study was shared electronically through email to all teachers in the district and was accompanied an invitation to participate in the survey. If they elected to

participate, participants read and completed the consent form before completing the Formative Assessment survey online. Appendix B is a copy of the participant consent form. According to Yin (2014), “gaining informed consent from all participants who may be a part of a survey involves letting them know the nature of the study and formally asking for their voluntary participation” (p. 78). The informed consent letters with the purpose of the research, confidentiality, and information on voluntary withdraw was shared with all participants of the study once they clicked on the invitation and the invitation took them to a Google Form. First, participants read a statement concerning the survey being anonymous. It stated the survey would take 10 minutes with one open-ended item and 23 multiple choice items. It also stated at the end that all participants could voluntarily give their email address if they would like to participate in a teacher interview separately. Last, participants gave their consent to participate in the study by clicking on a box and agreed to the conditions of the survey.

Data were collected in two different formats using a mixed methods approach in a two-phase process. First, the researcher collected quantitative survey data through an electronic database using Google Forms. Anonymous data were collected from elementary, middle, and high school teachers who volunteered to participate in the online Formative Assessment survey.

The researcher assigned a score to each response to gather information on participant understanding and use of formative assessments. Table 6 shows the score for each related response.

Table 6

Response Scores for the Formative Assessment Survey

Response	Score
Strongly Disagree	1
Disagree	2
Agree	3
Strongly Agree	4

It is important to note, as shown in Table 6, participants chose a statement regarding the degree to which they agreed or disagreed to ascertain their knowledge.

Teachers outside the district, who did not take part in the study, took the Formative Assessment survey for the researcher only to see the time it would take to complete. The average time was 10 minutes. Their data for the items were not analyzed or used in any manner for this study but just to record the time it took for them to complete the survey so an average time could be identified.

At the end of the survey, participants were asked if they were willing to be contacted to take part in an interview to gather more in-depth knowledge about their formative assessment practices and the impact they played on motivating students to learn. Participants gave their email address only if they wanted to participate in the interview. All identifiable data were removed during the publishing dissertation.

Phase One

The Formative Assessment survey data were collected through Google Forms but were imported directly into Google Sheets to better analyze the data. The database also allowed the researcher to look at each participant's answers individually.

There was a 2-week window from the time the initial email to participate in the Formative Assessment survey went out to when the window closed for the researcher to

analyze the data to gather willing participants for the second phase of the research. The researcher looked over data collected from the Formative Assessment survey once the 2-week window closed and chose 12 participants who had scores from 61-80 on their knowledge of formative assessments to complete one-on-one teacher interviews. Ramsey and Duffy (2016) stated that formative assessments can help motivate students to learn, so the researcher chose 12 teachers who implemented formative assessments in their room frequently to investigate if teachers perceived their students to be highly motivated. The items asked during the interview were more in depth to truly see if teachers understood formative assessments and gathered perceptual data on their effect of motivating students to learn. Scores were established by calculating the lowest number a participant could achieve with no understanding as the starting point for the weak range. The highest score they could achieve within the survey was given as the ending point for the strong range. The difference in the numbers was calculated and divided over the three ranges to find the weak, average, and strong ranges of the raw scores on the Formative Assessment survey. The candidate created the analysis procedure indicated in Table 7.

Table 7

Range of Raw Scores on the Formative Assessment Survey

Weak	20-40
Average	41-60
Strong	61-80

Table 7 demonstrates the breakdown of participants' overall raw scores from the Formative Assessment survey to identify if they possessed a weak, average, or strong understanding of formative assessments and implemented them in their classroom.

For validity and reliability purposes, the researcher chose four elementary, four middle school, and four high school teachers with strong scores from the Formative Assessment survey to conduct interviews. Participants were purposefully chosen based on their raw score from the Formative Assessment survey. Table 8 shows the breakdown of how the 12 teachers for the second phase of the study were selected.

Table 8

Teachers Selected for the Interview Phase

Type of Teacher	Number of Teachers	Score
Elementary	4	Strong
Middle	4	Strong
High	4	Strong

The breakdown in Table 8 ascertained teacher knowledge of formative assessments as a whole to answer Research Question 1. The breakdown also helped in identifying which participants possessed a better understanding of the formative assessment process. It was important to question teachers who used formative assessments to see if they perceived them motivating students to learn in the classroom.

Phase Two

During the second phase of the study, the researcher collected qualitative data through the 12 teacher interviews to gain a better understanding of the relationship between the use of formative assessments and teacher perceptions of student motivation to learn. The teacher interview items asked participants about their understanding of formative assessment, how they utilized it, and their perception of student motivation to learn. The teacher interview items helped strengthen the research to see if participants truly understood formative assessment because they had to give their own answers to

each item to validate their formative assessment knowledge. Themes found in the qualitative data from the teacher interview items helped answer Research Question 4 pertaining to student motivation when using formative assessments effectively in the classroom.

All interviews were video recorded with the participants' permission, and their answers were transcribed in a Microsoft Word document. Creswell and Creswell (2014) explained,

Qualitative researchers typically gather multiple forms of data, such as interviews, observations, documents, and audiovisual information rather than rely on a single data source. Then the researchers review all of the data, make sense of it, and organize it into categories or themes cutting across all data sources. (p. 184)

The researcher provided a structured interview protocol before asking the interview items to each participant. The interview protocol along with the eight interview items are located in Appendix C. Patton (2015) alleged an interview protocol is prepared to ensure the same language and words are utilized with each participant interviewed. Participants were interviewed separately to gather their perception of the impact formative assessments played in motivating students to learn. Focus groups were not used, as participants could have agreed with other participants in the room after hearing their thoughts and it could have skewed the data. Leung and Savithiri (2009) stated, "While a focus group format prevents the dangers of a nominal group process, outspoken individuals can 'hijack' and dominate a discussion" (p. 219).

Figure 3 shows the sequential order of the stages of the research as detailed above.

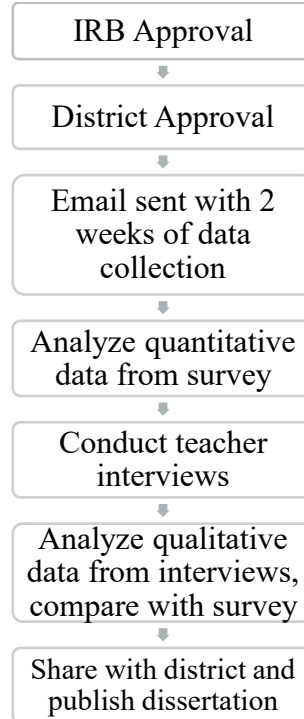


Figure 3. Sequential Order of the Stages of Research.

Research Questions Aligned to Instruments

To ensure collected data answered each research question, an alignment table was created. Table 9 lists each research question and the alignment to items on the survey and interview items.

Table 9

Research Questions Aligned to Instruments and Analyzing Data

Research Question	Type of Data	Formative Assessment Survey Items	Teacher Interview Items	Analyzing Data
To what extent do teachers understand the formative assessment process?	quantitative, qualitative	1 2 3 16 17 18 19 20	Open-Ended Survey Item 1 2 3	Raw scores will be analyzed on the survey to see teachers understanding, themes will be coded during teacher interviews
To what extent do teachers engage in the formative assessment practice?	quantitative, qualitative	4-15	4-12	Raw scores will be analyzed to see teachers use of formative assessments, themes will be coded during teacher interviews
How does teacher self-efficacy about formative assessment impact implementation in the classroom?	quantitative, qualitative	Relationship between items 1,2,3, 16-20 and items 4-15	Relationship between 1-3 items and 4-12 items	Raw scores will be analyzed to see a pattern in understanding versus use, themes will be coded during the interview to see a pattern in first and second sections of interviews
How do teachers who use formative assessment perceive its impact on student motivation to learn?	qualitative	----	13	Data will be coded to see reoccurring patterns or themes based on transcriptions of interviews

In Table 9, Research Question 3 was answered by looking at items on the survey to see how answers compared to other answers given for a different set of items. The interviews collected qualitative data to understand teacher perceptions of formative assessments, their implementation in the classroom, and their perceptions of the impact on student motivation to learn.

Phase One Data Analysis

Once the researcher obtained at least 300 participants on the Formative

Assessment survey and the 2-week window closed for completion, the data were downloaded from Google Forms into Google Sheets. The Formative Assessment survey data were analyzed using the entire participant population to identify the degree teachers in the district understood formative assessments, the degree of implementation in the classroom, and the relationship between teacher self-efficacy of understanding formative assessments to their implementation in the classroom. Before raw scores were totaled, two items from the survey had their answers reversed for accuracy. Most of the items on the survey required the participant to agree or strongly agree to the statement except for two items that required disagree or strongly disagree. They were looking for answers like disagree or strongly disagree. For these items, all answers of a 4 were given a 1, all 1s were given a 4, all 2s were given a 3, and all 3s were given a 2. Table 10 shows how the answers for these two particular items were reversed.

Table 10

Reverse Coding

Participants Answer	Code Given on Survey	Code Reversed for Data Analysis
Strongly Disagree	1	4
Disagree	2	3
Agree	3	2
Strongly Agree	4	1

After the two items had their answers coded in reverse, data for each item in the spreadsheet were added together for all participants to find a total raw score. The district findings were reported using descriptive statistics for each item. Each item was reported and broken down by teacher responses at the elementary, middle, and high school levels as well as the district as a whole. It showed specifically if the district of teachers had a

weak, average, or strong understanding of formative assessments, how they utilized formative assessments in the classroom, and the relationship between teacher self-efficacy and their implementation. The score was used to identify where the district was ranked based on each research question. Table 11 shows the breakdown of the score range of each item. The range was created so the researcher could look at large amounts of data and see where the district stands for each item on the survey. This was helpful to relate each item to a raw score to see strengths and weaknesses in the data and pinpoint what the findings were in relation to the district's understanding of formative assessments and types of formative assessments utilized in the classroom.

Table 11

Raw Score Range for Each Item on the Formative Assessment Survey

Score Range	Level
300-525	Extremely Weak
526-751	Weak
752-976	Average
977-1200	Strong

It is important to note the range in Table 11 is based on 300 participants. The range was established by calculating the lowest number a participant could achieve with no understanding as the starting point for the extremely weak range. The highest score they could achieve within the survey was given to the ending point for the strong range. The difference in the numbers was calculated and divided over the four ranges to find the extremely weak, weak, average, and strong ranges of the raw scores. The range was adjusted based on the number of participants, but the same premise was used.

The researcher looked at the raw scores from items 1, 2, 3, and 15-19 along with the answer to the open-ended item to ascertain the district's understanding of the

formative assessment process. This helped the researcher to pinpoint specific areas with strengths and weaknesses when identifying the results found from the survey. Raw scores from items 4-15 were analyzed individually to see where the district fell in accordance with incorporating feedback, reviewing the lesson objective, using rubrics, and self-assessing. The researcher then analyzed the results as a whole from those 12 items to rate teacher engagement in the formative assessment process.

In order to answer Research Question 3 regarding teacher self-efficacy in the classroom in relation to their implementation of formative assessments, the total raw scores from items regarding self-efficacy were rated as extremely weak, weak, average, or strong and then compared to the total raw scores of the 12 items related to implementation. The researcher analyzed the numerical data to see the relationship between teacher self-efficacy of understanding formative assessments compared to their actual implementation of them in the classroom.

The researcher looked deeper into the data to look at specific groups of teachers to identify which ones were stronger at understanding and utilizing formative assessments based on their average raw scores. This group would be the target audience for future professional development within the district when making recommendations. Data analyzed from the Formative Assessment survey answered Research Questions 1, 2, and 3 from the research study.

Phase Two Data Analysis

The teacher interviews during the second phase of the study were analyzed differently. Since the teacher interviews consisted of qualitative data, responses from participants were transcribed from video recordings into a Word document. Code words

were documented to find patterns in teacher responses. Blair (2015) determined, “Content analysis is dependent on creating labels or codes in order to develop meaningful categories that can be analyzed and interpreted” (p. 16). Codes or phrases were highlighted using the same color to identify themes. Themes were found on teacher understanding of formative assessments and by the types of formative assessments they used in the classroom. Predetermined codes the researcher looked for were based on the types of formative assessments one would expect to find based on the previous literature (Bennett, 2016; Creswell & Creswell, 2014). Decuir-Gunby, Marshall, and McCulloch (2011) suggested codes can be developed from existing concepts in previous literature or they can emerge from the raw data. Codes related to effective formative assessments fell into these categories: (a) descriptive feedback, (b) peer assessments, (c) self-assessments, (d) listing and discussing learning objectives, and (e) others. Additional codes emerged as the data were analyzed. Blair acknowledged open coding as a way to go line by line and identify codes directly derived from the text. The responses provided by the teachers were coded, following an open and selective coding process, based on emerging themes in the data. Blair explained selective coding as analysis where “categories are organized around a central explanatory concept until a theory emerges” (p. 18). The researcher conducted within-case and cross-case analysis of the answers to each item before writing the results in Chapter 4 and drawing conclusions. Merriam (2009) stated, “In a multiple case study, there are two stages of analysis—the within-case analysis and the cross-case analysis” (p. 204). Ayres, Kavanaugh, and Knafl (2003) articulated, “In the course of their analysis, qualitative researchers must distinguish between information relevant to all participants and those aspects of the experience that are exclusive to particular

informants” (p. 871).

Both types of data were analyzed separately from one another since one was quantitative and the other was qualitative but then they were combined to see emerging patterns and themes. The major aim of collecting qualitative data from the teacher interviews was to see if the answers aligned with quantitative data from the Formative Assessment survey to strengthen the research. Combining the data and analyzing the data helped answer Research Questions 1-3. The researcher reported the various themes and patterns as well as the frequencies in which the patterns took place. The data from the teacher interviews also helped answer Research Question 4 to see if teachers perceived formative assessments as being a motivator to help students learn based on common themes found during the interviews.

After analyzing the data, determining findings, and making recommendations to the district, the researcher validated the study. An expert on data analysis related to qualitative data reviewed the qualitative data for interrelated reliability purposes to validate the research. The findings from the expert are reported in Chapter 4.

Summary

The explanatory, mixed methods research study took place in one district within a southeastern state. Data were collected from elementary, middle, and high school teachers in two phases. The first phase included collecting quantitative data from the Formative Assessment survey before the researcher analyzed the data to choose participants for the second phase. During the second phase, the researcher interviewed 12 participants to gather more in-depth, qualitative data to identify if students were more motivated to learn based on the use of formative assessments. Chapter 4 presents the data

collected and the findings of the study. Chapter 5 presents the researcher's conclusions based on the findings of the study, discussions of those research findings, and recommendations for possible further research. "By gathering both qualitative and quantitative data, the inferences made from the findings will be more robust in that the results of the qualitative data will be used to assist in the explanation and interpretation of the quantitative findings" (Frey, 2009, p. 57). Chapters 4 and 5 contain the analyzed data, findings, and recommendations based on the research that will be shared with the district.

Chapter 4: Findings

Introduction

This mixed methods study examined elementary, middle, and high school teachers' understanding and utilization of formative assessments. This study also analyzed data on teacher self-efficacy in terms of their knowledge of formative assessments and compared the data to their actual utilization in the classroom. Finally, this study considered whether teacher perceptions of formative assessments impact student motivation.

This chapter offers information on the participants from both phases of the research and data are presented that correlate with each research question that guided the study. The Formative Assessment survey data are shared first, followed by the findings of the qualitative data extracted through the teacher interviews. The data are then shared by summarizing the total findings of the mixed methods study.

Participants

The study was conducted in one school district serving students in kindergarten through 12th grades. The total teacher population within the district, consisting of approximately 1,300 teachers, was invited to take part on a voluntary basis in the research study. Of 1,300 teachers, 102 teachers chose to participate in the first phase and completed the Formative Assessment survey. Therefore, the response rate for the Formative Assessment survey was 7.8% of the teachers in the district. During this time, the district only sent out two emails, per county policy, asking for participants to take the survey.

The researcher reviewed data collected from the Formative Assessment survey

responses and identified 11 participants willing to share their knowledge of formative assessments to complete one-on-one teacher interviews. Originally, the research had decided 12 teachers (four each from elementary, middle, and high) would be asked to complete the interviews based on their strong scores on the Formative Assessment survey. However, due to low numbers of teachers who wanted to complete one-on-one interviews, all participants who were willing were interviewed. The items asked during the interviews were more in-depth to determine if teachers understood formative assessments and were used to gather perceptual data on its effect of motivating students to learn.

The participants in the mixed methods research study consisted of teachers from varying backgrounds. Of the 102 participants, 47% were elementary teachers. Table 12 shows the breakdown of school levels.

Table 12

Survey Participants School Levels

School Level	Number of Participants
Elementary	48
Middle	20
High	34

The 102 participants not only taught at different school levels, but they also had varying years of teaching experience: Twenty-five teachers had 11-15 years of teaching experience, and 34 teachers had more than 20 years of teaching experience. Table 13 has the breakdown of participants based on years of teaching experience.

Table 13

Survey Participants Based on Teaching Experience

Years of Experience	Number of Participants
0-5 Years	15
6-10 Years	14
11-15 Years	25
16-20	14
20 + years	34

From the 102 participants who took the Formative Assessment survey, an equal number of teachers earned their master's degrees and bachelor's degrees. The participant information is detailed in Table 14.

Table 14

Survey Participants Based on Degree Earned

Description of Teacher	Number of Participants
Bachelor's degree	51
Master's degree	51

During the second phase of the study, qualitative data were collected through 11 teacher interviews to gain a better understanding of the relationship between the use of formative assessments and student motivation to learn. All interviews were video recorded with participant permission and their answers were transcribed in a Microsoft Word document. Themes found in the qualitative data from the teacher interview items were coded using a program called Atlas and were based on frequency and patterns emerged. The researcher coded common phrases and made notes of both responses that were frequent and unique. Of the 11 participants who volunteered to do a one-on-one interview to gain further knowledge on formative assessments, eight of these teachers taught elementary school and three taught high school. Table 15 lists the number of

teachers from each school level.

Table 15

Interview Participants School Levels

School Level	Number of Participants
Elementary	8
Middle	0
High	3

It is important to note that no middle school teachers participated in the interviews during the second phase of the research.

The participants in the interviews had varying years of teaching experience, with most either having 11-15 years of experience or more than 20 years of experience. Table 16 lists the years of teaching experience of the interviewed participants.

Table 16

Interview Participants Based on Teaching Experience

Years of Experience	Number of Participants
0-5 Years	0
6-10 Years	2
11-15 Years	4
16-20	1
20 + years	4

No teachers who had less than 5 years of teaching experience were interviewed. Eight of the 11 teachers interviewed had earned a master's degree. Table 17 shows the breakdown of teachers who were interviewed based on their degrees.

Table 17

Interview Participants Based on Degree Earned

Description of Teacher	Number of Participants
Bachelor's degree	3
Master's degree	8

From Table 17, it can be understood that more teachers were interviewed who had higher levels of education.

Research Questions

This study was framed by four specific research questions focusing on teacher perceptions of formative assessments, how teachers utilize them in their own classrooms, and their impact on student motivation. The following research questions guided the study.

1. To what extent do teachers understand the formative assessment process as measured by the Formative Assessment survey and teacher interviews?
2. To what extent do teachers engage in the formative assessment practice as measured by the Formative Assessment survey and teacher interviews?
3. How does teacher self-efficacy about formative assessment impact implementation in the classroom as measured by the Formative Assessment survey and teacher interviews?
4. How do teachers who use formative assessment perceive its impact on student motivation to learn?

The findings of this study were discovered from analyzing quantitative and qualitative data collected during the two phases of the research from the Formative Assessment survey and one-on-one teacher interviews. The findings are organized into

four sections corresponding with each of the four research questions. The data are presented in the sequential order they were received. Each section consists of a narrative analysis of the findings from the Formative Assessment survey related to that particular research question followed by teacher interview items. Any discrepancies found between the survey data and the interviews are then described in full.

Research Question 1: To what extent do teachers understand the formative assessment process as measured by the Formative Assessment survey and teacher interviews?

Survey. One hundred two teachers completed the Formative Assessment survey during the first phase of the research focusing on teacher understanding of formative assessments. They expressed their level of understanding of formative assessment in the classroom based on eight statements using a Likert scale. Statements 1-3 and statements 16-20 on the Formative Assessment survey addressed Research Question 1. These statements are located in Table 18.

Table 18

Statements from the Formative Assessment Survey Relating to Understanding

Statements on the Formative Assessment Survey	Statement
1	Formative assessments are informal ways of checking for student understanding.
2	In formative assessment practices, a student will always get a grade indicating their understanding of the content.
3	Successful formative assessment practices involve changing perspectives and enhancing current practices by providing significant, descriptive feedback to students; fostering greater student knowledge of learning goals; and appreciating the quality of student work over quantity.
16	Formative assessment teaching practices are a valuable part of the learning process.
17	Formative assessment teaching practices are necessary in order for students to achieve academic success.
18	Formative assessment teaching practices compliment summative assessment measures.
19	Formative assessment teaching practices can improve a classroom's climate.
20	Formative assessment teaching practices are necessary in order to encourage collaborative teaching.

The responses of strongly agree, agree, disagree, and strongly disagree were transformed into corresponding numbers, 1-4. Those numbers were added together to find the raw score, and a range was created to see the level of understanding reported. The range was established by calculating the lowest number a participant could achieve with no understanding as the starting point for the extremely weak range. The highest score they could achieve within the survey was given to the ending point for the strong range. The difference in the numbers was calculated and divided over the four ranges to find the extremely weak, weak, average, and strong ranges of the raw scores. The range was adjusted based on the number of participants for each statement, but the same premise was used. For instance, if a participant did not answer one of the items, the

highest range for that item was reduced by four. All 102 teachers responded to statements 1, 2, 3, 17, and 18 on understanding formative assessments. Each teacher could have scored a 1 on the statement which would make the district's lowest possible score 102 for that particular statement and the highest possible score 408. Ninety-nine teachers responded to statements 16, 19, and 20, affecting the ranges in scores for these three statements only. For these three statements, the lowest possible score was 99 and the highest possible score was 396. Table 19 indicates the score range with the levels based on each corresponding statement.

Table 19

Score Ranges and Levels for Understanding Formative Assessment Statements

Level	Statements 1, 2, 3, 17, 18	Statements 16, 19, 20
Extremely Weak	102-178	99-173
Weak	179-255	174-248
Average	256-332	249-322
Strong	333-408	323-396

The five statements with similar ranges related to teacher understanding of formative assessments is listed in Figure 4 with the district's score for each statement.

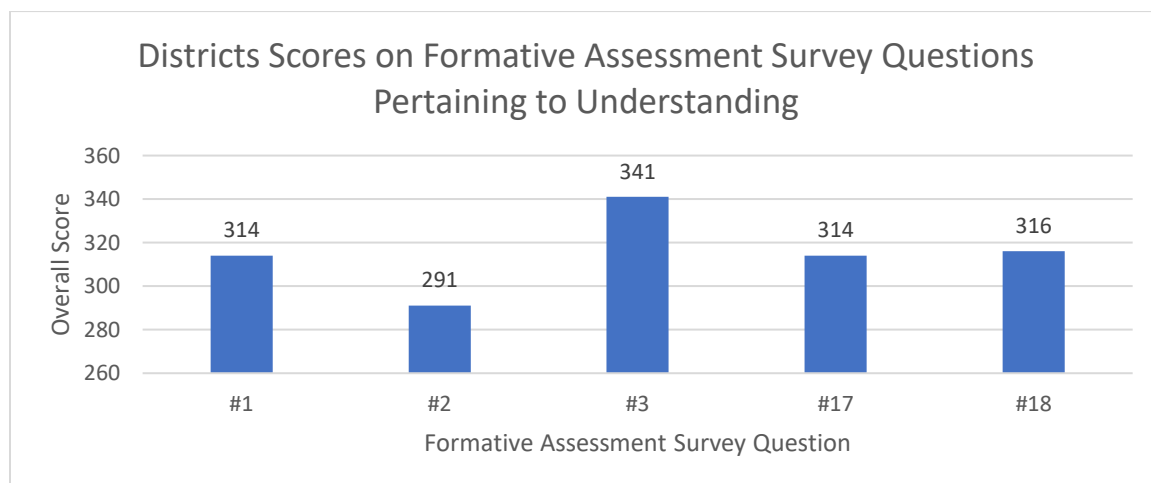


Figure 4. Scores for 5 Survey Items on Understanding Formative Assessments.

Figure 4 demonstrates the district scores were strong on statement 3, based on their survey responses, and scored in the average range on four statements, 1, 2, 17, and 18. Figure 5 has the other three survey items, 16, 19, and 20, due to having a different range level due to responses.

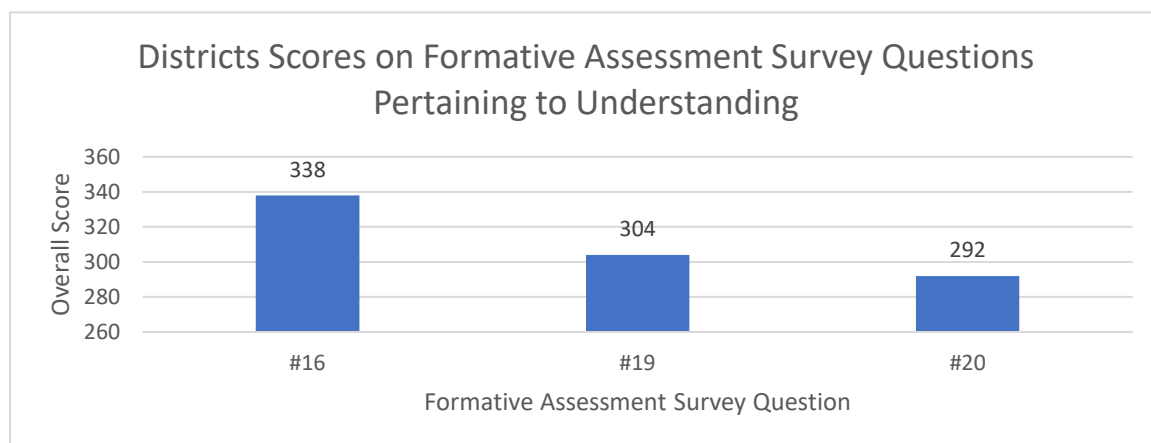


Figure 5. Scores for 3 Survey Items on Understanding Formative Assessments.

Figure 5 demonstrates the district scores were in the strong range for survey item 16 and in the average range for items 19 and 20.

Table 20 lists each statement taken from the Formative Assessment survey, the district's score, and their level of understanding of formative assessments based on the range. The purpose of the table is to see the level of understanding as it is broken down by each statement.

Table 20

District's Level of Understanding of Formative Assessments from Survey Data

Formative Assessment Survey Statements Related to Understanding	District Score	Level
1	314	Average
2	291	Average
3	341	Strong
16	338	Strong
17	314	Average
18	316	Average
19	304	Average
20	292	Average

Table 20 illustrates the fact that of eight statements regarding teacher understanding of formative assessments, two statements scored in the strong range, while six scored in the average range.

According to the survey, teachers in the district had scores in the strong range with a score of 341 on statement 3: “Successful formative assessment practices involve changing perspectives and enhancing current practices by providing significant, descriptive feedback to students; fostering greater student knowledge of learning goals; and appreciating the quality of student work over quantity.” They also scored in the strong range with a score of 338 on statement 16: “Formative assessment teaching practices are a valuable part of the learning process.” For all other statements on the Formative Assessment survey, they scored in the average range in relation to understanding formative assessments.

Teachers scored in the average range on six statements addressing teacher understanding of formative assessments. On statement 1, the district’s total score was 314. Statement 1 asked teachers their agreement with the following statement:

“Formative assessments are informal ways of checking students’ understanding.”

Statement 2 claimed, “During formative assessment practices, students will always get a grade.” Teachers scored in the average range on this item with a total score of 291.

Since this was a statement where the codes were reversed, teachers who agreed with this statement earned a lower score than those teachers who disagreed since formative assessment practices do not always have students receiving a grade. According to teacher responses to statement 17 on the survey, “Teachers understand formative assessment teaching practices are necessary in order for students to achieve academic success,” the district score was 314, which was in the average range. Statement 18 asked if teachers agreed or disagreed with “Formative assessment teaching practices compliment summative assessment measures.” According to the survey results, teachers scored in the average range with a score of 316. For statement 19, “Teachers understand formative assessment teaching practices improve a classroom’s climate,” teachers scored in the average range with a score of 304. Statement 20 on the survey asked teachers if “Formative assessment teaching practices are necessary in order to encourage collaborative teaching.” Teachers scored in the average range with a score of 292.

Looking at all subgroups’ understanding of formative assessments including teacher years of experience, the levels they taught, and the highest level of education completed, all subgroups scored in the average or strong ranges except one particular subgroup scored differently on one item: Teachers with 16-20 years of experience showed a weak level of understanding on statement 19 regarding “Formative assessment teaching practices are necessary in order to encourage collaborative teaching.” However, this subgroup overall scored within the average range for understanding formative

assessments as a whole. Due to the number of participants (n=15), the lowest score they could have received for this statement was 15 and the highest score was 56. Table 21 has the score ranges for each level for this particular subgroup.

Table 21

Teachers with 16-20 Years of Experience Score Ranges and Levels

Level	Score Range
Extremely Weak	15-24
Weak	25-35
Average	36-46
Strong	47-56

Teachers with 16-20 years of experience scored in the weak level with a score of 32 on statement 19, contrasting the district's level of understanding of formative assessments. Table 22 has the response data on this particular subgroup with statement 19.

Table 22

Teachers with 16-20 Years of Experience Response to Statement 19

Years of Teaching Experience	Statement	Score	Level
16-20 years	19: Formative assessment teaching practices are necessary in order to encourage collaborative teaching.	32	Weak

The district as a whole was scored differently since all eight statements were combined for a total raw score. Since 102 teachers responded to the eight statements on understanding formative assessments, they each could have scored a one on each statement, making the district's lowest possible score 815 for all eight statements and the highest possible score 3,252. Three teachers did not answer three items on the survey,

and the range was adjusted accordingly. Table 23 shows the range for the district's score pertaining to Research Question 1 on the Formative Assessment survey only.

Table 23

District Scores on Understanding Formative Assessment Aligned to Research Question 1

Score	Level
815-1424	Extremely Weak
1425-2034	Weak
2035-2643	Average
2644-3252	Strong

According to the Formative Assessment survey 102 teachers in the district completed, the district had a total score of 2,510, identifying the district as a whole as scoring an average understanding of formative assessments.

Qualitative data were also collected during the Formative Assessment survey pertaining to teacher understanding of formative assessments when participants were asked an open-ended item on the Formative Assessment survey: "Explain your understanding of formative assessment." Of 102 teachers who took the Formative Assessment survey, 99 teachers wrote a response to this item in their own words. Participants wrote in their response, and the researcher coded frequencies within their responses using the program Atlas. Before coding of the survey results began, the researcher established predetermined codes based on prior research collected during the literature review. After analyzing the qualitative data of teacher responses, additional codes were established based on participant answers. The predetermined codes the researcher identified are listed in Table 24.

Table 24

Predetermined Codes for Formative Assessment Definition

Predetermined Codes
Drive Instruction
Quick
Student's Understanding
During the Unit
Summative
Graded

All of the predetermined codes established in Table 24 showed up within the data along with additional findings that were coded based on common answers given by teachers. Figure 6 contains the frequency chart for how many times the predetermined codes were stated in their responses and additional codes that emerged related to their understanding of formative assessments.

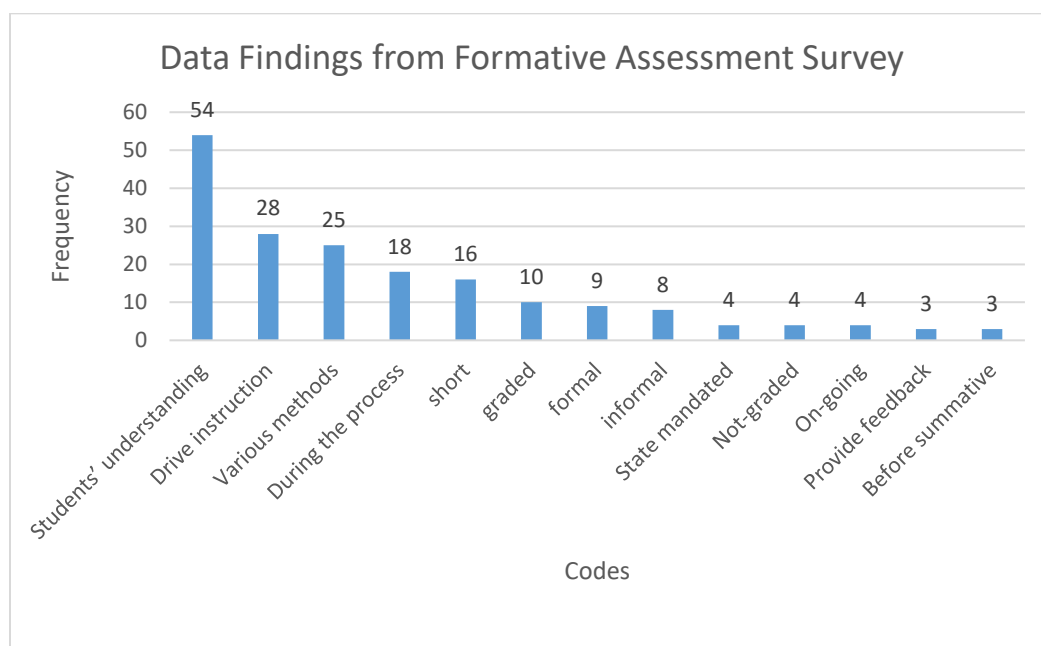


Figure 6. Frequency of Phrases in Teacher Understanding of Formative Assessments.

In Figure 6, teachers' phrases and words justified placing them underneath a

certain code. For example, teachers may have said “guide instruction,” “adjust my teaching,” or “alter instruction” for it to be coded underneath “drive instruction.” Other common codes were utilized in the same manner.

According to Figure 6, 54 of 99 teachers total stated that formative assessments gauge a student’s understanding but only 28 identified it as a tool to drive future instruction. According to their responses on the survey, 25 teachers described various methods of formative assessments they could use in the classroom. Twenty teachers used the words various or different in their response describing formative assessments, while five teachers actually listed the various methods including exit tickets, thumbs up/down, a short quiz, or even having students using facial expressions to show their understanding of a skill.

Eighteen teachers identified formative assessments as taking place during the process, and 16 teachers also stated they were short or quick assessments. Six teachers identified them as being both formal and informal assessments, while two teachers only identified them as being informal and three only identified them as being formal.

In their open-ended responses about what formative assessment is, 10 teachers identified it as a graded assignment and four teachers stated it as being not graded. Table 25 lists excerpts from responses.

Table 25

Quotes about Formative Assessments Being Graded/Non-Graded

Quotes about Formative Assessments Being Graded	Quotes about Formative Assessments Being Non-Graded
“Tool for giving grades”	“These skills are not ‘graded’ like traditional assignments”
“Form of grading for students and to monitor progression”	“FA is a non-graded ‘progress check’ of what knowledge and/or skills students have acquired”
“Grading tool”	“Used to assess students on a daily basis, typically not graded”
“Being able to justify student growth and achievement through grading”	“Assessing students understanding of a topic/standard during an activity/ lesson without grading”
“Formative assessment is used to promote growth, monitor academic progress and challenge students through its grading process”	
“Grading from qualified personnel”	
“Grading by a professional educator that requires a numerical score”	
“Formative assessment is designed to grade/assess students by rubrics, tests, quizzes and other measures to promote learning”	
“Grading of student work by a licensed teacher that is based off NCDPI curriculum”	
“A way to grade students”	

Quotes from Table 25 show many teachers believed formative assessments were used to grade a student on their knowledge but many others viewed it as being non-graded.

Three teachers stated formative assessments provide feedback to the teacher on what the students know, or formative assessments allow teachers to give students feedback based on their knowledge. Three teachers referenced formative assessments taking place before the summative in their definition of formative assessments.

Four teachers defined formative assessments as required, state-mandated, or from DPI. Those quotes are listed in Table 26.

Table 26

Quotes from Formative Assessment Qualitative Survey Item

<u>Explain your understanding of formative assessment.</u>
“My understanding is that it is required in order to maintain records of student achievement throughout the course of the year and to gauge growth.”
“A way for DPI to justify student scoring.”
“Formative assessment to me means something I’m given by the district or state to complete. Benchmarks such as Dibels are formative assessments.”
“A formal device used to gauge academic progress/growth of certain group or individual student(s). Usually a state generated test.”

As indicated in Table 26, four teachers viewed formative assessments as the state-mandated benchmarks or state-generated tests. One teacher noted, “Formative assessments are required to maintain records of students’ achievement,” so she views it as a requirement. Another teacher explained that formative assessments were “a way for DPI to justify student scoring.”

Interviews. During the second phase of the research, 11 teachers were interviewed more in depth using the Interview Protocol and Items (Appendix C) to see their understanding of formative assessments. Scores were established from the Formative Assessment survey by calculating the lowest number a participant could achieve, with no understanding as the starting point for the weak range. The highest score they could achieve within the survey was given to the ending point for the strong range. The difference in the numbers was calculated and divided over the three ranges to find the weak, average, and strong ranges of the raw scores on the Formative Assessment

survey. Table 27 shows the range levels of understanding and use of formative assessments based on raw scores of each participant except for Participant 4 who did not answer one item. The range of raw scores for this participant is different and is located in a separate column in Table 27.

Table 27

Range of Raw Scores on the Formative Assessment Survey

Participants 1-3, 5-11		Participant 4	
Level	Score Range	Level	Score Range
Weak	20-40	Weak	19-38
Average	41-60	Average	39-57
Strong	61-80	Strong	58-76

The 11 teachers who participated in the interviews worked at different school levels, had a variety of years of teaching experience, and had differences in levels of education. Table 28 lists each interview participant, their demographic data, their raw score from the Formative Assessment survey, and their level of understanding and utilization of formative assessments based on the Formative Assessment survey data.

Table 28

Participants Raw Score and Level from the Formative Assessment Survey

Participant	School	Years of Experience	Highest Level of Education	Raw Score	Survey Level
1	Elementary	11-15	Masters	59	Average
2	Elementary	20+	Masters	64	Strong
3	Elementary	20+	Bachelors	69	Strong
4	High	16-20	Masters	65	Strong
5	Elementary	20+	Masters	56	Average
6	Elementary	11-15	Bachelors	76	Strong
7	Elementary	11-15	Masters	56	Average
8	Elementary	6-10	Bachelors	56	Average
9	Elementary	11-15	Masters	74	Strong
10	High	6-10	Masters	70	Strong
11	High	20+	Masters	75	Strong

According to Table 28, of the 11 teachers interviewed, seven possessed a strong level of understanding and utilization of formative assessments and four possessed an average understanding and utilization of formative assessments. Participants 2, 3, 4, 6, 9, 10, and 11 scored in the strong range on the Formative Assessment survey, while participants 1, 5, 7, and 8 scored in the average range.

During individual interviews, each participant answered two items about formative assessments in their own words: “Tell me what you understand about formative assessment” and “What are some examples of formative assessment?” The researcher identified predetermined codes to search for when analyzing the data based on teacher responses to these items. Table 29 lists the predetermined codes the researcher utilized during the second phase of the research. The predetermined codes were the same ones used during the first phase of the research, but new codes were established for examples of formative assessment.

Table 29

Predetermined Codes for Definition and Examples for Interview Section

Predetermined Codes for Formative Assessment	Predetermined Codes for Examples
Drive Instruction	Verbal
Quick	Written
Student Understanding	Visual
During the Unit	
Summative	
Graded	

The transcribed data were coded, and themes emerged from the interviews. Additional themes and findings emerged from teacher responses. Figure 7 displays the frequency of phrases or words from the interview data of the 11 participants.

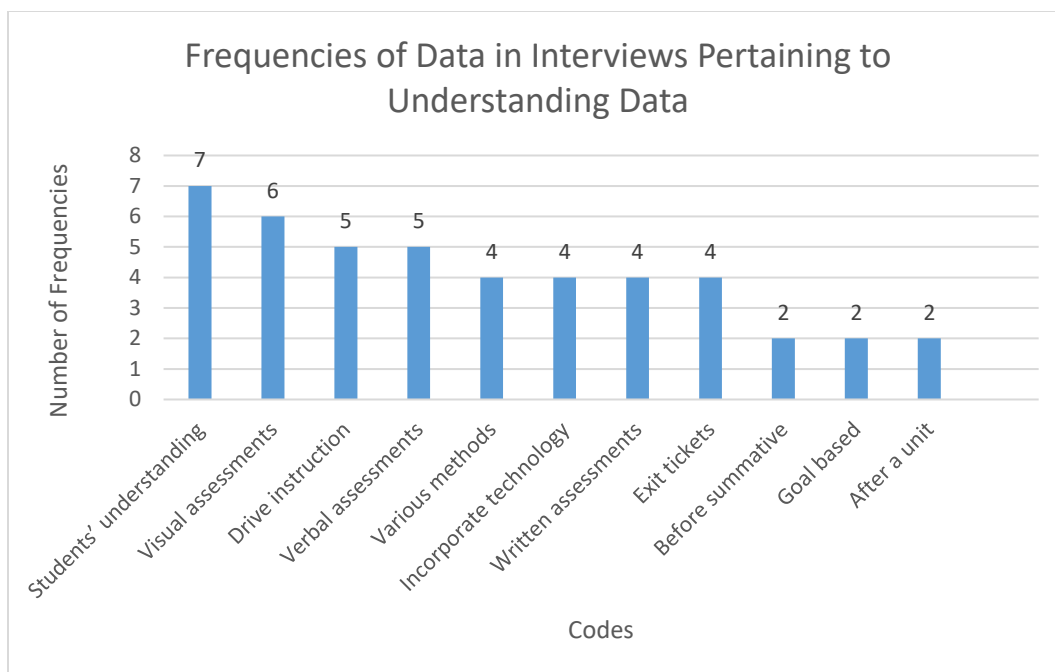


Figure 7. Interview Data on Understanding Formative Assessment.

When teachers were asked to “Tell me what you understand about formative assessment,” the responses varied. Seven of the 11 teachers stated formative assessments gauge student understanding, and five teachers commented they are used to drive future instruction. Three teachers mentioned formative assessments are given in a variety of formats, and two teachers related formative assessments to standards or goals taught in the classroom. The two teachers who referenced formative assessments being goal based have their quotes listed in Table 30.

Table 30

Quotes about Formative Assessments Being Goal Based

Participant	Quote
4	“Formative assessments can be given at any time and are given in a variety of formats to determine how students are progressing on any goal at the given time.”
6	“Formative assessment is just a variety of different ways to kind of evaluate kids and where they are. It’s a daily type thing on whatever standard you are working on.”

The next item teachers had to answer during the interviews about how they utilized formative assessments asked, “What are some examples of formative assessments?” Six teachers used having the students visually show their understanding through holding up their hands, signs, or marker boards as an example. Five teachers explained verbal assessments could determine student understanding through answering an item or a one-on-one conference with the teacher. Four teachers described written assignments as forms of formative assessments where the student demonstrates their understanding by writing their response, while four teachers listed forms of technology as a way to gauge student understanding. Some of the technology examples included Plickers, Kahoot quizzes, Quizlet Live, Schoolnet assessments, and other computerized tests. Table 31 shows the breakdown of some of the types of formative assessments identified and the categories they fall under based on specific responses.

Table 31

Responses and Types of Formative Assessments

Response	Verbal	Written	Visual	Technology Based
“Raise your hand is one. It's like even shaking our head or smiling or looking at you. I already said sticky notes up on the board with what answers do you think there are and there are some games that are formative assessments. Quizlet live is a formative Assessment, Kahoot quizzes.”		✓	✓	✓
“I obviously use exit tickets and it could be anything from you know taking a clipboard and writing down yes or no, if they know how to do something to quizzing them real quick. It could be anything as simple as verbal or written.”	✓	✓		
“Pair share, where they go into a group and then they learn something and then they share with their other classmates. Another kind could be if I orally ask some questions. You use different things like Plickers and websites where it has ways for you to check on their knowledge of something.”	✓			✓
“I like to do exit tickets. I like to do just little task cards during center time. We do kind of like on their whiteboards and then they show you.”		✓	✓	
“It could be quizzes, it can be walking around the room like checking them off while they're participating in discussions. We do a lot of discussions, their engagement when they're reading, are they answering the questions.”	✓			
“Spelling test, math tests, any type of quiz that you're giving. Anything that would be written out or computerized.”		✓		✓
“Actually, you can just question students or you can give an exit ticket and then some people do that. Show of hands. Some people have the little popsicle stick things that they hold up. “	✓		✓	

Table 31 shows that many teachers use a variety of methods to gauge student understanding during the formative assessment process including verbal, written, visual, and technology-based strategies.

Within looking at responses on the survey and participant answers during the interview, three teachers strongly agreed with statement 20 on the survey: “Formative assessment teaching practices are necessary in in order to encourage collaborative teaching.” These same three teachers also mentioned utilizing common formative assessments. One teacher stated, “An example of a formative assessment is the common formative assessment which is what we use with our whole grade level.”

Discrepancies with participant survey and interview responses. There were discrepancies between what some teachers stated on the Formative Assessment survey and what they shared in their responses in the interviews. Participant 1 stated in the survey that she disagreed with statement 2, stating, “During formative assessments, students will always get a grade”; however, in her interview response, she stated formative assessments are used in class to grade student knowledge.

On the first item of the survey, Participant 2 strongly agreed that “Formative assessments are informal ways of checking for student understanding”; but on the open-ended item on the survey describing formative assessments, she said, “Formative assessment is a check for the student’s understanding. It can be a formal test or other evidence-based activities to show what they know about a subject.” Participant 2 responded to the interview item “What are some examples of formative assessment?” with “spelling test on Friday, math tests after two or three weeks’ time,” indicating she did not know the difference between summative and formative.

Participant 10 on survey statement 2 answered, “A student will always get a grade indicating their understanding of the content during formative assessment practices” but contradicted herself during the interview section. For interview item 1, “Tell me what

you understand about formative assessment,” she responded with, “Formative assessments are just to gauge are your students grasping the concepts. They don’t have to be graded. I actually prefer that it’s not.”

Table 32 shows survey responses Participant 1 gave that did not align with the interview responses or were not properly aligned with the definition of formative assessments.

Table 32

Misalignment Data of Survey Compared to Interview

Survey Statement	Survey Response	Interview Item	Interview Response
2: In formative assessment practices, a student will always get a grade indicating their understanding of the content.	Disagree	Tell me what you understand about formative assessment.	Formative assessments are used in class to grade a student’s knowledge.

Summary. In conclusion, teachers within the district have an overall average level of understanding of formative assessments, as they scored in the average range on six of eight statements in this area. Teachers have a stronger level of understanding of formative assessments providing strong feedback to students and allowing students to be knowledgeable of learning goals. Teachers also indicated formative assessments are a valuable part of the learning process: 54.5% of the teachers who took the Formative Assessment survey responded in their own words that formative assessment is used to check student understanding; however, only 28 of the 99 teachers surveyed indicated formative assessments are used to drive future instruction. Twenty-five of 99 teachers stated various methods are used to gather data during formative assessments. Data

throughout the Formative Assessment survey and teacher interviews do support that some teachers confuse formative assessments with summative assessments, see them as needing to be graded, or view formative assessments as mandated by the state.

Research Question 2: To what extent do teachers engage in the formative assessment practice as measured by the Formative Assessment survey and teacher interviews?

Survey. Statements 4-15 on the Formative Assessment survey given during the first phase of the research focused on teachers utilizing formative assessments in their own classrooms. To gain an understanding of how each of the 102 teachers participating in the study utilized formative assessments, they were given 12 statements where they had to show their agreement with the statement. These statements are located in Table 33.

Table 33

Formative Assessment Survey Statements on Utilizing Formative Assessments

Statement Number	Formative Assessment Survey Statements Related to Utilization
4	I commonly review lesson objectives to students so that they can understand what is expected of them and are able to articulate how these objectives will be measured.
5	I incorporate feedback that is both interactive and descriptive to my students when learning new objectives.
6	During lessons, I use methods other than checklists and summative assessments to check for understanding.
7	During lessons, I use the learning objectives to gauge what students already know on the topic.
8	In my classroom, I offer suggestions on how my students can advance their current learning to the next level.
9	I regularly use student interviews in order to ensure that students can assess their own learning.
10	I regularly use rubrics in order to ensure that students can assess their own learning.
11	I regularly use modeling in order to ensure that students can assess their own learning.
12	I regularly use on-going classroom assessment methods to measure student understanding before a unit is complete.
13	When I find that students are not achieving their learning objectives, I modify my teaching approach.
14	When I find that students are not achieving their learning objectives, I modify my teaching curriculum.
15	When I find that students are not achieving their learning objectives, I modify my teaching assessments.

The range for each statement was established by calculating the lowest number a participant could achieve with no understanding as the starting point for the extremely weak range, meaning the participant could receive a score of 1 and then it was multiplied by the number of participants. The highest score a participant could receive was a 4 on each statement. The highest score they could achieve within the survey was given to the ending point for the strong range after it was also multiplied by the number of

participants. The difference in the lowest score and the highest number was calculated and divided over the four ranges to find the extremely weak, weak, average, and strong ranges of the raw scores. One hundred two teachers responded to statements 4-6, 8-11, and 14 on utilizing formative assessments. The teachers could have scored a 1 on the statement which would make the district's lowest possible score 102 for that particular statement and the highest possible score 408. Ninety-eight teachers responded to statements 7, 12, 13, and 15 affecting the ranges in scores. For these four statements, the lowest possible score was 98 and the highest score was 392. Table 34 indicates the score range with the levels based on each corresponding statement.

Table 34

Score Ranges and Levels for Understanding Formative Assessment Statements

Level	Statements 4-6, 8-11, 14	Statements 7, 12, 13, 15
Extremely Weak	102-178	98-171
Weak	179-255	172-245
Average	256-332	246-319
Strong	333-408	320-392

The eight statements with similar ranges related to teacher utilization of formative assessments are listed in Figure 8 with the district's score for each statement.

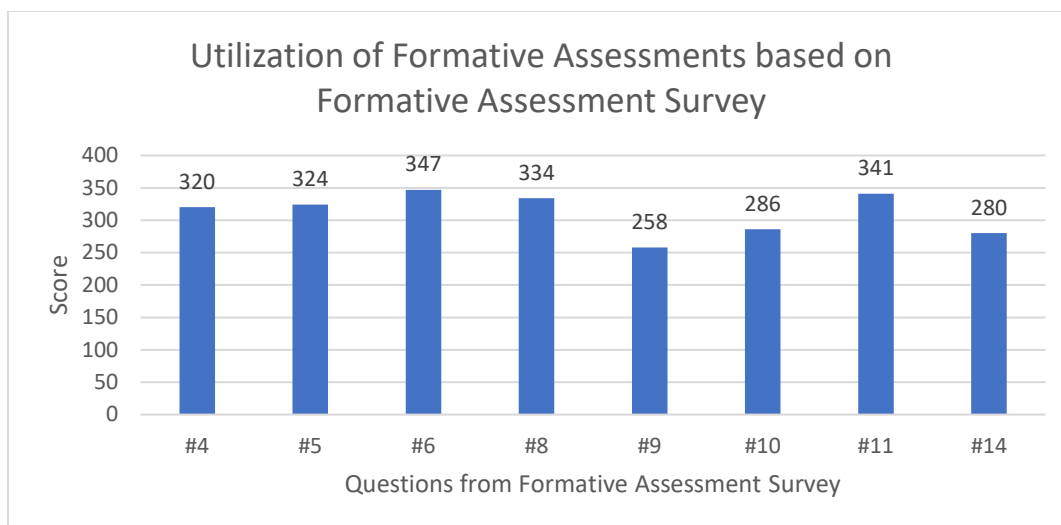


Figure 8. Eight Survey Scores Related to Utilizing Formative Assessments.

According to Figure 8, teachers in the district had strong scores on statements 6, 8, and 11. They scored in the average range for statements 4, 5, 9, 10, and 14. Teachers scored in the strong range for three statements and scored in the average range for five statements regarding utilization of formative assessments in the classroom. Figure 9 has the other four survey item results due to having a different range because of the difference in participation on these particular items.

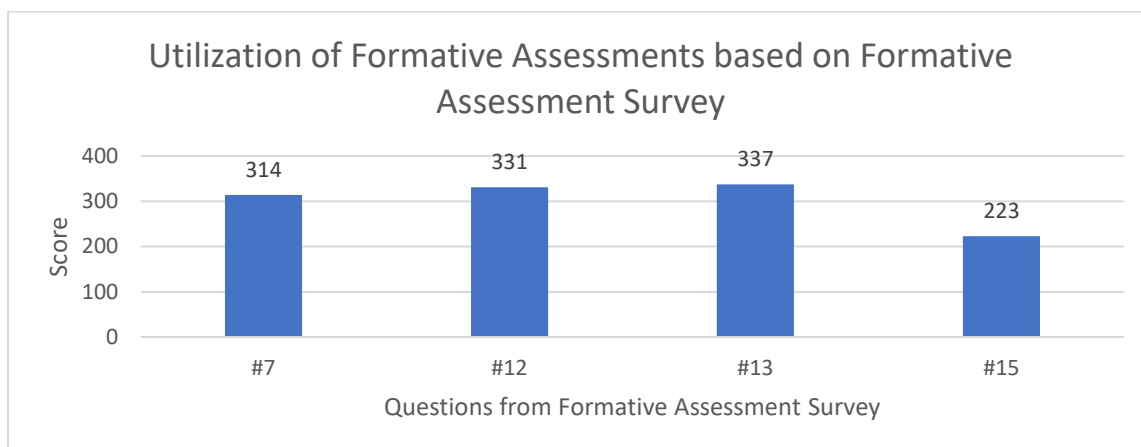


Figure 9. Four Survey Scores Related to Utilizing Formative Assessments.

Figure 9 demonstrates the district scores were in the average range for two items, survey items 7 and 12. The teachers in the district who took the Formative Assessment survey scored in the strong range for item 13 and in the weak range for item 15.

Table 35 identifies the district's level of utilization of formative assessments according to the survey based on each statement. The data include all 102 teachers who took the survey.

Table 35

District Scores and Levels of Utilization based on the Formative Assessment Survey

Statement on Formative Assessment Survey	District Raw Score	Level
4	320	Average
5	324	Average
6	347	Strong
7	314	Average
8	334	Average
9	258	Average
10	286	Average
11	341	Strong
12	331	Strong
13	337	Strong
14	280	Average
15	223	Weak

Teachers scored in the strong range on four of the 12 statements. According to the scores on utilizing formative assessments in the classroom, teachers in the district had scores in the strong range on statement 6 when asked if “They use methods other than checklists and summative assessments to check for understanding during lessons.” The teachers in the district who took the Formative Assessment survey scored 347 on this statement. Teachers in the district also had strong scores with a score of 341 on statement 11 concerning “Teachers regularly use modeling in order to ensure that students can assess their own learning.” According to statement 12, teachers scored in

the strong range with a raw score of 331. Statement 12 asked teachers to acknowledge their agreement on if they “Regularly use on-going classroom assessment methods to measure student understanding before a unit is complete.” Teachers also scored strongly on statement 13 with a score of 337. Statement 13 asked if “Teachers modify their approach when students are not achieving their learning objectives.”

Teachers scored in the average range for seven statements regarding utilizing formative assessments in the classroom. Statement 4 indicates, “Teachers commonly review lesson objectives to students so that they can understand what is expected of them and are able to articulate how these objectives will be measured.” For this statement, the district’s score was 320. For statement 5, the district also scored in the average range with a total raw score of 324. Statement 5 asked, “Teachers incorporate feedback that is both interactive and descriptive to students when learning new objectives.” According to statement 7, teachers scored in the average range with a score of 314, indicating “They use the learning objectives to gauge what students already know on the topic during lessons.” The district score for statement 8 places them in the average range for “Offering suggestions on how students can advance their current learning to the next level,” due to them scoring 334. The district scores were in the average range with 258 on statement 9, indicating “Teachers regularly use student interviews in order to ensure students can assess their own learning.” Statement 10 on the formative assessment survey affirmed, “Teachers regularly use rubrics in order to ensure that students can assess their own learning” when they scored in the average range with 286. Statement 14 also had the district scoring in the average range with a score of 280. The statement claimed, “Teachers modify their curriculum when they find that students are not

achieving their learning objectives.” Even though the score was in the average range, the responses for this particular statement were widely varied between participants.

The district scores were in the weak range on one particular item when it came to utilizing formative assessments. For statement 15, “Teachers modify assessments when students are not achieving their learning objectives,” teachers in the district had a combined score of 223. Like statement 14, statement 15 had varying answers from participants even though their total score was in the weak range.

Looking at the subgroup data closely, middle and high school teachers scored in the weak range for statement 9: “Teachers regularly use student interviews to ensure their students can assess their own learning.” Middle and high school teachers combined had a total of 54 participants who took the Formative Assessment survey. These data differ from the district’s average score on this particular statement; however, high school teachers also differed from the district when they scored in the strong range on statement 8. Statement 8 was, “Teachers offer suggestions on how their students can advance their current learning to the next level.” High school teachers scored higher than the district did as a whole for statement 8. Table 36 lists the subgroup data that differ from the district data.

Table 36

Research Question 2 Survey of District Data Versus Middle, High School Data

Statement	Group	Level of Utilization
8: Teachers offer suggestions on how their students can advance their current learning to the next level.	District	Average
	High School	Strong
9: I regularly use student interviews in order to ensure that students can assess their own learning.	District	Average
	Middle, High School	Weak

According to Table 36, high school teachers offer suggestions more on how to advance student current learning levels than the district does as a whole; however, middle and high school teachers both scored lower compared to the district when it comes to using student interviews to ensure students can assess their own learning.

Looking at another subgroup, teachers with 0-5 years of teaching experience had differing data than the district on six statements and scored lower than the district in these areas. Table 37 shows the district data on these six statements and the data for teachers with 0-5 years of teaching experience or what many districts call beginning teachers.

Table 37

Research Question 2 District Data Versus Teachers with 0-5 Years' Experience Data

Statement	Group	Level of Utilization
9: I regularly use student interviews in order to ensure that students can assess their own learning.	District 0-5 Years' Experience	Average Weak
10: I regularly use rubrics in order to ensure that students can assess their own learning.	District 0-5 Years' Experience	Average Weak
11: I regularly use modeling in order to ensure that students can assess their own learning.	District 0-5 Years' Experience	Strong Average
12: I regularly use on-going classroom assessment methods to measure student understanding before a unit is complete.	District 0-5 Years' Experience	Strong Average
13: When I find that students are not achieving their learning objectives, I modify my teaching approach.	District 0-5 Years' Experience	Strong Average
14: When I find that students are not achieving their learning objectives, I modify my teaching curriculum.	District 0-5 Years' Experience	Average Weak

In Table 37, it is important to note that only 15 teachers make up the subgroup with 0-5 years of teaching experience.

The district as a whole was scored using a different range since all 12 statements were combined for a total score for the utilization section. Since 102 teachers responded to the 12 statements on utilizing formative assessments, they each could have scored a 1 on each statement making the district's lowest possible score a 1,220 and the highest possible score a 4,880. Four teachers who did not answer four items are factored into the

range score. Table 38 has the range for the district's score pertaining to Research Question 2 based on the Formative Assessment survey data only.

Table 38

Range Levels for District Survey Scores Aligned to Research Question 2

Raw Score	Level
1220-2134	Extremely Weak
2135-3049	Weak
3050-3964	Average
3965-4880	Strong

For utilizing formative assessments within the classroom, the teachers within the district who took the Formative Assessment survey scored 3,695, placing the district in the average range.

Interviews. During the second phase of the research, qualitative data collected from 11 teacher interviews gave an insight into how teachers utilize formative assessments in their own classrooms. Each participant answered nine items regarding utilizing formative assessments in their own words. Table 39 lists the nine items asked to participants about the utilization of formative assessments in their everyday teaching practices.

Table 39

Interview Items Pertaining to Utilization of Formative Assessments

Interview Items Pertaining to Utilization of Formative Assessments
1. Describe how you use learning goals.
2. What does peer assessment look like in your classroom? FOLLOW UP: How often do you allow students to peer assess one another?
3. What does self-assessment look like in your classroom? FOLLOW UP: How often do you allow students to self-assess themselves?
4. Describe the types of feedback that you provide for students.
5. What happens with the feedback once you provide it to your students? FOLLOW UP: How often do you give students the opportunity to revise their work and resubmit it after the work has been graded initially?
6. Tell me about grading practices in your classroom.

Based on the number of frequencies within the responses, common themes and patterns emerged. The interview items surrounding utilization asked about learning goals, peer assessments, self-assessments, types of feedback, and grading practices. The data are presented here and broken down into sections based on teacher identified types of formative assessment.

Learning goals. Item 1 under part B of the interview section during the second phase of the research asked teachers to describe how they use learning goals. Figure 10 has the frequency of phrases or words within the interview data of the 11 participants pertaining to how they use learning goals.

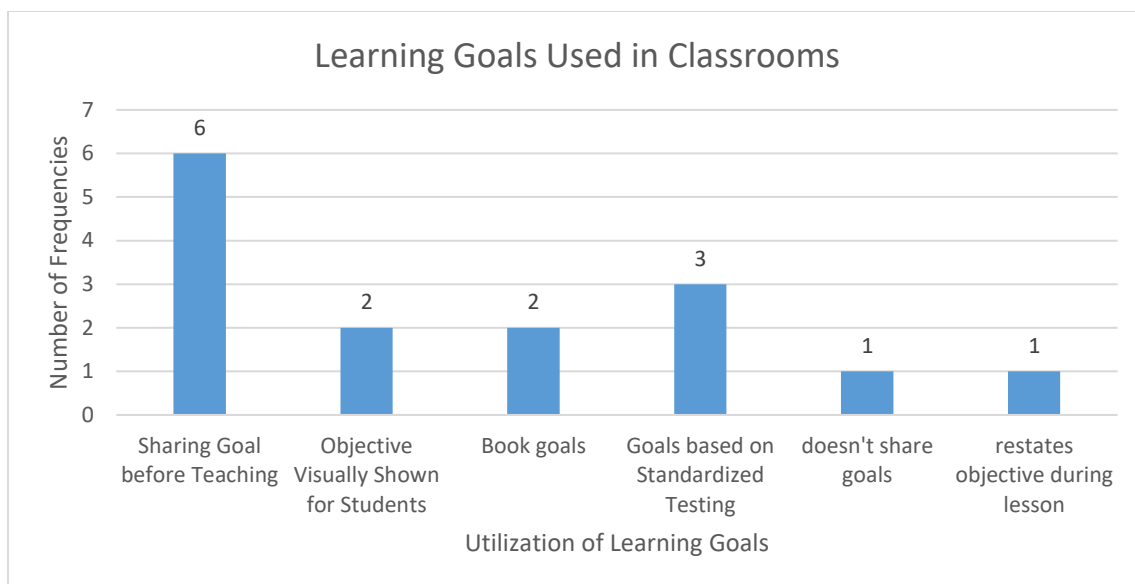


Figure 10. Frequency of Data from Interviews on Learning Goals.

Figure 10 shows six of 11 teachers do share the learning goals with their students before teaching the lesson, with two visually writing the learning goal on the board for students to see. Of those six teachers who share the learning goal, all scored in the strong range on the Formative Assessment survey with all items combined; however, three teachers believe learning goals are correlated with testing programs and set goals for them to meet proficiency on standardized testing. These teachers correlate learning goals to programs like Accelerated Reader (AR), Star Reading, Star Math, and MClass reading goals. These goals are centered on district- and state-mandated benchmark testing. One teacher did not share learning goals with students but felt it was important.

Table 40 contains some excerpts from participant responses to the interview item focusing on teachers describing how they use learning goals.

Table 40

Interview Responses Related to Learning Goals

Interviewee	Response to Interview Item Part B, Item 1
1	Well the students have AR tests that they complete during the nine weeks and so students are encouraged to choose at least two books to read and they have to read the book at least two times and then they take an AR test on a computer.
4	Every day I post on the board what we're going to be doing, kind of like in a sort of more of an agenda format. We talk at the beginning of the class to sort of lay out what our goals are.
5	Honestly I feel like I overlook that. I feel like okay this is what I got to teach and so I don't have time to stop and say okay what do I want them to do at the end of it.
7	We have Star goals so that's kind of the learning goal that I set for them and so we kind of sit down and we discuss like the data.
10	I always have at the beginning of the unit, I teach high school so every unit I have what goals they are supposed to accomplish for that unit and I underlined those key action phrases like identify, analyze, describe.

Table 40 shows teachers have a wide understanding and utilization of learning goals in the classroom.

Peer assessments. The next items participants answered during the interviews about utilizing formative assessments dealt with what peer assessment looks like in their classroom. Figure 11 displays the frequency of responses to item number 2 in part B of the interview.

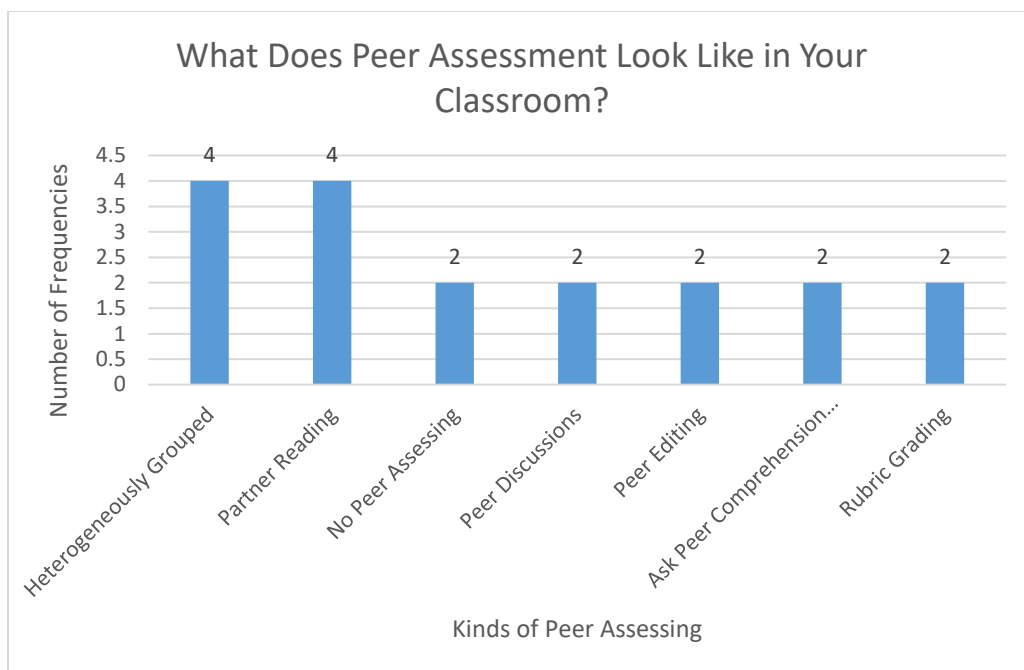


Figure 11. Frequency of Peer Assessments from Interviews.

It is important to note that the reported peer assessment data are overlapping, meaning participants may have listed multiple examples of what peer assessment looks like in their classrooms. Four teachers stated they heterogeneously grouped students. When working with peers, participants allowed higher level students to work with struggling students in order to help teach or peer assess certain skills. Four teachers stated that peer assessment consisted of partner reading in their classrooms. Two teachers stated peers participated in discussions to address and clarify each other's understanding. Two teachers mentioned allowing peers to edit each other's work especially in the area of writing including using rubrics to grade one another's work. Two teachers reported using peer assessment in reading where peers asked each other comprehension items to check for understanding, while two teachers stated they did not use peer assessment in their classrooms. Eight teachers used peer assessment in the areas

of reading and writing. In reading, students listened to their peer read a passage and asked them questions. In writing, they peer edited work while sometimes using a rubric. Participant 2 noted the importance of rubrics: “Rubrics are key.” Two of 11 teachers shared they did not use many peer assessments in their classrooms.

Table 41 displays excerpts from the interview responses asking teachers what peer assessment looked like in their classrooms.

Table 41

Responses from the Teacher Interviews about Peer Assessment

Interviewee	Response to Interview Item Part B, Item 2
1	Sometimes I have a peer tutor when I do reading centers and a lot of times they'll partner read so that'll help with their reading fluency.
4	There's a lot of peer editing that goes on with our writing in terms of grammar, in terms of structure.
5	I think about it more with writing rather than I do with other things.
6	We don't have a lot of peer assessments. We do a lot of partner work or partner practice together.
8	We don't do much of that but when we do it would be one student looking over something that another student was given and maybe they could help them with finding the answer to something.
10	I love it when they check each other. We do games and the peer assessment I really like is Quizlet live.

According to Table 41, two teachers shared they did not utilize many peer assessments in their classrooms. The table also demonstrates many teachers utilized peer assessments in the form of peer tutoring in the areas of reading and writing. Teachers commented that students could peer edit one another's paper in writing or peer tutor one another in reading centers to work on reading fluency.

Self-assessments. Interview item 3 asked participants what does self-assessment

look like in their classrooms? Responses varied due to the age groups each teacher worked with and their level of comfort. Figure 12 lists the frequencies of their responses.

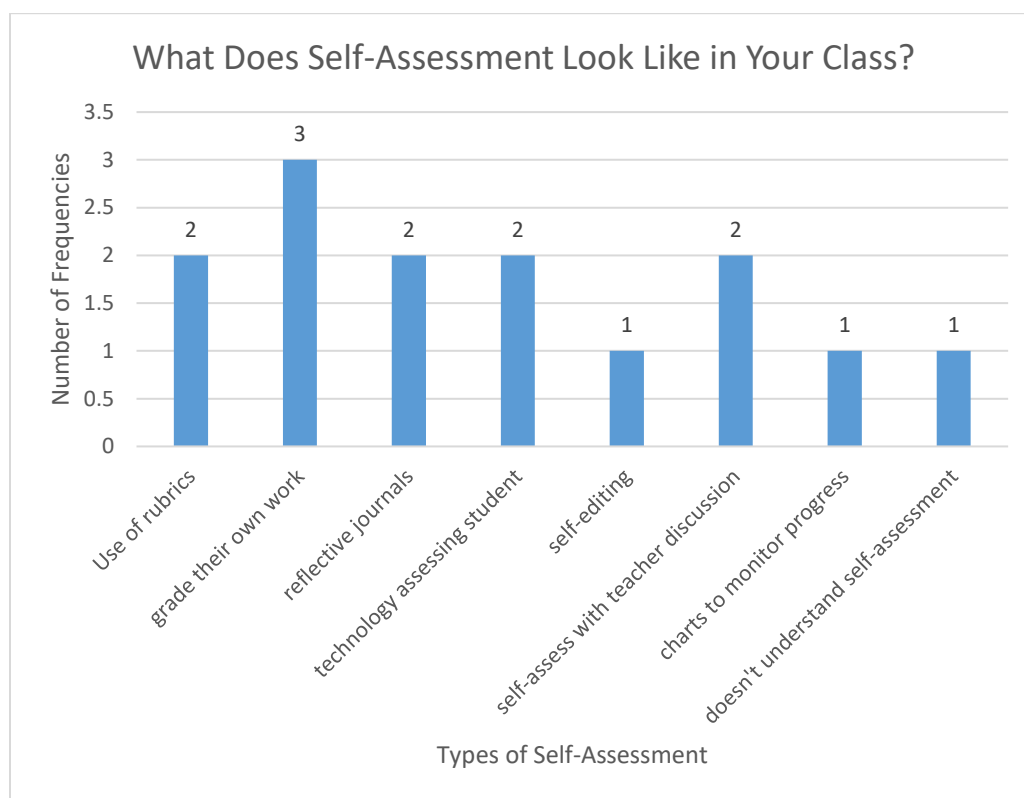


Figure 12. Frequency of Self-Assessment Data from Interviews.

According to Figure 12, two teachers acknowledged that they used rubrics for students to self-assess themselves. Three teachers allowed students to grade their own work. Two teachers had the students write reflective journals about their understanding and progress. When it came to utilizing technology to give immediate feedback on a student's work, two teachers shared this method as being useful. Two teachers had teacher-led discussions while students self-assessed themselves, while one teacher reported that students self-edited their own work. One teacher shared that students self-assessed by using charts to monitor progress, while one teacher's response demonstrated

no understanding of self-assessment.

Table 42 displays excerpts from the teacher interviews related to self-assessment in the classroom.

Table 42

Interview Responses Related to Self-Assessment

Participant	Response to Interview Item Part B, Item 3
1	For example, I do a pretest for spelling at the beginning of the week and so I just want to see what words they already know and then we go over it and so if a student has it incorrect that student erases it and writes the correct answer.
2	We are starting to use Write From the Beginning now for our writing and I believe that would be a good place for the self-assessment.
3	I use them with grading their own work for a re-teaching method with that.
7	So I let them answer their questions and then we would sit down and read the whole passage as a group and then they would actually be able to have to go back in and think you know. Why did you get this wrong?
8	I will let them try it by themselves and I would then show them the answers and then they would correct it and grade it.
9	Starting out with rubrics that's usually the best way of doing it so you say okay go ahead and look at this to see where we stand.
11	It may be a pre or posttest on information that's unfamiliar to them so they can see if they've actually gained knowledge or it may be reflecting in their journal what they believe to be important information.

Two of the teachers who discussed using reflective journals taught high school students and two teachers mentioned the use of rubrics in helping students self-assess themselves successfully.

Teachers were also asked about the frequency of utilizing peer and self-assessments in the classroom. Based on their responses, the frequency of utilizing peer and self-assessments was placed in one of the following categories: never, very little, twice a month, once a week, or multiple times a week. Answers varied, and frequencies are shown in Table 43.

Table 43
Frequency of Peer and Self-Assessing in the Classrooms

Type of Assessment	Never	Very Little	Twice a Month	Once a week	Multiple Times a Week
Peer	1	2	1	3	4
Self	0	2	3	2	4

Based on data from Table 43, seven of 11 teachers used peer assessments at least once a week, and six of 11 teachers incorporated student self-assessments at least once a week. One teacher reported she never uses peer assessments in the classroom, and two teachers incorporated very little student self-assessment or peer assessment.

Feedback. Item 4 during the interview asked teachers to describe the types of feedback they provide to students. Predetermined codes were established based on the literature review of feedback terms before data were analyzed in this section. Table 44 lists the types of feedback the researcher identified as codes.

Table 44

Feedback Codes

Feedback Codes
Verbal
Written
Descriptive
Evaluative
Individual
Whole Group
Student Self-Assessing with Teacher Assistance
Graded by Teacher

Data were analyzed based on predetermined codes, and no additional themes emerged for this particular item. Teacher responses were categorized as written feedback on student papers, providing immediate feedback, delivering verbal feedback

individualized to student needs, and even giving students feedback through the use of technology. Figure 13 shows the frequency of their responses.

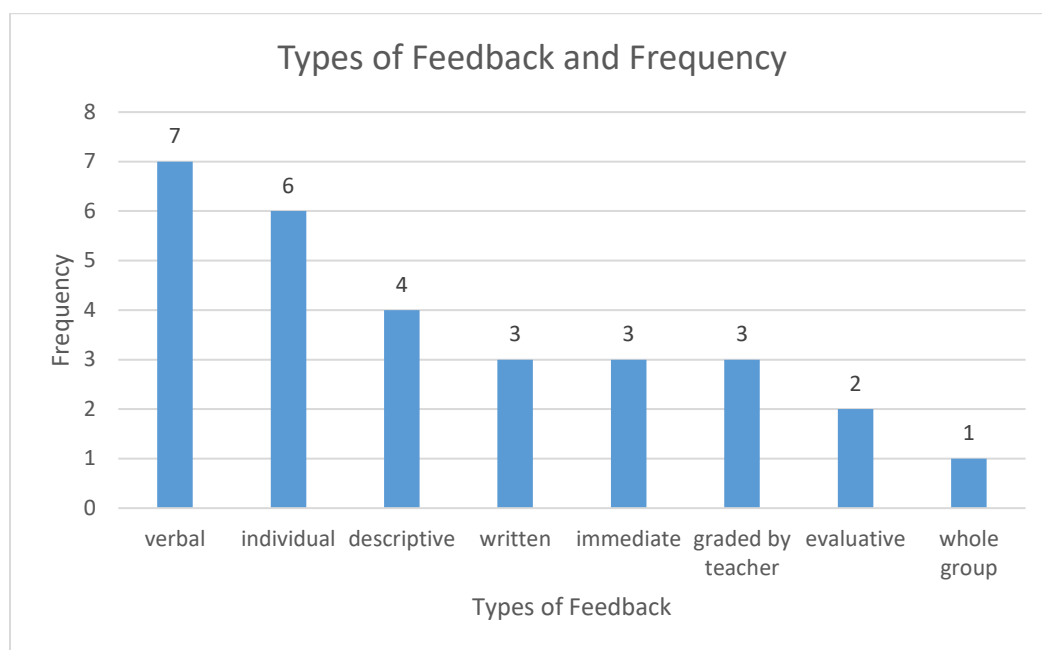


Figure 13. Frequency of Types of Feedback.

Seven teachers described verbal feedback in the classroom as taking place through student discussions. Participant 10 stated,

I'm huge curriculum based but I always give them feedback after their tests or after their quizzes with what they did well and what they need to work on. I always use the sandwich method. A positive, a negative and a positive.

Six teachers described giving individual students feedback based on their work. Four teachers gave descriptive feedback where the student received specific details on how to improve. Participant 4 relayed that when giving feedback in writing she specifically says, "This is a well-developed thought with great organization. I don't quite understand what you're saying here or I try to make it as positive as I can." Three teachers gave

written feedback on papers and one admitted to using Google Docs to place the written feedback into assignments before the start of the next class for students to view. Three teachers referenced giving immediate or instant feedback for students. Three teachers explained the feedback given to students by the teacher grading their work. Two stated they gave evaluative feedback such as “Good job!” Participant 2 was quoted as saying, “I think overall we try and do feedback, but it is just hard. A lot of times, it is more saying good job!” One teacher stated giving whole group feedback based on the number of thumbs down when asked if students understood the material. If lots of students placed their thumbs down, she retaught the topic to the whole class. An additional way of discussing feedback was presented by Participant 10. She stated her students gave her feedback at the beginning of the lesson with their confidence level on a topic and then after the lesson, they rated themselves again to see if their understanding progressed. This type of feedback helped her in determining which particular students felt more confident and which ones needed more guidance on understanding the lesson topics.

During the interview, teachers were asked, “What happens with the feedback once you provide it to your students?” Answers were equally spread out with how teachers dealt with feedback in the classrooms. Two teachers had students look over the feedback, while two teachers “hoped” students used it. According to the interviews, three teachers stated students used the feedback to improve future work with one teacher adding, “I think it motivates them to try a little more and work a little harder and they see that you know that.” One teacher gave students time to redo the work based on the feedback, and three teachers’ responses made it clear they did not understand feedback; therefore, students did not do anything with it. Table 45 has some excerpts from the teacher

interviews on what happens with feedback once teachers provided it to students.

Table 45

Teacher Interview Responses on What Happens with Feedback

Participant	Response to Interview Item Part B, Item 7
2	“They can look it over and they can talk to me about it.”
4	“A lot of times they do make direction changes with it.”
5	“I think it motivates them to try a little more and work a little harder and they see that you know that.”
6	“They get to go back in and self-assess themselves and like redo their work.”
8	“I’m hoping they’re going to carry it and then the next time I remember and so I just say hey you just do what I told you do last time.”
9	“I’ll challenge them to use it in the next thing that we write and then if I see it you know I try to make sure that I write great job or way to use that!”

Of 11 teachers who were asked this item, only one teacher stated she allowed students to redo their work based on the feedback.

Item 8 during the interview section was a follow-up item and asked, “How often do you give students the opportunity to revise their work and resubmit it after the work has been graded initially?” Of the 11 teachers asked this item, six teachers responded they always gave their students time to resubmit work, two teachers retaught the skill immediately to the class, and two teachers stated they do not allow students to resubmit the work. Table 46 has some quotes from teachers based on their responses.

Table 46

Interview Responses Dealing with Resubmitting Work

Can Always Resubmit Work	Reteaches the Skill	Not Allowed to Resubmit Work
Always! I just believe that you should never not give them a chance to fix it.	I see it more as reteaching instead of sending back and forth for them to keep getting it wrong.	I don't do that for first grade.
I'll say hey I want you to review your answers you've got about ten minutes and then I'm going to open up your test and you need to revise some of your answers just because I don't want to put this grade in the gradebook. I let them redo it as many times and I give them a lot of opportunities.	If you don't know how to work it, to me that was my opportunity to do one-on-one teaching with them because again it's not to see how many you missed, the goal is to teach you and that you'd be a hundred percent proficient on the skill that we're working on and that was a huge tool for me.	I like the idea with a School net test or end of a unit test. The only thing with our grade level we probably would not be allowed to do that because we do data discussions.
Our work in in my classes are pretty much open-ended because I'm not trying to push the grade. I'm trying to push the knowledge.		
I said anytime you see the highlighters it is to help you and so if they see the highlighter it means I circled it. It means try again.		
Daily and what I do is I actually take the first grade for MTSS and then let them do a second time to improve. Yes, I do for half credit back actually everything they do.		

Grading practices. The last item about utilization of formative assessments asked, “Tell me about grading practices in your classroom.” Teachers shared if they graded their own work or if students graded the work. They also shared if rubrics were used in the grading process and if they utilized technology to make grading easier. Table

47 displays the frequencies of the common themes in the teacher responses.

Table 47

Frequencies in Grading Practices

Common Themes	Frequency
Teacher Graded	N=7
Computer Graded	N=3
Utilization of Rubrics	N=2
Student Graded	N=2
Aligned with District Policy	N=2

Discrepancies with participant survey and interview responses. There were some discrepancies in the data with what participants answered on the Formative Assessment survey and what they stated during the interview portion.

On the survey on statement 10, Participant 10 agreed she “Regularly uses rubrics in order to ensure that students can assess their own learning,” but she did not mention rubrics at all during the responses to the interview items. It is important to note she may use rubrics and did not share this during the interview process.

Participant 8 stated on statement 4 on the Formative Assessment survey that she “commonly reviews lesson objectives to students so they can understand what is expected of them and are able to articulate how these objectives will be measured”; but during the interview section, on item 3, she did not describe how she used learning goals in her classroom with her response. She also agreed on statement 5 on the survey that she “incorporates feedback that is both interactive and descriptive to her students when learning new objectives,” but during the interview, she never stated giving feedback related to the objective. According to the survey, Participant 8 strongly agreed she “uses methods other than checklists and summative assessments to check for understanding,”

but she openly stated she did not utilize peer assessments during the interview on item 4.

Participant 7's survey response indicated she "commonly reviews lesson objectives to students and uses the learning objective to gauge what students already know on the topic," but during the interview, she never referred to goals as learning objectives and her responses were tied to state-mandated goals to meet proficiency. According to the survey, on statement 10 she "regularly uses rubrics in order to ensure that students can assess their own learning" but failed to mention rubrics at any time in her responses during the interview portion of the research study. On statement 6 of the survey, she agreed she "uses methods other than checklists and summative assessments to check for understanding during the lessons" but in the interview, she contradicted herself and did not state any other methods.

Participant 2's answers during the first phase and second phase of the research also contradicted themselves. On statement 4 and 7, she agreed she "commonly reviews lesson objectives so students can understand what is expected of them and uses the learning objectives during the lessons to gauge what students already know." During the interview she never mentioned learning objectives and only referred to Star goals and MClass goals, which are goals towards proficiency on state-mandated tests. According to statements 5 and 8 on the survey, she agreed she "incorporates feedback that is both interactive and descriptive to her students when learning new objectives and offers suggestions on how her students can advance their current learning to the next level." Contradictory to her responses on the survey, in the interview, she stated, "I think overall we try and do feedback but it is just hard. A lot of times, it is more saying good job!" On statement 3 on the survey, she strongly agreed, "Successful formative assessment

practices involve providing significant, descriptive feedback to students, fostering greater knowledge of learning goals and appreciating the quality of student work over quantity.” Her responses during the interview phase did not align with this statement on the survey.

Participant 1 agreed with statement 6 on the survey. She “uses methods other than checklists and summative assessments to check for understanding,” but when asked, “What are some examples of formative assessments?” during the interview, she contradicted herself. She described summative assessments in her response of, “Spelling tests, math tests, and any type of quiz you are giving. I would say anything that’s at the end of a unit you are working on.” According to statement 4 on the survey, she strongly agreed she “commonly reviews learning objectives to students so they can understand what is expected of them” but only referred to state-mandated testing goals in her response to item 3 on the interview when asked, “Describe how you use learning goals.”

Table 48 shows two survey responses of participants whose interview responses did not align with the definition of formative assessments.

Table 48

Misalignment Data of Surveys Compared to Interviews

Survey Statement	Survey Response	Interview Item	Interview Response
During lessons, I use methods other than checklists and summative assessments to check for understanding.	Agree	What are some examples of formative assessment?	Spelling test on Friday. Math test if you have been going over like a division unit over a certain amount of time. Maybe two three weeks and then doing one. I guess that would be more summative but more like small individualized testing to determine whether or not the students are actually gaining the knowledge that you're trying to teach them.
During lessons, I use methods other than checklists and summative assessments to check for understanding.	Strongly Agree	What are some examples of formative assessment?	Spelling test, math tests, any type of quiz that you're giving. Anything that would be written out or computerized. I would say anything that's like at the end of the unit that you're working on that you're giving a test.

Participants 3, 4, 5, 6, 9, and 11's responses on the Formative Assessment survey aligned with the interview responses.

Summary. Overall, based on the 102 teacher responses, the district results aligned to the average range on the Formative Assessment survey with a score of 3,695. Results indicate the district scores fell in the average range on eight statements from the survey, even though there were discrepancies between these particular items and the interview portion during the second phase of the research. Specifically, the district scores were strong on the survey when discussing modeling for students and modifying the approach when students were not learning the objective. The district scores were weak on the statement regarding modifying assessments when students were not achieving the

learning objectives.

Teachers with 0-5 years of experience scored lower than the district did on six statements on the survey regarding utilizing formative assessments in the classroom.

Data analyzed during the interviews discovered six of 11 teachers shared the learning objectives with students, but three of 11 shared proficiency goals aligned with state-mandated tests. Nine of 11 teachers utilized peer assessment mostly in the areas of reading and writing. Of these nine teachers, seven used peer assessments at least once a week. Ten of 11 teachers shared they allowed students to self-assess, and six of those teachers did it at least once a week. When it came to feedback, seven of 11 teachers provided mostly verbal feedback, while six of 11 stated they administered individual feedback to students. One of 11 teachers shared her students were allowed to redo work based on the feedback given, and seven of 11 teachers graded their students' work themselves.

Research Question 3: How does teacher self-efficacy about formative assessment impact implementation in the classroom? Teachers within the district answered statements on the Formative Assessment survey related to their understanding of formative assessments and also answered items about their utilization of specific types of formative assessments to see if their self-efficacy impacted their implementation.

The one open-ended item on the survey asked teachers to explain formative assessment. Fifty-four of 99 teachers stated it was used to gauge a student's understanding. Many of the items asked about formative assessments checking student understanding. The district scores were in the average range for many of these statements, meaning their understanding was equal to their implementation. Twenty-five

teachers shared that formative assessment was used in various ways during this same open-ended item. During the utilization section, teachers agreed with many statements regarding reviewing lesson objectives, incorporating feedback, offering suggestions to advance current levels of understanding, utilizing student interviews, using rubrics in the classroom, and using modeling to ensure students assessed their own learning. Overall, the district scores were in the average range. This score supported the district's overall understanding of formative assessments being equal to the utilization in the classroom. All 11 interviewed teachers shared the various methods they used to implement formative assessments in the classroom.

The teachers in the district who took the Formative Assessment survey scored in the strong range on statement 3 about understanding formative assessments which stated, "Successful formative assessment practices involve changing perspectives and enhancing current practices by providing significant, descriptive feedback to students, fostering greater student knowledge of learning goals and appreciating the quality of student work over quantity." It described providing descriptive feedback to students. Statement 5 said, "I incorporate feedback that is both interactive and descriptive to my students when learning new objectives." For this statement, the district scores were lower and in the average range. District data showed a stronger understanding of formative assessments but only an average utilization. Table 49 displays the scores and statements from the survey to corroborate this information.

Table 49

Understanding Versus Utilization of Feedback from the Survey

Statement about Understanding Formative Assessment	Score	Level
3: Successful formative assessment practices involve changing perspectives and enhancing current practices by providing significant, descriptive feedback to students, fostering greater student knowledge of learning goals and appreciating the quality of student work over quantity.	341	Strong
5: I incorporate feedback that is both interactive and descriptive to my students when learning new objectives	324	Average

Table 49 stated the perceptions of teachers within the district. The perception was they had a strong understanding of formative assessments but the implementation of providing descriptive feedback was weaker than the level of understanding. In addition, the interview items gave more details about feedback teachers gave when item 8 asked, “Describe the types of feedback that you provide for students.” Four teachers responded with answers related to giving specific, descriptive feedback to their students. Table 50 illustrates specific responses from teachers proving they give descriptive feedback.

Table 50

Responses from Interviews about Descriptive Feedback

Participant	Response
4	“I say this is a well-developed thought, great organization, I don't quite understand what you're saying or I try to make it as positive as I can.”
9	“I've told them three or four times depending on whatever we're doing. I make sure to ask them where are you at, where are you going, what are you doing you know.”
10	“I always use the sandwich method. A positive, a negative and a positive. So, it looks like we really, really got this and I'm really really proud of you but we need to work on this a little bit and we discussed that and we try to clarify some misconceptions and then we double back on that. But you know you still did this really, really good and this is how you can apply that to this so I do the sandwich method and that makes it really good feedback.”
11	“I can go in at any time while they're doing that and read what they are noting so if they get off if they're going off in a tangent or if they're writing too many things that are not in their own words those kinds of things I can give them immediate feedback.”

According to Table 50, four of 11 teachers interviewed commented on using significant, descriptive feedback.

Statement 3 on the survey also stated giving students more knowledge of learning goals as part of teachers understanding formative assessments. Statement 4 on the survey was, “I commonly review learning objectives to students so they can understand what is expected of them and are able to articulate how these objectives will be measured.” The district scores indicated they were in the average range for this component. Statement 7 was, “During lessons, I use the learning objectives to gauge what students already know on the topic.” The district scores indicated they were in the average range for this statement. In summary, the teachers in the district’s perceptions were that they have a

strong understanding of fostering greater student knowledge of learning goals, but their implementation of sharing learning goals was in the average range. Table 51 describes the district's understanding of learning goals versus their implementation of learning goals.

Table 51

Understanding Versus Utilization of Learning Goals from the Survey

Statement about Understanding Formative Assessment	Score	Level
3: Successful formative assessment practices involve changing perspectives and enhancing current practices by providing significant, descriptive feedback to students, fostering greater student knowledge of learning goals and appreciating the quality of student work over quantity.	341	Strong
4: I commonly review learning objectives to students so they can understand what is expected of them and are able to articulate how these objectives will be measured.	320	Average
7: During lessons, I use the learning objectives to gauge what students already know on the topic.	314	Average

In addition to the survey data on utilizing learning goals, the interview items also had participants share how they used learning goals in the classroom. Nine of 11 teachers shared learning goals with students in order to foster greater student knowledge of the learning outcomes. This information corroborated the district having a strong level of understanding of formative assessments. It is important to note that three of nine teachers were sharing proficiency goals aligned with state-mandated tests but were knowledgeable with the importance of sharing the goals and they believed they were sharing the correct information. During the interviews, only one teacher stated sharing the learning objective again, contradicting statement 7 stating, "During lessons, I use the learning objectives to gauge what students already know on the topic."

The district scores indicated they were in the strong range on statement 16, “Formative assessment teaching practices are a valuable part of the learning process.” This statement proved teachers valued formative assessments. The data in the utilization sections proved teachers implemented a variety of formative assessments through shared learning goals, allowing students to peer and self-assess, and providing rubrics to students to ensure academic success.

Statement 2 on the survey was, “In formative assessment practices, a student will always get a grade indicating their understanding of the content.” The district scores indicated they were in the average range with this statement showcasing its understanding of formative assessments since many teachers disagreed or strongly disagreed with this statement. This supported what teachers stated in the open-ended item on the survey, “Explain your understanding of formative assessments.” Only 10 of the 99 teachers who responded stated formative assessments were graded.

Statement 18 on the survey, “Formative assessment teaching practices compliment summative assessment measures,” asked teachers their level of agreement with understanding formative assessments. The district findings placed them in the average range for this statement. In order to gain a deeper understanding of teacher understanding of formative assessments, an interview item asked, “What are some examples of formative assessments?” Four of 11 teachers listed summative assessments instead of examples of formative assessments. For utilizing formative assessments, statement 6 was, “During lessons, I use methods other than checklists and summative assessments to check for understanding.” On this utilization statement, the district score designated them in the strong range. This score showed the district teachers perceived

their implementation to be stronger than their understanding of formative assessments.

According to statement 20, “Formative assessment teaching practices are necessary in order to encourage collaborative teaching,” the district score showed them in the average range for their understanding. The average teacher in the district believed formative assessments encouraged collaborative teaching, but only three of 11 teachers shared about using common formative assessments within their grade level during the interview process.

After analyzing data about teacher understanding and utilization of formative assessments from the survey only, the researcher assigned an overall level of understanding and utilization. The researcher decided to analyze only their responses from the interview to assign them a level of understanding and utilization to see how the levels compared. The data from Table 27 and the narrative that followed described how the score range and levels were created for the survey. The score range and levels for the interview section were created differently. The researcher read each answer asked during the interviews and noted if the participant gave an answer corresponding to research in the literature review. If so, the answer was scored one point. Then the researcher took the total number of items (11) and divided them into four levels. Zero was the starting point for the weakest level since participant answers could have no alignment at all with the items, and 11 was the highest score since it was possible all answers were corresponded to research. Table 52 displays the score range and levels for the interview section only.

Table 52

Score Range and Levels for Interview Section

Score Range	Level
0-2	Extremely Weak
3-5	Weak
6-8	Average
9-11	Strong

Eight interview statements regarded understanding formative assessments and 12 regarded utilization. Two interview items addressed understanding formative assessments and nine were related to utilization. Table 53 lists the level of understanding and utilization of formative assessment for each participant on the survey to see how it aligned with their interview responses.

Table 53

Levels of Understanding and Utilization on the Survey Versus Interview

Participant	Level on Survey	Level on Interview
1	Average	Average
2	Strong	Weak
3	Strong	Strong
4	Strong	Strong
5	Average	Average
6	Strong	Average
7	Average	Average
8	Average	Weak
9	Strong	Strong
10	Strong	Strong
11	Strong	Strong

Eight teachers' understanding and utilization of formative assessment levels on the survey were equally aligned to their levels on the interview. Three teachers scored lower on the interview compared to their responses given on the survey. Participant 2 scored in the strong range on the survey but in the weak range on the interview. In

addition, Participant 6 scored in the strong range on the survey but in the average range on the interview. Participant 8 scored in the average range on the survey but in the weak range on the interview.

Overall, the district scores indicated they were in the average range with a score of 2,510 on the eight statements regarding understanding formative assessments. The district scores showed them in the average range with a score of 3,695 on the 12 items regarding utilization of formative assessments. The interview data gave a deeper insight in understanding the connection between teacher self-efficacy on formative assessments and how and what they implemented in their own classrooms.

Summary. In conclusion, data indicated teachers understand that formative assessments are meant to check student understanding by involving various methods of utilization and are not necessarily graded. Their utilization in these areas aligned with their understanding based on the same survey and interview responses. Teacher self-efficacy about understanding formative assessments matched their implementation in these three areas; however, some areas showed their self-efficacy in understanding formative assessments was stronger or weaker when it came to implementation in the classroom.

Teachers scored stronger in understanding that formative assessments provided descriptive feedback and fostered greater student knowledge when sharing learning goals compared to how they implemented these two areas in the classroom. The scores indicated the district was in the strong range for understanding formative assessments complimented summative assessment measures on the survey but their utilization scores on the survey and qualitative data shared on the interviews show a weaker

implementation.

Research Question 4: How do teachers who use formative assessment perceive its impact on student motivation to learn? Only one interview item was used to answer Research Question 4. Interview item 9 asked, “What do you believe impacts your students’ motivation to learn?” It was important to ask this item to teachers who understand and utilize formative assessments in the classroom to see if teachers perceive that formative assessment impacted student motivation to learn. As shown in Table 28, of the 11 teachers interviewed, seven possessed a strong level of understanding and utilization of formative assessments and four possessed an average understanding and utilization of formative assessments. Participant 10, who had a strong level of understanding and utilization of formative assessments had an audio error with this item when the recording of her response cut off before she answered the item. She did not respond to emails in regard to the answer to Research Question 4 to clarify her response. For this particular item, only 10 participants’ answers were used in the study. Their responses to this item were coded using predetermined themes found in the literature review. Additional themes emerged from the interviews after transcription. Table 54 lists the predetermined codes for motivation based on the research from the literature review.

Table 54

Predetermined Codes for Motivation

Predetermined Codes for Motivation
Praise for effort
Feedback
Student-Teacher Working Together

After coding the data, some of the predetermined themes were not found in the data, but additional themes were recurrent. Figure 14 lists the frequency of the data related to teacher perceptions of formative assessments motivating students to learn.

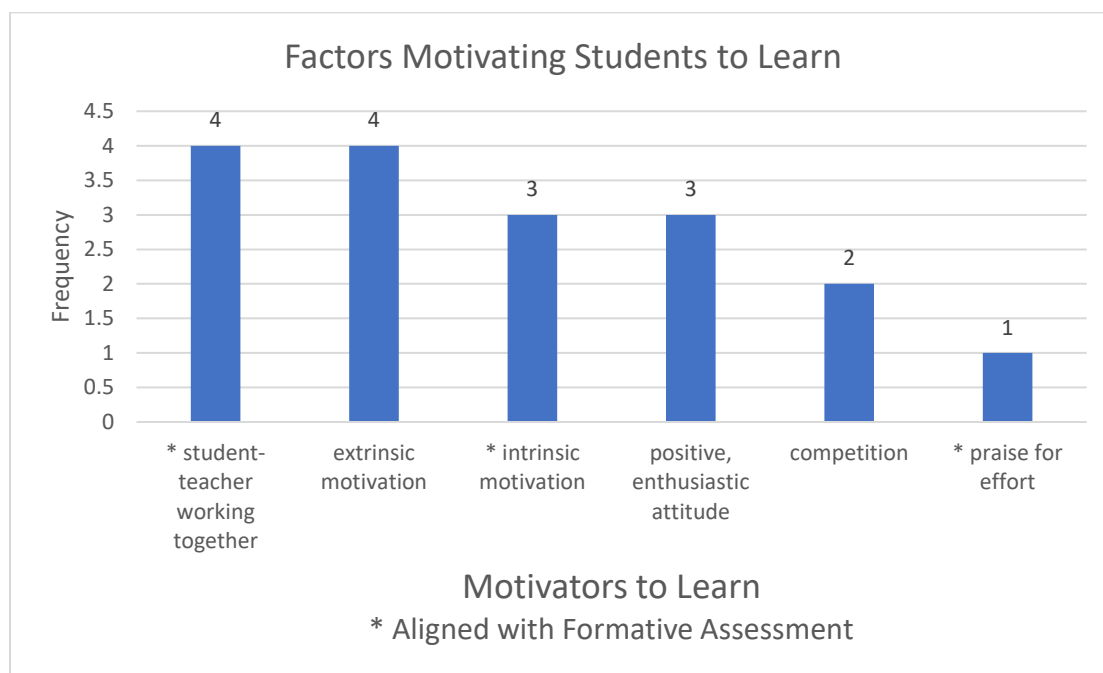


Figure 14. Factors Motivating Students to Learn.

As shown in Figure 14, three factors shared by participants aligned with formative assessment: student-teacher relationships, intrinsic factors and praise for effort. Four of 10 teachers shared that students were motivated by student teacher relationships. Participant 3 mentioned, “having a relationship with your students and knowing their strengths and weaknesses” motivated students to learn. Table 55 lists the quotes from the four teachers pertaining to student-teacher relationships impacting student motivation to learn. Even though the teachers did not mention feedback in their responses, two of the four teachers did give their students descriptive feedback to help them grow and learn on

specific topics based on previous answers given.

Table 55

Quotes from Interviews about Motivation

Participant	Motivation Quote
4	“Caring about them is one of the biggest impacts. Truly and genuinely caring about them and how they do and what they do.”
3	“Having a relationship with your students and knowing their strengths and weaknesses”
7	“It is amazing how many kids actually won't peer approval and adult approval. It's 99 times out of 100. I think just self-recognition or classroom recognition.”
9	“Relationships, definitely! I think that if a child has a relationship with you, you can get them to do pretty much anything.”

Four teachers responded with extrinsic rewards or factors to motivate their students to learn. Some of the extrinsic factors these teachers shared were classroom rewards, fun day on Fridays, treats, and stickers. Three teachers commented on students being motivated by intrinsic factors. The three intrinsic factors mentioned were student satisfaction seeing their chart grow with their academic progress, engagement and interest with what they were learning and wanting to know more, and seeing their academic growth on reports. Teachers discussed having conversations with the students about their growth.

Three teachers shared that their students were motivated to learn because of the teacher's positive, enthusiastic attitude; and two teachers commented students were motivated to learn based on seeing others do well. It became a competition and, in turn, encouraged them to learn and do their best. Table 56 contains some quotes on motivation based on a positive attitude and competition.

Table 56
Quotes on Motivation Based on Attitude and Competition

Motivation Based on Positive Attitude	Motivation Based on Competition
“I think having a positive attitude, with rewards and goal setting. So, trying to make it fun to keep people motivated.	“In terms of motivation seeing other students succeeding.”
“I feel like just being really positive is the main way I motivate them.”	“Trying to make it fun and make it a contest or a fun thing to keep people motivated.”
“The enthusiasm I think in seeing a teacher understanding how fun it is and how important it is to learn these things because I feel like that you have to show them that this is fun when we learn.”	

Only one teacher shared that praising students’ efforts motivated them to learn.

The quote related more to their behavior, but stated praising them for their efforts encouraged them to grow and do better.

Additional participant statements gathered during the interview were important to report. Participant 11 mentioned engagement as a factor that motivated students to learn. She stated, “I think probably the best thing is engagement. When my kids are interested and excited about what we're talking about they want to know everything about it.” Participant 7 stated praise based on achievement motivated students to learn. She commented, “I think just building self-esteem and then actually letting them see on a piece of paper. I think that's a lot of the kids that I work with, that's a lot of their motivation.” Participant 2 shared setting learning goals impacted student motivation to learn. She responded, “I think having a positive attitude, with rewards, goal setting and boards for setting goals.” Teachers shared a variety of reasons they believed students were motivated to learn.

Summary. In conclusion, five of the 10 teachers who responded to the interview item, “What do you believe impacts your students’ motivation to learn,” aligned with strategies related to formative assessment. Half of the participant responses contributed student motivation to learn to factors not aligned with formative assessment teaching practices.

Summary

The purpose of this mixed methods study was to examine teacher perceptions of their understanding and utilization of formative assessments, teacher self-efficacy in relation to their practice, and their opinion on if formative assessments motivated students to learn. An online Formative Assessment survey of 102 teachers and interviews of 11 teachers during the data collection process were administered and analyzed. Teachers participating in this study provided perceptual data in response to items regarding their understanding and utilization of formative assessment practices in the classroom.

Teachers had a stronger level of understanding of formative assessments providing strong feedback to students and allowing students to be knowledgeable of learning goals. Teachers also strongly indicated formative assessments were a valuable part of the learning process. Teachers understand formative assessments check student understanding, involved various methods, and are not necessarily graded based on their responses on the survey and interviews. Their utilization in these three areas aligned with their understanding. Teacher self-efficacy about understanding formative assessments matched their implementation in these three areas.

Although the district survey data demonstrated teachers had an average level of

understanding of formative assessment that aligned with their average level of utilization overall, there were some areas showing misalignment when looking at the qualitative data. Data throughout the Formative Assessment survey and teacher interviews did support that some teachers confused formative assessments with summative assessments, see them as needed to be graded, or viewed formative assessments as mandated by the state. Additionally, the district scores were strong on the survey when discussing modeling for their students and modifying their approach when students were not learning the objective. The scores for the district were weak on the statement regarding modifying assessments when students were not achieving their learning objectives. The district scores indicated they were in the strong range for understanding formative assessments complimented summative assessment measures on the survey, but their utilization scores on the survey and qualitative data shared on the interviews showed a weaker implementation.

In regard to motivation factors, five of the 10 teachers shared answers aligned with strategies related to formative assessment. Five of the 10 responses related to other factors motivating students to learn that were not aligned with formative assessment teaching practices.

The expert validated the findings of the researcher by analyzing all interview data. She also noted a majority of people gave accurate examples of formative assessment, but there were two responses that showed misconceptions. The expert also noticed some individuals have used a variety of formative assessments and that a majority of the group have only tried a few forms of formative assessment as evidenced by the limited examples given.

The expert perceived that some teachers viewed learning goals as the learning target, while others looked at it as setting an attainable academic goal for each student based on their individual level. The expert noted both are very important because students need to begin with the end in mind so it is important for them to know what the learning target is daily.

The expert had some differences after analyzing the interview data compared to the researcher. The expert stated some responses showed misconceptions on self-assessment. Many responses involving self-assessment did not have the student analyzing their performance and finding their mistakes. The expert stated having students grade their own work and then going over their mistakes and having them make corrections was not self-assessing. The expert also shared teachers who talked a lot about students reflecting seemed to have the deepest understanding because they saw that this was the key to self-assessment for students to see their strengths and weaknesses and to use the information to improve their understanding.

The expert stated how few people mentioned building student-teacher relationships as a factor in motivating their students to learn and how this was disheartening to hear.

Interpretation of the data and a discussion of the findings are presented in Chapter 5. In addition, recommendations and suggestions for classroom practices, professional development, and future research based on the findings of this study as well as the limitations are discussed in the next chapter.

Chapter 5: Conclusions and Recommendations

Introduction

The purpose of this mixed methods study was to examine teacher perceptions of understanding and utilization of formative assessments. The study also analyzed if there was a relationship between teacher self-efficacy and their utilization of formative assessments. In addition, the study examined teacher perceptions on the impact of formative assessments on student motivation. Ninety-nine definitions of formative assessment and 2,033 responses from the Formative Assessment survey were analyzed from 102 teachers in the district. One hundred thirty responses from the interview portion of the research study were coded and analyzed, identifying common themes within the data from 11 teachers total.

Results of the data analysis indicated that although the participating teachers had some understanding of formative assessments and their value in the classroom, their utilization did not always align with their understanding. Additionally, their perceptions regarding the impact of formative assessments on student motivation to learn varied.

This chapter includes a brief summary of the rationale for the mixed methods study, the interpretations of the study's findings, and the implications of those findings. The chapter is organized into sections based on four research questions that framed the study:

1. To what extent do teachers understand the formative assessment process as measured by the Formative Assessment survey and teacher interviews?
2. To what extent do teachers engage in the formative assessment practice as measured by the Formative Assessment survey and teacher interviews?

3. How does teacher self-efficacy about formative assessment impact implementation in the classroom as measured by the Formative Assessment survey and teacher interviews?
4. How do teachers who use formative assessment perceive its impact on student motivation to learn?

The recommendations for classroom practice, professional development, and future research are included last.

Rationale for the Study

School districts across the nation have been inundated with a variety of assessments in recent years due to federal mandates from NCLB and the Race to the Top initiatives (Brink, 2017). Due to the large number of requirements and accountability in schools today, teachers must teach students to perform well on high stakes, standardized tests (Vande Corput, 2012). Many standardized tests are summative assessments tied to teacher and student performance in the classroom. Not all federal initiatives mandated by the government concerning education reform offer help and support through formative assessment (Black & Wiliam, 1998).

Teaching and learning coexist in a space where teachers and their students communicate with one another about student understanding. The information provided through formative assessment helps modify teaching and helps students engage in the learning process. The evidence gathered throughout the formative assessment process allows the teaching to meet the individualized needs of the students (Black & Wiliam, 1998).

Formative assessment provides data for teachers on their students' progress towards learning goals (Earl, 2003; Ontiveros, 2017; Ramsey & Duffy, 2016). It provides valuable information to teachers on misconceptions and what steps are next in the instructional phase to help students master skills. The process of continuously integrating formative assessment with teaching and learning throughout the learning cycle actively involves both the teacher and the student, includes self-assessments and peer assessments, and provides feedback to help close gaps in learning (Black et al., 2003; Earl, 2003). “Relevant assessment allows students to make connections between curriculum, instruction, assessment and students' daily lives” (Earl, 2003, p. 68). A great benefit to teachers and students, assessment, in itself, can be a motivating tool to learn. Earl (2003) noted that assessments could help stimulate student interest and provide them the necessary tools to take risks.

This study obtained new data on teacher perceptions of formative assessment practices and their benefits, since there were deficiencies in the research since Race to the Top initiatives passed into legislation in 2009. Much of the research in the area of formative assessment takes place before this time period. With even more summative assessments being administered than ever before, research is needed to understand teacher understanding of the formative assessment process and their perceptions of how it motivates students to learn.

In order to gather teacher perceptions of their understanding and utilization of formative assessments and the impact on student motivation, this research study was conducted as a mixed methods study. It involved 102 teachers in one K-12 school district during the first phase of the research and 11 teachers in the same district during the

second phase of the research.

Interpretations and Conclusions

Research Question 1: To what extent do teachers understand the formative assessment process as measured by the Formative Assessment survey and teacher interviews? Data collected from analysis of eight statements on the survey, from the open-ended item on the survey, and from the first two items of the interview portion of the research revealed teachers within the district had an average level of understanding of formative assessments. Teachers had a stronger level of understanding that formative assessments provided strong feedback to students and allowed students to be knowledgeable of learning goals. Teachers also indicated they perceived formative assessments as a valuable part of the learning process; 56.5% of the teachers who took the Formative Assessment survey responded in their own words that formative assessment was used to check student understanding. The majority of people had a clear understanding that the purpose of formative assessment was to inform instruction and that it was an ongoing process throughout instruction that can be approached in a variety of ways or formats; however, only 28 of the 99 teachers surveyed indicated formative assessments were used to drive future instruction, and only five of the 11 during the interviews described formative assessments as driving instruction. Qualitative data collected during the interview supported teacher understanding of formative assessments delivered in various formats including written, visual, verbal, and through the use of technology. Data from the Formative Assessment survey and teacher interviews indicated that some teachers confuse formative assessments with summative assessments, perceiving formative assessments as needing to be graded or as mandated

by the state.

Implications of findings from Research Question 1. Teacher perceptions about their understanding of formative assessments aligned with the research in the literature review on formative assessments being used for checking student understanding.

Teachers within the district understand formative assessments were ongoing throughout the learning process and involved monitoring student understanding in relation to the learning goal (Black et al., 2003; Earl, 2003). Teachers indicated their knowledge that formative assessments checked for student understanding, but the data indicated their understanding of how to use the information from the formative assessment to drive future instruction. The response of using formative assessments to “drive instruction” on the survey was only used from approximately 25% of the sample population. Ainsworth (2010) explained,

The one true purpose of educational assessment is to correctly determine student understanding of the standards in focus and then to use those assessment results to inform, modify, adjust, enrich and differentiate instruction to meet the learning needs of all students. (p. 137)

Ramsey and Duffy (2017) also agreed and stated teachers need timely information about student performance to inform their lesson planning and help them quickly adjust instruction to meet student needs today and tomorrow. Without using the data gleaned from the formative assessment to address misconceptions, students can have trouble growing in their understanding. By listening to their thought processes, by including them in the learning goals, and by providing feedback, students can truly begin to grow as learners (Bennett, 2016; Pollock, 2012). Assessments will continue to be a battle for

educators as they strive to change their thinking and move towards using assessments to help drive instruction. Formative assessments can provide thorough feedback to students to motivate them to improve their learning, but the driving force has to start with teachers first (Bennett, 2016; Danielson, 2006). Equally skilled teachers and school leaders who possess a deep understanding of competency-based learning enable students to become involved and knowledgeable in their own learning, to make a positive impact (Frey et al., 2018). Therefore, teachers need more training on how to use formative assessment data for future instruction to benefit students in classrooms.

Although the teachers who participated in this study seemed to feel they understood what formative assessments were, the analysis indicated a small percentage believed their summative assessment definition or types of summative assessment measures were in fact formative assessments when they were not. Due to the history of standardized assessments in schools having an emphasis on summative assessment practices, teachers traditionally assess using these same methods routinely in the classroom rather than utilizing formative assessments (Ramsey & Duffy, 2016; Snyder, 2016). Without a clearer understanding of what constitutes formative assessment teaching practices, teachers may continue to use them as summative assessment tools instead of using them to drive future instruction. It is necessary for teachers to know and utilize formative assessments during lessons to help target areas where students have misconceptions to improve student learning. Summative assessments only test student knowledge after the learning takes place (Earl, 2003).

Research Question 2: To what extent do teachers engage in the formative assessment practice as measured by the Formative Assessment survey and teacher

interviews? Data collected from 12 statements on the survey and nine items on the interview revealed participating teachers utilized various types of formative assessments in their classroom. Overall, the district scores indicated they were in the average range on the Formative Assessment survey even though there were discrepancies on these particular items in the interview portion during the second phase of the research. The district scores were stronger on the survey when discussing modeling for students and modifying the approach when students were not learning the objective. Teachers understand curriculum dictates the objective to be learned but the needs of the student control the pace of the lesson where modification may be needed (Black et al., 2003).

Teachers with 0-5 years of experience scored weaker than the district teachers combined did on six statements on the survey regarding utilizing formative assessments in the classroom. Snyder (2016) acknowledged most teacher preparation programs give little guidance to future teachers on sound assessment practices. This phenomenon could also be what Stipek (1998) was referring to when he said, “Teachers who are overwhelmed and not well prepared believe other teachers can teach children effectively, but they themselves lack the skills, patience and other qualities required to help students master the curriculum” (p. 206). Teachers with less than 5 years of experience could benefit from professional development to help increase their utilization of effective formative assessment practices in the classroom. Between 20-25% of the learning is in the hands of the teacher and supports why there is a need to equip them with better formative assessment practices to motivate students to learn (Hattie, 2015).

Data analyzed during the interviews with the 11 teachers discovered 55% of the teachers shared the learning objectives with students but 27% shared proficiency goals

only aligned with state-mandated tests. Students also need someone to individually review their academic performance and help them set attainable goals based on their individual progress. Black and Wiliam (as cited in Bailey & Jakicic, 2012) argued students can achieve a learning goal, only if they understand the goal and can ascertain what they need to do to reach it; therefore, teachers must begin sharing learning goals based on learning standards with their students daily to help them reach their learning goals. Marzano et al. (2001) noted that setting goals and objectives results in 18-41 percentile gains for students in the classroom.

A large majority of the teachers interviewed stated they utilized peer assessment mostly in the areas of reading and writing at least once a week. Peer assessment is beneficial because peers who communicate with one another use a shared language to provide meaning to struggling students and they are able to accept criticism better from a peer, rather than the teacher (Black et al., 2003). Marzano et al. (2001) also emphasized cooperative learning among students is a great strategy to increase peer feedback and had an effect size of .73.

Implications of findings from Research Question 2. Survey data revealed that district scores fell in the average range when it came to utilizing formative assessments in the classroom, based on the survey, yet some of the data collected during the interviews did not support this statement, specifically in the area of providing descriptive feedback and sharing of the learning goals. The interview data showed six of 11 teachers shared the learning goal before the lesson. A large majority of the teachers responded in the interview that they utilized peer assessments in various ways. Peer assessments were utilized mostly in the area of reading and writing, but no one shared the use of peer

assessment in math. Public schools must show students proficient in reading, writing, math, and science (DPI, 2018; Frey, 2009; Stiggins, 2005). Formative assessment, like peer assessment, improves student achievement in all subject areas, so math can also benefit from having students peer assess one another. Students can grow and understand valuable information on how to solve math problems from their peers that differs in how their teacher delivers instruction. Hodgen and Wiliam (2006) agreed that asking students to generate different ways of solving a problem in math is one way of focusing their attention on the process of mathematics rather than the answer.

The teachers in the research study shared some of the peer assessment strategies they use involved heterogeneously grouping students and utilizing rubrics. Marzano et al. (2001) shared when students take ownership of their work and can self-evaluate based on learning objectives using rubrics, they are more proficient in understanding their own needs.

When it came to utilizing feedback as a form of formative assessment, the survey data did not align with many participant interview responses. Only four of 11 teachers shared they give descriptive, detailed feedback to their students to help guide their instruction. Descriptive feedback provides students with detailed, specific information on how to improve their learning and takes what the learner has written and addresses misconceptions (Earl, 2003). It provides specific instructions through comments on how to improve, to empower the student to further investigate to take the next steps (Earl, 2003). According to Brookhart (2008), descriptive feedback with comments and not grades has many positive effects. Brookhart (2008) insisted descriptive comments have the best chance of being read by students if they are not accompanied by a grade. This

type of feedback includes information on what the student has done well and specifically what the student needs to work on, with guidance on where to find the information if applicable (Brookhart, 2008; Hattie & Timperley, 2007). Descriptive feedback is valuable and important in encouraging growth and improvement and therefore needs to be utilized more by teachers within the district.

Another part of formative assessment that did not align and needs further clarification was students self-assessing themselves. The interview item asked, “What does self-assessment look like in your classroom?” Ten of 11 teachers shared ways they allowed students to self-assess through the use of rubrics and reflective journals, but responses to another item during the interview on utilization of self-assessment had varying answers when it came to one form of self-assessing: grading their own work. The researcher later asked, “Tell me about grading practices in your classroom.” Only two of 11 teachers stated their students grade their own work, which is dramatically lower than the 10 of 11 responses earlier stating students self-assess. Self-assessing can take many forms and teachers could benefit from learning about the advantages of students grading their own work. Pollock (2012) agreed that teachers’ grading habits are hard to change, even when they are shown new research in the area of the positive effects of informal feedback and students self-assessing themselves. Assessment as learning is the most effective way to enhance student learning because not only is the teacher using information learned to design the next steps in instruction, but the student role is emphasized more with taking responsibility for their own learning and self-assessing their understanding (Earl, 2003). Self-assessing has many benefits for students and teachers alike.

Due to the varied responses from teachers pertaining to statements 14 and 15, the researcher would recommend more training and clearer definitions on what it means to modify curriculum, instruction, and assessments along with when it is appropriate to do so.

Research Question 3: How does teacher self-efficacy about formative assessment impact implementation in the classroom? Data collected from Research Question 1 was compared to data collected from Research Question 2 to see if teacher self-efficacy about formative assessment impacted their implementation in the classroom. Teacher understanding of formative assessments equally aligned with their implementation in the classroom in three specific areas based on their responses on the survey and interviews: formative assessments check student understanding, involve various methods, and are not necessarily graded; however, participant self-efficacy in understanding formative assessments was stronger or even weaker in some areas compared to implementation in the classroom.

Teachers scored stronger in understanding formative assessments provided descriptive feedback and fostered greater student knowledge when sharing learning goals compared to how they implemented these two areas in the classroom based on the survey and teacher interviews. Teachers who have high self-efficacy on formative assessments succeed in choosing appropriate instructional techniques, communicate with students effectively, and increase student achievement (Kurt et al., 2014). The district scores demonstrated teachers perceived themselves as understanding formative assessments but did not truly possess the skills to implement formative assessment best practices in the classroom, which could in turn effect choosing inappropriate instructional techniques and

play a factor in decreasing student achievement. The district scores indicated they were in the strong range for understanding formative assessments compliment summative assessment measures on the survey but their utilization scores on the survey and qualitative data shared on the interviews show a weaker implementation. Teachers who understand and utilize formative assessments in their classrooms, not only have a strong efficacy of their abilities as a teacher but can also begin to enable students to take ownership of their own learning and increase their self-efficacy (Bandura, 1997). The results for Research Question 3 demonstrate teacher perceptions of their understanding were not aligned to their implementation and could be impacting student self-efficacy of their own learning in the classroom.

Implications of findings from Research Question 3. Teachers who participated in this study indicated they had a strong understanding of formative assessment when they responded to statement 3 on the Formative Assessment survey. Statement 3 reads, “Successful formative assessment practices involve changing perspectives and enhancing current practices by providing significant, descriptive feedback to students, fostering greater student knowledge of learning goals and appreciating the quality of student work over quantity.” Teachers proved they did not utilize formative assessments in the two areas related to descriptive feedback and sharing learning goals as strongly as they understand the importance and value of them. When students receive descriptive feedback through specific comments on how to improve, students are motivated to make the correct changes (Stipek, 1998).

In regard to learning goals, a majority of the teachers stated in the interviews that they shared learning goals but three of those nine had learning goals aligned to meeting

proficiency on state-mandated testing. One of the first steps in utilizing effective formative assessments in the classroom is including students in knowing and understanding the goals and objectives of the lesson (Marzano et al., 2001). The district scores indicated they were in the strong range for understanding formative assessments compliment summative assessment measures on the survey but their utilization scores on the survey and qualitative data shared on the interviews showed a weaker implementation. During the interview portion, participants were asked, “What are some examples of formative assessments?” For this item, four of 11 teachers listed summative assessments instead of examples of formative assessments. Statement 6 asked, “During lessons, I use methods other than checklists and summative assessments to check for understanding.” On this utilization statement, the district scores were in the strong range. This result showed the district teachers perceived their implementation to be stronger than their understanding of formative assessments. It also demonstrated that teachers confused summative assessment practices with formative assessment teaching practices. Due to the history of standardized assessments in schools having an emphasis on summative assessment practices, teachers traditionally assess using these same methods routinely in the classroom rather than utilizing formative assessments (Ramsey & Duffy, 2016; Snyder, 2016). Summative assessments test student knowledge after the learning takes place, while formative assessments take place continuously throughout the unit, sometimes even on a daily basis and provide teachers with student misconceptions to guide future instruction.

Research Question 4: How do teachers who use formative assessment perceive its impact on student motivation to learn? Data collected from one interview

item posed to 10 participants revealed that their perceptions on factors that impacted student motivation to learn varied. The item asked, “What do you believe impacts your students’ motivation to learn?” Half of the teachers who responded to the interview item gave answers aligned with strategies related to formative assessment like building student-teacher relationships, providing descriptive feedback, and praising students for effort. The other half of the teachers gave responses related to other factors motivating students to learn that were not aligned with formative assessment teaching practices like utilizing extrinsic motivating factors.

Implications of findings from Research Question 4. Half of the teachers who participated in the second phase of the study left out formative assessment practices from their response in what motivates their students to learn. Their answers could have been given for a variety of reasons. For example, some of these teachers may not value formative assessment practices or some may not see formative assessments motivating their students. The other half of participating teachers reported formative assessments positively impact or motivate their students to learn. Teachers stated building student-teacher relationships helped motivate their students to learn as did giving descriptive feedback. Pollock (2012) explained that as a result of effective feedback and the two-way, open communication between the teacher and the student, previously unmotivated students can become more active in their learning and strive to become stronger in their knowledge of the content. Those with a constructivist view state learning must involve students and teachers working together, with both taking an active role and reflecting on how they best learn, what has been learned, and what needs further clarification (Knights, 2012). There are many benefits of teachers having open communication with their

students during the learning process.

Half of the teachers perceived student motivation to be contingent on the relationship between the teacher and the student and their communication with one another. Based on the item that was asked to teachers during the interview, “What do you believe impacts your students’ motivation to learn,” it is inconclusive in answering Research Question 4. Although research states many effective strategies related to formative assessments have strong correlations with motivating students to learn (Stipek, 1998), more research is needed specifically addressing teacher perceptions within the district on formative assessments’ impact on motivating their students to learn due to the misalignment of the research question and sample size.

Limitations

The limitations of the study were those characteristics of methodology impacting the interpretation of the findings of the research and out of the researcher’s control (Price & Murnan, 2004). First, it should be noted the findings of this study have limited generalizability to all teachers within the district due to the population size. In order for the study to be generalized to the population in the district, 297 participants were needed and only 102 volunteered for the first phase of the study. In other words, if 300 teachers of 1,300 had completed the study, according to Creswell and Creswell (2014), the answers given on the Formative Assessment survey would accurately reflect answers from the entire population of teachers in the district. Creswell and Creswell determined a margin of error around 5% represents the accuracy of how the answers given in the study correlate with the answers that would be given for the entire population.

Another limitation of the study was that participant honesty in answering the research questions cannot be guaranteed. Creswell (2002) confirmed responses to items can contain errors because the reported information may not precisely match the true information due to it being self-reported data. There was also low participation in the second phase of the study, as the desired number of participants did not sign up for one-on-one interviews.

In addition, the primary researcher in this study is a teacher in the district where the study was conducted, although she was not a participant in either phase of the research. The small number of participating teachers ($n = 11$) in the second phase was also a limiting factor for the study. The biases of the researcher as a teacher were considered as a potential limitation; however, steps were taken to increase the internal validity of the study. For example, an expert reviewed the data to see if the findings and interpretations of qualitative responses aligned correctly with the primary researcher.

Delimitations of the Study

The delimitations are the characteristics defining the boundaries of the study and they are in the researcher's control (Simon, 2011).

Delimitations of the study controlled by the researcher included the location of the study. The study took place in the district in which the researcher was an elementary school teacher. Another delimitation was some participants may have been from the researcher's own school due to participants being anonymous. A delimitation was the convenience sampling of the population, since the researcher had access to participants within the district.

The last delimitation was the amount of time participants had to complete the

survey. The window to complete the survey was open for 2 weeks for the researcher to review and analyze data before moving to the second phase of the study.

Recommendations

Based on the data analysis and findings of this study, recommendations for improvements in classroom practices, opportunities for possible professional development, and suggestions for future research related to teacher understanding and utilization of formative assessments are presented in this section.

Classroom practices. An analysis of the perceptual survey and interview data provided by teachers who participated in this study revealed some disparities between their understanding and utilization of formative assessments. Approximately 25% of teachers described formative assessments as a tool to drive future instruction, a main purpose of formative assessments. If teachers are using them in summative ways, students will not grow from misunderstandings in their learning because teachers are not addressing them.

Ramsey and Duffy (2016) argued,

Over the past decade, pressures from new and more rigorous academic standards and summative assessments have created an interest in and demand for data-driven instruction and good formative assessments. Teachers need timely information about student performance to inform their lesson planning and help them quickly adjust instruction to meet student needs today and tomorrow. (p. 5)

Teachers who take the time to use the information gathered from formative assessments to adjust their instruction and address misconceptions, may help close the achievement gap.

According to the perceptual data, while most of the teachers believed they were sharing learning goals correctly, some of their open-ended responses indicated they shared goals with their students aligned with achieving proficiency on state-mandated tests. It is vital for students to know what the expectations are before the lesson can begin in order to achieve the objective. Black and Wiliam (as cited in Bailey & Jakicic, 2012) agreed students can achieve a learning goal only if they understand the goal and can ascertain what they need to do to reach it. Sharing the learning goals can be quick, easy and does not take a lot of time at the beginning of the lesson and can be visually written on the board to refer back to during and after the lesson as well. They can also be shared both verbally or written in child friendly terms.

Another area teachers can improve upon in their classroom practices is allowing students to self-assess their own work more by grading it themselves. Perceptual data indicated teachers conduct much of the grading in the classroom. Self-assessing has many benefits for students and teachers. Sadler and Good (as cited in Brookhart, 2008) revealed self-assessments are stronger in improving learning than peer assessment because the feedback answers students' own questions and students get to monitor, evaluate, and make future plans on their own work based on the learning objective. In the studies done by Black and Wiliam (1998), research showed self-assessments are an essential component of effective formative assessments because they provide students with three necessary elements: the learning goal, their present understanding, and some feedback on how to close the gap. Teachers can learn to not only have students grade their own papers but have crucial discussions after the grading is complete to help students see where their misconceptions are and what to specifically focus on to improve

their understanding. These discussions not only help the teacher with the next steps of instruction but help students understand the direction they need to go to take their learning into their own hands. When students self-assess and engage in learning to improve from their misunderstandings, they have a growth mindset where they believe their achievements are in their hands (Brown et al., 2014); plus, teachers who are not spending all of their own time grading can have more time to provide descriptive feedback and adapt future lessons based on student misconceptions.

Professional development. Survey items asked teachers if they thought it was appropriate to modify instruction, curriculum, and assessments due to student understanding or lack thereof. The responses varied and more professional development and discussions may be needed. It is necessary to have clearer definitions of modification strategies and what they look like in the classrooms to make sure teachers are modifying appropriately.

While teachers shared types of formative assessments in their open-ended responses, many actually listed summative assessment measures instead. Summative assessments test student knowledge after the learning takes place, while formative assessments take place continuously throughout the unit, sometimes even on a daily basis. Teachers within the district could benefit from learning modules explaining the difference between summative and formative assessments and listing different examples underneath each type of assessment to help teachers understand the difference. A learning module is an online tool that provides content in a logical, sequential order, guiding students through the content and assessments that can be self-paced (Gupta, 2017). Each type of assessment is valuable but plays a different role in the classroom and

can affect student achievement when utilized incorrectly. The learning modules should be a requirement for all beginning teachers so at the start of their career they can get a clear understanding of formative assessment. Since this subgroup scored lower than the district on many statements on the Formative Assessment survey, they could benefit from learning about formative assessments. Another benefit of learning modules is they can be self-paced and viewed as many times as needed to understand the content. Benefits of online learning modules are they accommodate everyone's learning needs, can be taken a number of times, offer access to updated content, provide quick delivery of lessons, can be delivered at a reduced cost, and have a high rate of effectiveness (Gupta, 2017). With all these benefits, professional development is a cost-efficient strategy for the district.

In addition, while many of the teachers participating in this study utilized peer assessments in reading and writing, not one participant shared using them in math. Peer assessment in math can result in substantial gains as in all other subject areas. Hodgen and Wiliam (2006) declared,

Discussion in small groups enables all students to engage directly in discussion about the mathematical problem. By doing so, they are better able to understand the problem and they can clarify their own ideas. As a result, a greater number of students contribute to whole-class discussions and their contributions are better articulated. Our research suggests that more frequent, but shorter, whole-class discussions balanced with small-group discussions are more effective in encouraging focused peer discussion about mathematics. (p. 10)

One recommendation is for the school district to plan and offer workshops or other professional development opportunities focusing on strategies addressing students peer

assessing one another in math. The professional development could share the benefits of utilizing peer assessments in math and share videos or demonstrations of what peer assessment looks like from a mathematical perspective.

Some schools are requiring professional learning communities within their schools to conduct and discuss common formative assessments (Bailey & Jakicic, 2012). Since data conducted and analyzed in this research study show teachers are not using formative assessments to adapt and drive future lessons, this area of weakness could be the next logical step for schools within the district. The next stage could have the professional learning communities use the data to discuss how to implement future lessons to address misunderstandings instead of continuing to teach lessons in the next sequential order. Bailey and Jakicic (2012) agreed grade levels that engage and work together in responding to common formative assessments are more knowledgeable in developing strategies to address misunderstandings and helping all students learn. This information is vital for the district teachers with 16-20 years of experience. Data from the survey suggest this subgroup did not believe formative assessment teaching practices are necessary in order to encourage collaborative teaching.

School districts might identify additional areas for targeted professional development in relation to formative assessments by administering a survey asking teachers to rate their level of comfort with types of formative assessments to include (a) learning goals, (b) rubrics, (c) feedback, (d) reflection after feedback, (e) self-assessments, and (f) peer assessments. Detailed definitions with examples of each type of formative assessments should be listed so teachers can see how to rate their comfort level based on these definitions. Professional development could be differentiated at this

point and address each teacher's area of weakness. Since many teachers within each school are strong in some areas of formative assessments, these teachers could share specific strategies within professional learning communities with proven growth in student achievement to better help other teachers grow professionally. Black and Wiliam (1998) conducted a meta-analysis that showed formative assessments have substantial learning gains for students. In this school district, with many low-performing schools, effective formative assessment practices can also have substantial learning gains for students.

Future research. In order to better examine teacher perceptions of their understanding and utilization of formative assessments along with their impact on student motivation, the researcher suggests further research be conducted using a different survey instrument. In doing this survey, teachers responded a majority of the time that they agreed with the given statement. There is a known tendency, called acquiescence response bias, for participants to agree with research questions or statements regardless of content. Acquiescence response bias could influence any item in which the response options involve confirming a statement, but it can be more problematic with agree-disagree items (Lavrakas, 2008). One way to counteract this phenomenon is to create statements with neutral language, so participants do not feel influenced by the language to respond in a particular way. The researcher also suggests a survey with more open-ended items to better gather perceptual data on teacher understanding and utilization of formative assessments. If not for the contradictory interview data based on open-ended items, the survey data would have shown the district scores had an average understanding and utilization of formative assessments with some areas showing the district performed

stronger than average. This fact was a strong reason to triangulate surveys with interviews to see if what participants respond with on the survey is replicated in an interview.

Additionally, a study asking teachers to share samples of formative assessments could gather data on teachers' actual utilization of formative assessment in the classroom to see if what they state they do aligns with what they actually do. Work samples could include video of lessons with teachers identifying the learning goal and addressing student understanding throughout the lesson based on the learning goal. Videos of students peer assessing and self-assessing could also identify teachers properly utilizing formative assessments and work samples with teacher feedback. The samples could be analyzed to see if the types of feedback participants provide is descriptive, the kind that gives students detailed feedback specifically addressing what they are doing that is great and what they need to correct. Finally, further research focusing on formative assessment motivating students could survey students to gather their input. Students receiving the different strategies aligned with formative assessment would offer great insight if it plays an important factor in motivating them to learn and improve their academic achievement.

Final Summary

The purpose of this study was to examine teacher perceptions of understanding and utilization of formative assessments and its impact on motivating students to learn. A sequential, mixed-methods research study was conducted in one school district in a southeastern state. Data were collected from 102 teachers in the first phase when participants completed a Formative Assessment survey and from 11 teachers during the second phase of the research when participants completed one-on-one interviews. Data

analysis indicated most teachers had a strong understanding of formative assessments, but some of their responses showed they confused formative assessments with summative assessment measures. Furthermore, analysis of the data revealed teacher perceptions of their understanding and utilization was strong in some areas of formative assessment practices but weak in others. Their self-efficacy of understanding was stronger in some areas of formative assessment than their implementation of these same types of assessments. Although most of the participating teachers indicated they shared learning goals with their students, some of the data showed the learning goals were directly related to proficiency goals on state-mandated tests. Additionally, teachers who had established protocols for self-assessment practices in their classroom did not include one form of self-assessing with students actually grading their own work. Students actually self-assessing their own work allows for greater gain in student achievement. Finally, even though half of the teachers interviewed stated formative assessment practices had the greatest impact on motivating their students to learn, the other half of the teachers contributed it to other factors.

References

- Ainsworth, L. (2010). *Rigorous curriculum design: How to create curricular units of study that align standards, instruction, and assessment*. Lanham: Lead Learn Press.
- Ainsworth, L., & Viegut, D. (2008). *Common formative assessments: How to connect standards-based instruction and assessment*. Heatherton, Victoria: Hawker Brownlow Education.
- Alover, Y. (2016). *Teacher perspective and the impact of using formative assessments on climate and achievement in middle school English language arts* (Doctoral dissertation). Retrieved from <http://irl.umsl.edu/dissertation/103>
- Atkinson, J. W. (1964). *An introduction to motivation*. Oxford, England: Van Nostrand.
- Aulls, M. W. (2002). The contributions of co-occurring forms of classroom discourse and academic activities to curriculum events and instruction. *Journal of Educational Psychology, 94*(3), 520-538.
- Ayres, L., Kavanaugh, K., & Knafl, K. A. (2003). Within-case and across-case approaches to qualitative data analysis. *Qualitative Health Research, 13*(6), 871-883. doi:10.1177/1049732303013006008
- Bailey, K., & Jakicic, C. (2012). *Common formative assessment: A toolkit for professional learning communities at work*. Bloomington, IN: Solution Tree Press.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*(2), 191-215. doi:10.1037//0033-295x.84.2.191
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York, NY: Freeman.

- Bennett, M. S. (2016). *The impact of written feedback on gifted and high-ability learners: perceptions of middle grades language arts teachers* (Unpublished doctoral dissertation). Gardner-Webb University, Boiling Springs, NC.
- Black, P., Harrison, C., Lee, C., Marshall, B., & William, D. (2003). *Assessment for learning: Putting it into practice*. Berkshire, UK: Open University Press.
- Black, P., & Wiliam, D. (1998). *Inside the black box: Raising standards through classroom assessment*. West Palm Beach, FL: Learning Sciences International.
- Blair, E. (2015). A reflexive exploration of two qualitative data coding techniques. *Journal of Methods and Measurement in the Social Sciences*, 6(1).
doi:10.2458/azu_jmms.v6i1.18772
- Brink, M. K. (2017). *Teachers' perceived understanding of formative assessment and how this understanding impacts their own classroom instruction* (Doctoral dissertation, Southern Illinois University at Carbondale). Retrieved from <http://opensiuc.lib.siu.edu/dissertations/1342>
- Brookhart, S. M. (2004). Classroom assessment: Tensions and intersections in theory and practice. *Teachers College Record*, 106(3), 429-458. doi:10.1111/j.1467-9620.2004.00346.x
- Brookhart, S. M. (2008). *How to give effective feedback to your students*. Alexandria, VA: ASCD.
- Brown, P. C., Roediger, H. L., & McDaniel, M. A. (2014). *Make it stick: The science of successful learning*. Cambridge, Massachusetts: The Belknap Press of Harvard University Press.

- Clarke, S. (2003). *Enriching feedback in the primary classroom: Oral and written feedback from teachers and children*. London, England: Hodder and Stoughton.
- Clinkenbeard, P. R. (2012). Motivation and gifted students: Implications of theory and research. *Psychology in the Schools, 49*(7), 622-630. doi:10.1002/pits.21628
- Cramer, D., & Howitt, D. (2004). *The SAGE dictionary of statistics*. London: SAGE.
- Creswell, J. W. (2002). *Educational research: Planning, conducting and evaluating quantitative and qualitative research*. Harlow, Essex: Pearson.
- Creswell, J. W. (2007). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*. Upper Saddle River, NJ: Pearson Education.
- Creswell, J. W., & Creswell, J. D. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches*. Los Angeles, CA: SAGE.
- Danielson, C. (2006). *Teacher leadership that strengthens professional practice*. Heatherton, Victoria: Hawker Brownlow Education.
- Deci, E. L., Vallerand, R.J., Pelletier, L. G., & Ryan, R. M. (1991). Motivation in education: The self-determination perspective. *The Educational Psychologist, 26*(3-4), 325-346.
- Decuir-Gunby, J. T., Marshall, P. L., & Mcculloch, A. W. (2011). Developing and using a codebook for the analysis of interview data: An example from a professional development research project. *Field Methods, 23*(2), 136-155.
doi:10.1177/1525822x10388468

- Dee, T. S., & Jacob, B. A. (2010). The impact of no child left behind on students, teachers, and schools. *Brookings Papers on Economic Activity*, 2010(2), 149-194. doi:10.1353/eca.2010.0014
- Department of Public Instruction. (2018). Retrieved May 28, 2018 from <http://www.publicschools.org/accountability/>
- Deruy, E., & Journal, N. (2016, January 8). This is where your state ranks in education: The quality of education still varies widely across the country. *The Atlantic*. doi:<https://www.theatlantic.com/politics/archive/2016/01/this-is-where-your-state-ranks-in-education/458784/>
- Drago-Severson, E., & Blum-DeStefano, J. (2016). *Tell me so I can hear you: A developmental approach to feedback for educators*. Cambridge, MA: Harvard Education Press.
- Dweck, C. S. (1999). *Self-theories: Their role in motivation, personality and development*. Philadelphia, PA: Psychology Press.
- Dweck, C. S. (2008). *Mindset: The new psychology of success*. New York: Ballantine Books.
- Earl, L. M. (2003). *Assessment as learning: Using classroom assessment to maximize student learning* (2nd ed.). Thousand Oaks, CA: Corwin Press.
- Etikan, I., Musa S., & Alkassim R. (2016). Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics*, 5(1), 1-4. doi:10.11648/j.ajtas.20160501.11

- Frey, C. A. (2009). *Teachers' understanding and use of formative assessment strategies: A multiple embedded case study in K-12 urban ring schools of a mid-size city in Rhode Island* (Doctoral dissertation). Retrieved January 12, 2018 from ProQuest Dissertations & Theses Global: The Humanities and Social Sciences Collection. (Order No. 3365829)
- Frey, N., Hattie, J., & Fisher, D. (2018). *Developing assessment-capable visible learners grades K-12: Maximizing skill, will and thrill*. Thousand Oaks, CA: Corwin.
- Graham, E. (2013, October 26). A nation at risk turns 30: Where did it take us? *NEA Today*. Retrieved February 23, 2018, from <http://neatoday.org/2013/04/25/a-nation-at-risk-turns-30-where-did-it-take-us-2/>
- Graham, S., & Weiner, B. (1996). *Theories and principles of motivation*. New York: Prentice Hall.
- Gupta, S. (2017, November 01). 9 Benefits of eLearning for students. Retrieved from <https://elearningindustry.com/9-benefits-of-elearning-for-students>
- Harlen, W., & Crick, R. D. (2003). Testing and motivation for learning. *Assessment in Education: Principles, Policy & Practice*, 10(2), 169-207.
doi:10.1080/0969594032000121270
- Hattie, J. (2015). The applicability of visible learning to higher education. *Scholarship of Teaching and Learning in Psychology*, 1(1), 79-91. doi:10.1037/stl0000021
- Hattie, J. & Timperley, H. (2007). The power of feedback. *Review of Educational Research*, 77(1), 81-112. Retrieved August 18, 2017, from <http://dx.doi.org/10.3102/003465430298487>

- Hodgen, J., & Wiliam, D. (2006). *Mathematics inside the black box*. London: King's College London School of Education.
- Knights, C. L. (2012). *Are future teachers in southern state colleges being trained to use formative assessment, and how is that training demonstrated in public schools?* (Doctoral dissertation). Retrieved from July 11, 2017, from ProQuest Dissertations & Theses Global: The Humanities and Social Sciences Collection. (Order No. 3549056)
- Kurt, H., Güngör, F., & Ekici, G. (2014). The relationship among teacher efficacy, efficacy regarding teaching, and responsibility for student achievement. *Procedia - Social and Behavioral Sciences*, 116, 802-807.
doi:10.1016/j.sbspro.2014.01.301
- Lavrakas, P. J. (2008). *Encyclopedia of survey research methods*. Thousand Oaks, CA: Sage Publications, Inc.
- Leung, F.-H., & Savithiri, R. (2009). Spotlight on focus groups. *Canadian Family Physician*, 55(2), 218-219.
- Marzano, R. J. (2006). *Transforming classroom grading*. Heatherton, Victoria: Hawker Brownlow Education.
- Marzano, R. J., Pickering, D. J., & Pollock, J. E. (2001). *Classroom instruction that works: Research-based strategies for increasing student achievement*. Alexandria, VA: ASCD.
- McLeod, S. (1970, January 01). Likert scale. Retrieved from <http://www.simplypsychology.org/likert-scale.html>

- McMenemy, C. E. (1985). *The press reacts to a nation at risk, the imperative for reform and to the state of the nation's schools in 1983* (Unpublished doctoral dissertation). University of Kansas, Journalism and Mass Communications, Lawrence, KS.
- Merriam, S. B. (2009). *Qualitative research: A guide to design and implementation*. San Francisco, CA: Jossey-Bass.
- Miller, T. D., & Hanna, R. (2014, March 24). Four years later, are race to the top states on track? *American Progress*. Retrieved February 23, 2018, from <https://www.americanprogress.org/issues/education-k-12/reports/2014/03/24/86197/four-years-later-are-race-to-the-top-states-on-track/>
- Mueller, C. M., & Dweck, C. S. (1998). Praise for intelligence can undermine children's motivation and performance. *Journal of Personality and Social Psychology*, 75(1), 33-52. doi:10.1037/0022-3514.75.1.33
- O'Connor, K. (2011). *A repair kit for grading: 15 fixes for broken grades*. Boston, MA: Pearson.
- Ontiveros, K. (2017). *Utilizing formative assessments to inform teacher instruction and student engagement* (Doctoral dissertation, National Louis University). Retrieved from <https://digitalcommons.nl.edu/diss/275>
- Palinkas, L. A., Horwitz, S. M., Green, C. A., Wisdom, J. P., Duan, N., & Hoagwood, K. (2015). Purposeful sampling for qualitative data collection and analysis in mixed method implementation research. *Administration and Policy in Mental Health*, 42(5), 533-544. doi:10.1007/s10488-013-0528-y

- Pagán, B. M. (2006). Positive contributions of constructivism to educational design. *PsycEXTRA Dataset*, 2(1). doi:10.1037/e677682011-009
- Patton, M. Q. (2015). *Qualitative research & evaluation methods: Integrating theory and practice* (4th ed.). Saint Paul, MN: Sage Publications, Inc.
- Pollock, J. E. (2012). *Feedback: The hinge that joins teaching & learning*. Moorabbin, Victoria: Hawker Brownlow.
- Price, J. H., & Murnan, J. (2004). Research limitations and the necessity of reporting them. *American Journal of Health Education*, 35(2), 66-67.
- Ramsey, B. S., & Duffy, A. (2016). *Formative assessment in the classroom: Findings from three districts*. Retrieved from Education First website: <https://education-first.com/library/publication/formative-assessment-in-the-classroom/>
- Rollins, S. P. (2017). *Teaching in the fast lane: How to create active learning experiences*. Alexandria, VA: ASCD.
- Simon, M. K. (2011). *Dissertation and scholarly research: Recipes for success* (2011 Ed.). Seattle, WA: Dissertation Success, LLC.
- Snyder, K. K. (2016). *The relationship of formative assessment to the professional development and perspective transformation of teachers* (Unpublished doctoral dissertation). University of Nebraska-Lincoln, Lincoln, Nebraska.
- Stiggins, R. (2005). From formative assessment to assessment for learning: A path to success in standards-based schools. *Phi Delta Kappan*, 87(4), 324-328.
doi:10.1177/003172170508700414
- Stipek, D. J. (1998). *Motivation to learn: From theory to practice*. Boston, MA: Allyn and Bacon.

- Strauss, V. (2015, October 24). *Confirmed: Standardized testing has taken over our schools. But who's to blame?* Retrieved from <https://www.washingtonpost.com/news/answer-sheet/wp/2015/10/24/confirmed-standardized-testing-has-taken-over-our-schools-but-whos-to-blame/>
- Vande Corput, A. R. (2012) Teaching to the test: How federal mandates affect elementary educators' teaching styles. *The Kennesaw Journal of Undergraduate Research*, 2(1), 4.
- Wagner, T., & Kegan, R. (2006). *Change leadership: A practical guide to transforming our schools*. San Francisco, CA: Jossey-Bass.
- Waldman, C. (2015). Testing overload? New study finds U.S. students are spending time taking redundant tests. *Alliance for Excellent Education*, 15(20). Retrieved July 10, 2018, from <https://all4ed.org/articles/testing-overload-new-study-finds-u-s-students-are-spending-time-taking-redundant-tests/>
- Yin, R. K. (2014). *Case study research: Design and methods* (5th ed.). Los Angeles, CA: Sage Publications.

Appendix A

Permission to Use the Formative Assessment Survey and Email Response

Dear Dr. Alovor,

I am a doctoral student from Gardner-Webb University writing my dissertation titled *Teachers' Perceptions of Formative Assessments on Student Learning in K-12 Classrooms*, under the direction of my dissertation committee chaired by Dr. Sabin, who can be reached at XXXXXXXXXXXX.

I would like your permission to use the Formative Assessment Teacher Survey instrument in my research study. I would like to use and print your survey under the following conditions:

- I will use the surveys only for my research study and will not sell or use it with any compensated or curriculum development activities.
- I will include the copyright statement on all copies of the instrument.
- I will send a copy of my completed research study to your attention upon completion of the study.

If these are acceptable terms and conditions, please email me back granting permission at XXXXXXXXXXXX.

Sincerely,

Stacey Robinson

Doctoral Candidate

Yoli Alovor <XXXXXXXXXXXXXXXX>

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to me

Yes, of course you can. Please cite both the survey and dissertation accordingly. I would love to read your work when published please send me a link. Best of luck Stacey.

Appendix B

Consent Form to Participate in Online Survey

Gardner-Webb University IRB
Informed Consent Form

Title of Study

Teachers' Perceptions of Formative Assessments on Student Learning in K-12 Classrooms

Researcher

Stacey Robinson

Purpose

The purpose of the research study is to analyze teachers' perceptions of formative assessments and the kinds of formative assessments they deliver to students in the classroom. The study will allow teachers to reflect on their own understanding of formative assessments including how they assess and give feedback. This study will also provide important information on teachers' current knowledge and performance to see possible strengths and weaknesses in relation to formative assessments. Perceptual data from teachers will be paired to see if there is a correlation between formative assessment practices and students' motivation to learn. The information provided could lead to future professional development within the district to help teachers become more aware of best practices leading to student motivation with the major focus of improving student learning.

Procedures

All participants will sign an informed consent form to participate in the study. The informed consent letters with the purpose of the research, confidentiality, and information on voluntary withdraw will be sent to all participants of the study. If you elect to participate, you will read and complete the consent form before completing the online survey. All the participants who volunteer for the study will take the Formative Assessment survey. It is a 24 item survey about formative assessments including teacher demographic items through the use of Google forms. All survey items will have answers with the participants using the Likert scale. The survey should take no longer than ten minutes to complete.

At the end of the survey, you will be asked if you are willing to be contacted to participate in an interview to gather more in-depth knowledge about formative assessment practices and the impact it plays on motivating students to learn. You will have to disclose your email address if you want to take part in the second phase of the study so your information will be connected. All identifiable information will be destroyed after the study is complete.

During the second phase, the researcher will look over data collected during the survey and choose participants to complete interviews to gather more in-depth data relating to students' motivation to learn. Four participants will be chosen at each elementary,

middle and high school level with a total of 12 teacher interviews taking place altogether. Participants will be chosen based on their varied scores from the Formative Assessment survey. The researcher will conduct one-on-one teacher interviews with those who implement formative assessments at different levels to see if there is a correlation between students' motivation to learn. The researcher will provide a structured interview protocol before asking the interview items to each participant. Participants will be interviewed separately to gather their perception of the impact formative assessments play in motivating students to learn. Participants can skip any items that cause discomfort and can stop the interview at any time. Participants will be videotaped during the interview for transcription purposes and all videotapes will be destroyed after the study.

Time Required

It is anticipated that the study will require about 10 minutes of your time for the Formative Assessment survey in the first phase and about 30 minutes of your time for the teacher interviews in the second phase.

Voluntary Participation

Participation in this study is voluntary. You have the right to withdraw from the research study at any time without penalty. You also have the right to refuse to answer any item(s) for any reason without penalty. If you choose to withdraw, you may request that any of your data collected be destroyed unless it is unidentifiable.

Confidentiality

To protect the confidentiality and anonymity of the teachers who responded to the survey, personal identifying data like email addresses will be gathered but not published in the study. All identifiable data will only be used by the researcher to link the survey data to the interview items. Afterwards, all identifiable data will be removed during the publishing phase. All videotaped interviews will be destroyed after transcription will take place.

Data Linked with Identifying Information

The information that you give in the study will be handled confidentially. When the study is completed and after the data has been analyzed, the email addresses shared will be destroyed. Your name will not be used in any report. All videotaped interviews will be destroyed after transcription has taken place.

Risks

There are no anticipated risks in this study.

Benefits

There are no direct benefits associated with participation in this study. The study will help to understand teachers' perceptions of formative assessment and implementation in K-12 classrooms along with possible staff development needs. The Institutional Review Board at Gardner-Webb University has determined that participation in this study poses minimal risk to participants.

Payment

You will receive no payment for participating in the study.

Right to Withdraw From the Study

If you choose to withdraw from the study, your video tape will be destroyed.

How to Withdraw From the Study

- If you want to withdraw from the study, tell the researcher to stop the interview. There is no penalty for withdrawing.
- If you would like to withdraw after your materials have been submitted, please contact Stacey Robinson at staceyrobinson@wcps.org.

If you have questions about the study, contact the following individuals.

Stacey Robinson
Curriculum and Instruction Doctoral Candidate
XXXXXXXXXX

Dr. Jenny Sabin
Education Department
Gardner-Webb University
Boiling Springs, NC 28017
XXXXXXXXXX

If the research design of the study necessitates that its full scope is not explained prior to participation, it will be explained to you after completion of the study. If you have concerns about your rights or how you are being treated, or if you have questions, want more information, or have suggestions, please contact the IRB Institutional Administrator listed below.

Dr. Sydney Brown
IRB Institutional Administrator
Gardner-Webb University
Boiling Springs, NC 28017
XXXXXXXXXX

Voluntary Consent by Participant

I have read the information in this consent form and fully understand the contents of this document. I have had a chance to ask any questions concerning this study and they have been answered for me.

_____ I agree to participate in the confidential survey.

_____ I do not agree to participate in the confidential survey.

_____ I agree to participate in the interview session(s). I understand that this interview will be video-recorded for purposes of accuracy. The video recording will be transcribed and destroyed after data is analyzed.

_____ I do not agree to participate in the interview session(s).

_____ Date: _____
Participant Printed Name

_____ Date: _____
Participant Signature

You will receive an electronic copy of this form for your records.

Appendix C

Formative Assessment Interview Protocol and Questions

Teacher Interview Protocol

I appreciate your willingness in allowing me to interview you and thank you in advance for your time. I have some questions I'd like to ask you related to formative assessments. I will be videotaping this interview as well as using an audio device to record our conversations. It will help ensure I have an accurate record of what we discussed during the analysis phase of my research. Only I will have access to the video tapes, which will be destroyed after they are transcribed. All information will be held confidential, your participation is voluntary and you may stop at any time if you feel uncomfortable.

Thank you for agreeing to participate. You have been selected to be interviewed today based on your answers previously given on the online survey that you completed. My research focuses on teachers understanding formative assessments, how they implement them in their classrooms and their perception of if formative assessment motivates their students to learn. Please answer each question as honestly as you can.

A. Understanding Formative Assessment

1. Tell me what you understand about formative assessment.

FOLLOW UP: In your opinion, what is the purpose of formative assessment?

FOLLOW UP: What are some examples of formative assessment?

C. Utilizing Formative Assessment

1. Describe how you use learning goals.
2. What does peer assessment look like in your classroom?

FOLLOW UP: How often do you allow students to peer assess one another?

3. What does self-assessment look like in your classroom?

FOLLOW UP: How often do you allow students to self-assess themselves?

4. Describe the types of feedback that you provide for students.
5. What happens with the feedback once you provide it to your students?

FOLLOW UP: How often do you give students the opportunity to revise their work and resubmit it after the work has been graded initially?

6. Tell me about grading practices in your classroom

C. Motivation Factor

1. What do you believe impacts your students' motivation to learn?

Thank you for your time and honest perspective. If I have any additional questions or need clarification, how and when is it best to contact you?